



CYNGOR BWRDEISTREF SIROL
RHONDDA CYNON TAF
COUNTY BOROUGH COUNCIL

COMMITTEE SUMMONS

C Hanagan
Service Director of Democratic Services & Communication
Rhondda Cynon Taf County Borough Council
The Pavilions
Cambrian Park
Clydach Vale, CF40 2XX

Meeting Contact: Sarah Handy - Members' Researcher & Scrutiny Officer (07385 401942)

YOU ARE SUMMONED to a virtual meeting of **CLIMATE CHANGE, FRONTLINE SERVICES & PROSPERITY SCRUTINY COMMITTEE** to be held on **THURSDAY, 18TH JANUARY, 2024** at **5.00 PM**.

Non Committee Members and Members of the public may request the facility to address the Committee at their meetings on the business listed although facilitation of this request is at the discretion of the Chair. It is kindly asked that such notification is made to Democratic Services by Tuesday, 16 January 2024 on the contact details listed above, including stipulating whether the address will be in Welsh or English.

AGENDA

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1. SCRUTINY RESEARCH

A scrutiny research facility is available within the Council Business Unit to support Members' scrutiny responsibilities and their roles as Elected Members. Such research strengthens Scrutiny Committee work programmes to ensure outcome-based topics are identified. For any scrutiny research requirements please contact scrutiny@rctcbc.gov.uk

2. DECLARATION OF INTEREST

To receive disclosures of personal interest from Members in accordance with the Code of Conduct

Note:

1. Members are requested to identify the item number and subject matter that their interest relates to and signify the nature of the personal interest: and,
2. Where Members withdraw from a meeting as a consequence of the disclosure of a prejudicial interest they must notify the Chairman when they leave.

3. MINUTES

To approve, as an accurate record, the minutes of the meeting held on the 22nd November 2023.

5 - 10

REPORTS OF THE SERVICE DIRECTOR, DEMOCRATIC SERVICES AND COMMUNICATIONS

4. CONSULTATIONS

Information is provided in respect of relevant [consultations](#) for consideration by the Committee.

5. PRE SCRUTINY OF THE REVISED LOCAL FLOOD RISK MANAGEMENT STRATEGY (LFRMS) AND ACTION PLAN

An opportunity for Scrutiny Members to pre scrutinise the Revised Local Flood Risk Management Strategy and Action Plan.

11 - 554

6. URGENT BUSINESS

To consider any items, which the Chairman, by reason of special circumstances, is of the opinion should be considered at the meeting as a matter of urgency.

7. CHAIRS REVIEW & CLOSE

To reflect on the meeting and actions to be taken forward.

Service Director of Democratic Services & Communication

Circulation:-

The Chair and Vice-Chair:
(County Borough Councillor C Middle and County Borough Councillor G L Warren respectively)

County Borough Councillors:

Councillor J Barton, Councillor P Binning, Councillor V Dunn,
Councillor E L Dunning, Councillor G Holmes, Councillor W Hughes,
Councillor G Jones, Councillor A O Rogers, Councillor W Treeby, Councillor R Yeo,
Councillor P Evans and Councillor G O Jones

Officers:

Christian Hanagan, Service Director of Democratic Services & Communication

Andrew Stone, Head of Flood Risk Management and Strategic Projects

Stephen Williams, Director for Highways, Streetcare and Transportation Services

Mae'r ddogfen hon ar gael yn Gymraeg / This document is also available in Welsh

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RHONDDA CYNON TAF COUNCIL CLIMATE CHANGE, FRONTLINE SERVICES & PROSPERITY SCRUTINY COMMITTEE

Minutes of the virtual meeting of the Climate Change, Frontline Services & Prosperity Scrutiny Committee held on Wednesday, 22 November 2023 at 5.00 pm.

The following Climate Change, Frontline Services & Prosperity Scrutiny Committee Councillors were present online:-

Councillor C Middle (Chair)

Councillor G L Warren	Councillor J Barton
Councillor E L Dunning	Councillor G Holmes
Councillor W Hughes	Councillor G Jones
Councillor A O Rogers	Councillor W Treeby
Councillor R Yeo	

Officers in attendance:-

Mr P Dukes, Principal Carbon Reduction Officer
Mr S Gale, Director of Prosperity & Development
Mr S Humphreys, Head of Legal Services
Mr P Mortimer, Funding And Implementation Manager
Mr D Powell, Director of Corporate Estates
Mr A Roberts, Head of Energy & Carbon Reduction
Mr A Stone, Head of Flood Risk Management and Strategic Projects
Mr S Williams, Director for Highways, Streetcare and Transportation Services
Mrs S Handy, Members Researcher & Scrutiny Officer

County Borough Councillors in attendance:-

Councillor C Leyshon, Cabinet Member for Climate Change & Corporate Estate

Apologies for absence

Councillor P Binning	Councillor V Dunn
Councillor P Evans	Councillor G O Jones

22 Welcome

The Chair welcomed Members, Officers and Cabinet Members to the meeting.

23 Scrutiny Research

The Members' Researcher and Scrutiny Officer referenced the research facilities that were available to Members within the Council Business Unit. Members were advised that if they have any specific queries to email them to Scrutiny@rctcbc.gov.uk.

24 Apologies

Apologies of absence were received from County Borough Councillors V. Dunn, P. Binning, P. Evans and Geraint Jones.

25 Declaration of Interest

In accordance with the code of conduct, there were no declaration of interest pertaining to the agenda.

26 Minutes

The minutes of the 18th October 2023 were approved as an accurate record.

27 Consultations

The Members' Researcher & Scrutiny Officer referenced the consultation links, which were available through the 'RCT Scrutiny' website. Members were reminded that information is provided in respect of relevant consultations for consideration by the Committee, which are circulated on a monthly basis and updated on a fortnightly basis.

28 Report on the Statutory Public Consultation for the Authority's Review of the Local Flood Risk Management Strategy and Action Plan

The Head of Flood Risk Management presented his report to provide Members with the opportunity to consider the responses to the statutory public consultation on the revised Local Flood Risk Management Strategy and Action Plan (formerly known as a Flood Risk Management Plan), as required under Section 10 of the Flood and Water Management Act (FWMA) 2010.

Following this, Members had the opportunity to scrutinise the report and to ask questions.

A Member noted that there were a large number of 'views' on the Council website but only a small number of residents who completed the consultation. The Member queried the reason for this and if more could have been done to encourage participation. The Head of Flood Risk Management noted that this is a statutory consultation where certain groups must be included. He also noted that it was posted twice a week on social media pages as well. He also emphasised that the fact that people were looking at the page can be taken as a good thing and a passive approval. The Head of Flood Risk Management noted that the responses received were actually very good and that the number participating could be improved on in the future through further engagement with the Communication Team.

The Chair followed on from this and queried whether the Council engaged with certain disability groups/community Volunteer groups/Charities etc. The Head of Flood Risk Management referred to Appendix B and noted the statutory consultees that had to be done, then staff, Councillors, Transport For Wales etc were targeted. It was accepted that demographics groups were not targeted but it was aimed at the general public. The Chair questioned if the MOD were consulted. The Head of Flood Risk Management noted that these were not

consultees, however, he pointed out that this wasn't the emergency response plan, which is a measure within the strategy.

Another Member queried if the general public were a statutory consultee and it was confirmed that they are considered as a statutory consultee in the process. The Member subsequently queried if the team also took advantage of social media as a form of communication. The Head of Flood Risk Management referred to Appendix A and the poster used. It was noted that this went out on social media twice a week for the six weeks that the consultation ran.

Another Member queried how this plan will help those who had been affected by flooding and those who may be affected by flooding in the future. The Head of Flood Risk Management noted that the whole basis of the strategy is to understand the risk and effectively to put a plan in place. In the main strategy there are 5 principles set out by the Welsh Government and beneath that there are objectives and measures which are already built into the strategy. The Member queried whether residents have information packs that will better prepare them. The Officer noted that the pages on the Flood Risk Management website have just gone live and that these will come into the emergency planning forum. It was emphasised that part of the strategy does involve making people more aware. The Member queried what resources were in place for those who don't use the internet. The Officer advised that part of the strategy is to develop a communication strategy which will involve reaching out to different groups. These are action plans within the strategy. The Chair queried if engagement was face to face, however, the Officer confirmed that engagement was only online but that residents could request a paper copy.

Following discussion, Members **RESOLVED**:

- i. To consider and scrutinise the content of this report together with the public consultation report contained in Appendix 1.
- ii. To recommend a targeted consultation during implementation of the final LFRMS and Action Plan for community specific measures and actions, as referenced in Objective 9, Measure 3 and Actions A6, A7 and A8.

29 RCT's Town Centre Strategies

The Director of Prosperity & Development introduced the report and handed over to the Head of Regeneration. Members were asked to consider progress on developing and delivering town centre regeneration strategies and placemaking plans in Rhondda Cynon Taf.

Following this, discussion ensued. The Chair queried what overlap there is with Town & Community Councils bearing in mind that the Rhondda does not have a Town Council. The Head of Regeneration confirmed that of the towns with strategies it is only Pontypridd has a Town Council and that there is a strong partnership relationship with Pontypridd Town Council which has served to strengthen the delivery.

Another Member highlighted the problem with homelessness and noted that this can affect footfall in town centres. The Member queried what steps the Council were taking to tackle this and if they were working in partnership with the Housing team. The Member also queried whether Social Housing was being

integrated into any of the town plans. The Head of Regeneration confirmed that they have been looking at housing needs as part of the strategic approach and confirmed that the team are working very closely with colleagues in Housing and housing associations. The Chair referred to Tonypany and that there is already two major developments going on in that area and queried whether the Council will prioritise current buildings before allowing other social developments in the town centres. The Head of Regeneration advised that it is a balance for each town centre to have the right mix and the strategy will reflect the need in each area. Another Member agreed and noted that properties can be fragmented between commercial lets and social housing. The Member also noted the trend of shopping in retail parks and noted that we need to look at transport links to get the footfall back into town centres. The Chair agreed and noted the importance of the unique architecture in our town centres.

The Director of Prosperity & Development acknowledged these points and noted that the purpose and use of our town centres has changed. The Director emphasised that it is important that we change the way we look at town centres and that we instead look at them as the social hubs of our communities. We also have to effectively look at what people need on their doorstep. The Director also pointed out that we have seen a steady increase in footfall in our town centres, particularly since the pandemic.

Another Member queried the next steps in terms of regeneration in Tonypany, whether the team are co-working with the police in terms of anti-social behaviour in town centres and the impact this could have on footfall. The Director advised following the recent work on preparing a strategy for Aberdare, which is a 'bottom-up' town centre strategy and engaging with key stakeholders, that the Town where we will consider preparing a strategy is Tonypany. In respect of ASB, the Police are key consultees on our strategies and the team work closely with the Police Designing Out Crime Officer on town centre regeneration. The design process involves co working with the police. The Chair emphasised that there is a significant problem to address with ASB in town centres.

Discussions continued and a Member pointed out that improving public transport should be a priority. The Director of Frontline Services acknowledged this problem and noted that Bus operators have a problem attracting and sustaining bus drivers but that the Council is constantly trying to keep that provision going.

Another Member praised the ongoing work by the Council in town centres. The Chair queried if Climate Change and Green Spaces was a factor in the strategy. The Head of Regeneration informed Members that a series of interventions are being introduced in respect of green spaces this will be built in going forward for RCT's town centre strategies.

Following discussion, Members **RESOLVED**;

- i. To note the progress on the development and delivery of town centre regeneration strategies and placemaking plans in Rhondda Cynon Taf.
- ii. To provide further timely updates to the Climate Change, Frontline Services & Prosperity Committee.

The Director of Corporate Estates introduced his report to provide an update to members of the Climate Change, Frontline Services & Prosperity Scrutiny Committee with regards to the progress of the Corporate Decarbonisation Strategy and embedded Action Plan following its formal adoption at the [Climate Change Cabinet Sub Committee on the 23rd March 2023](#).

The Director subsequently handed over to The Head of Energy & Carbon Reduction and to the Principal Carbon Reduction Officer who provided the update to Members using a Power Point presentation.

Following this, Members had the opportunity to ask questions.

The Chair queried what impact budget restraints and cut backs would have on the decarbonisation plan going forward. The Chair requested regular update reports back to the Scrutiny Committee. The Director advised that the cost of carbon neutral is a piece of work that is currently ongoing, which should be completed by early next financial year. It was also emphasised that the team have also been very successful in obtaining grants to cover projects and posts etc.

The Chair also raised a query in respect of procurement and asked how the Council intends to bring on local companies to deliver on the carbon neutral plan. The Director of Corporate Estates referenced the development of a carbon calculator for contractors to start using to establish what their actual carbon emissions are.

The Director also noted that as part of the Welsh Government guidelines used to calculate our Carbon Footprint, every £1M spent on capital projects is multiplied by a carbon factor which is used to calculate the assumed emissions.

It is hoped that there will be more accurate reporting in the future when the Council encourages contractors to use the emissions toolkit and calculator. The Principal Carbon Reduction Officer also advised that it is designed for SME's as well as bigger companies.

Discussion ensued and another Member queried how much money the Council saves with the use of Solar Panels. The Principal Carbon Reduction Officer advised that the figures are available and that they can be circulated to Members following the meeting.

The Chair further queried if we are working with the National Grid and Partners to achieve our plan. The Principal Carbon Reduction Officer advised that the Council does work with its partners and that the most efficient way of drawing energy is stopping you drawing it from the Grid. The Officer advised that there is export as well and there is an annual income report on that as well that can be shared with Members.

Discussion continued and a Member queried if the Council is working with local builders to encourage them to do as much as they can. The Director advised that there is a project ongoing in Pontypridd at the moment and they are putting Solar Panels on that and that there are instances where solar panels are being used but people won't see them as they will be a part of the slating. From a planning perspective, energy efficient solar panels comes as part of the sign off. In terms of encouraging local builders, the Director of Prosperity & Development

advised that the Empty Property Grants gives opportunity now for additional money for solar Panel and energy efficiency projects. The LDP review will also look at local energy efficient measures as well.

The Head of Carbon Reduction emphasised that the decarbonisation strategy is how we decarbonise the Council's footprint and that the Local Energy Area Plan (LEAP) comes in when looking at the wider County Borough as a whole. It was noted that the plan is still in the development phase and should be finished by May next year and that will give an insight into how the rest of the County Borough can be encouraged to decarbonise.

The Director of Corporate Estates referred to the savings made from Solar Panels and advised that the Council generates more that £120,000 per Annum from feed in tariffs.

Following discussion, Members **RESOLVED:**

- i. To support the implementation and delivery of the Council's Corporate Decarbonisation Strategy and Action Plan; and,
- ii. To receive further timely updates and updated cost figures as targets progress.

31 Urgent Business

There was no urgent business to report.

32 Chairs Review & Close

The Chair thanked everyone for attending and wished everyone a Happy Christmas and Happy New Year.

This meeting closed at 6.22 pm

**Councillor C Middle
Chair.**



RHONDDA CYNON TAF COUNTY BOROUGH COUNCIL

MUNICIPAL YEAR 2023 /24

CLIMATE CHANGE, FRONTLINE SERVICES & PROSPERITY SCRUTINY COMMITTEE

18th January 2024

PRE-SCRUTINY OF THE REVISED LOCAL FLOOD RISK MANAGEMENT STRATEGY AND ACTION PLAN

REPORT OF THE SERVICE DIRECTOR OF DEMOCRATIC SERVICES AND COMMUNICATIONS

1. PURPOSE OF THE REPORT

- 1.1 To pre-scrutinise the Council's Revised Local Flood Risk Management Strategy (LFRMS) and Action Plan.

2. RECOMMENDATIONS

It is recommended that: -

- 2.1 Members undertake pre scrutiny on the Council's Revised Local Flood Risk Management Strategy and Action Plan attached at Appendix A to this report, thus providing Scrutiny with an opportunity to contribute to this matter; and,
- 2.2 The Climate Change, Frontline Services & Prosperity Scrutiny Committee provide comment on the report which will form part of the reported feedback to Cabinet, at its meeting to be held on the 24th January 2024.

3. REASONS FOR RECOMMENDATIONS

- 3.1 The need for Scrutiny to consider and scrutinise the proposed Council's Revised Local Flood Risk Management Strategy and Action Plan prior to formal consideration by Cabinet.
- 3.2 The need to advise Cabinet of the comments and observations of the Climate Change, Frontline Services & Prosperity Scrutiny Committee prior to their consideration of the Report.

4. BACKGROUND INFORMATION

- 4.1 Under the FWMA 2010, Rhondda Cynon Taf County Borough Council (RCTCBC) is the Lead Local Flood Authority (LLFA) for its administrative area. Under this legislation, RCTCBC has a duty to develop, maintain, apply and monitor a strategy for local flood risk management, i.e., a LFRMS.
- 4.2 RCTCBC published their first LFRMS in 2013, setting out the Council's overarching approach to managing local flood risk. Subsequently in 2015, RCTCBC then published a Flood Risk Management Plan (FRMP), as required under the Flood Risk Regulations (2009). The FRMP developed the objectives and high-level measures outlined in the Local Strategy into a more detailed plan for managing the risk of flooding from local sources in our communities over the proceeding 6 years.
- 4.3 In October 2020, Welsh Government (WG) published the second iteration of the National Strategy for Flood and Coastal Erosion (FCERM). This places a duty on the Council under Section 10 (5) of the FWMA to review its current LFRMS and publish a revised version by October 2023. The latest version also requires the production of an Action Plan aligned to delivering the strategy.
- 4.4 This date has subsequently been revised to March 2024.

5. PRE SCRUTINY

- 5.1 Members are reminded that the purpose of pre scrutiny activity is to influence the decisions before they are made. The Council's Climate Change, Frontline Services & Prosperity Committee continues to have the opportunity to explore and comment on a number of reports in advance of the Cabinet's consideration to bring a different perspective to the decisions made and enabling Cabinet decisions to be more informed.

6. EQUALITY AND DIVERSITY IMPLICATIONS

- 6.1 It has been found that a full report is not required following consultation.

7. CONSULTATION/INVOLVEMENT

- 7.1 This is the final opportunity for Scrutiny Members to review and comment on the final Local Flood Risk Management Strategy and Action Plan, and accompanying environmental assessments, as previously reviewed by Scrutiny

in [March](#) and [November 2023](#), before they are submitted to Cabinet and subsequently to the Welsh Government for Ministerial approval, as per the agreed programme presented to Cabinet on 15th May 2023.

8. FINANCIAL AND RESOURCE IMPLICATIONS

- 8.1 The costs associated to the review of the LFRMS and Action Plan, and to facilitate the consultations, is supported by Revenue grant funding provided by the WG.

9. LINKS TO THE CORPORATE AND NATIONAL PRIORITIES AND THE WELLBEING OF FUTURE GENERATIONS ACT

- 9.1 The final LFRMS and Action Plan has identified how the detailed flood risk objectives, measures and actions align with local policies such as the Council's Corporate Plan "Making a Difference" 2020-2024 and the Council's former LFRMS and FRMP produced in 2013 and 2015, respectively. Furthermore, it reflects the sustainable development principles of the Well-being for Future Generations Act and will contribute to all seven national goals.
- 9.2 The final LFRMS and Action Plan has also identified opportunities to align with emerging local policies such as the Council's revised Local Development Plan, RCT's Local Nature Partnership – 'Action for Nature' Plan and the Council's Tackling Climate Change Strategy

10. CONCLUSION

- 10.1 Members of the Climate Change Frontline Services & Prosperity Scrutiny Committee are asked to pre scrutinise the Council's Revised Local Flood Risk Management Strategy and Action Plan which will form part of the reported feedback to Cabinet, at its meeting to be held on the 24th January 2024.

LOCAL GOVERNMENT ACT 1972

as amended by

LOCAL GOVERNMENT (ACCESS TO INFORMATION) ACT 1985

RHONDDA CYNON TAF COUNTY BOROUGH COUNCIL

LIST OF BACKGROUND PAPERS:

**CLIMATE CHANGE FRONTLINE SERVICES & PROSPERITY SCRUTINY
COMMITTEE**

Pre Scrutiny of the Revised Local Flood Risk Management Strategy and Action Plan.

18th January 2024

**REPORT OF THE SERVICE DIRECTOR DEMOCRATIC SERVICES &
COMMUNICATIONS**

**Contact Officer: Sarah Handy, Members' Researcher & Scrutiny Officer
(07385401942)**



RHONDDA CYNON TAF COUNTY BOROUGH COUNCIL

Cabinet

24th JANUARY 2024

**DRAFT REPORT ON THE ADOPTION OF THE AUTHORITY'S REVISED
LOCAL FLOOD RISK MANAGEMENT STRATEGY AND ACTION PLAN**

**REPORT OF DIRECTOR OF FRONTLINE SERVICES IN DISCUSSIONS
WITH THE RELEVANT PORTFOLIO HOLDER; THE LEADER OF THE
COUNCIL; CLLR ANDREW MORGAN OBE.**

**AUTHOR(s): Andrew Stone, Head of Flood Risk Management and
Strategic Projects
Catrin Evans, Senior Flood Risk Management Officer**

1. PURPOSE OF THE REPORT

- 1.1 To advise members on the outcome of the statutory public consultation on the revised Local Flood Risk Management Strategy (LFRMS) and Action Plan (formerly known as a Flood Risk Management Plan), as required under Section 10 of the Flood and Water Management Act (FWMA) 2010.
- 1.2 To present the final Local Flood Risk Management Strategy and Action Plan for approval before sending to the Welsh Government for Ministerial approval.

2. RECOMMENDATIONS

It is recommended that: -

- 2.1 Members note the results and the review of the statutory public consultation on the draft LFRMS and Action Plan, which was presented to the Climate Change, Frontline Services & Prosperity Scrutiny

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Committee on 22nd November 2023 as per the programme of work which was agreed by Cabinet on 15th May 2023¹.

- 2.2 Note the feedback from the Climate and Frontline Services Committee which met on 18th January 2024, which will be provided by the Service Director of Democratic Services and Communication;
- 2.3 The Local Flood Risk Management Strategy and Action Plan is adopted by the Authority.
- 2.4 The Local Flood Risk Management Strategy, and accompanying environmental assessment, are submitted to the Welsh Government for Ministerial approval.

3. REASONS FOR RECOMMENDATIONS

- 3.1 To enable members to consider the results and the CCFSP Scrutiny Committee's review of the statutory public consultation on the draft LFRMS and Action Plan.
- 3.2 The adoption of the revised Local Flood Risk Management Strategy and Action Plan meets the requirements under Section 10 of the Flood and Water Management Act 2010.

4. BACKGROUND

- 4.1 Under the FWMA 2010, Rhondda Cynon Taf County Borough Council (RCTCBC) is the Lead Local Flood Authority (LLFA) for its administrative area. Under this legislation, RCTCBC has a duty to develop, maintain, apply and monitor a strategy for local flood risk management, i.e., a LFRMS.
- 4.2 RCTCBC published their first LFRMS in 2013², setting out the Council's overarching approach to managing local flood risk. Subsequently in 2015, RCTCBC then published a Flood Risk Management Plan (FRMP)³, as required under the Flood Risk Regulations (2009). The FRMP developed the objectives and high-level measures outlined in the Local Strategy into a more detailed plan for managing the risk of flooding from local sources in our communities over the proceeding 6 years.
- 4.3 In October 2020, Welsh Government (WG) published the second iteration of the National Strategy for Flood and Coastal Erosion

¹ [Cabinet Report 15th May 2023 MTSP One4aLL LG \(modern.gov.co.uk\)](#)

² [RCT Local Flood Risk Management Strategy, 2013](#)

³ [RCT Flood Risk Management Plan, 2015](#)

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(FCERM)⁴. This places a duty on the Council under Section 10 (5) of the FWMA to review its current LFRMS and publish a revised version by October 2023. The latest version also requires the production of an Action Plan aligned to delivering the strategy.

- 4.4 This date has subsequently been revised to March 2024.
- 4.5 The decision to commence with the review of the LFRMS and Action Plan was proposed to and agreed by Cabinet Members on 29th November 2022⁵.
- 4.6 Following notification of the revised statutory publication date, the LLFA revised their high-level programme and timeline, to reflect the 6-month delay to the publication date, as agreed by Cabinet on 15th May 2023¹.
- 4.7 To inform and develop the revised LFRMS and Action Plan, an initial non-statutory public engagement exercise was undertaken to identify what key themes the constituents of RCT want the revised LFRMS and Action Plan to focus and improve on.
- 4.8 This was presented to the CCFSP Scrutiny Committee on 22nd March 2023, where the committee were afforded the opportunity to comment on the consultation and feed into the draft LFRMS and Action Plan. The CCFSP Scrutiny report and 'Initial Public Engagement Report' can be found on the Council's website⁶.
- 4.9 Feedback received by the CCFSP Scrutiny Committee on 22nd March 2023 was presented to Cabinet on 15th May 2023 and can be found on the Council's website¹. Members were supportive of the public engagement and the review of the LFRMS and Action Plan.
- 4.10 Furthermore under the FWMA, is the LLFA must consult on the draft LFRMS and Action Plan and the accompanying environmental assessments with the public and risk management authorities that may be affected by the strategy.
- 4.11 The statutory public consultation was conducted in-house and ran for a period of six weeks, from 21st August to 2nd October 2023 with the purpose to canvas opinion on the draft LFRMS and Action Plan and accompanying environmental assessments.

⁴ [National Strategy for Flood and Coastal Erosion Risk Management in Wales \(English\) \(gov.wales\)](#)

⁵ [Cabinet Report 29th November 2022 MTSP One4aLL LG \(moderngov.co.uk\)](#)

⁶ [Agenda for Climate Change, Frontline Services & Prosperity Scrutiny Committee on Wednesday, 22nd March, 2023, 5.00 pm - Rhondda Cynon Taf County Borough Council \(moderngov.co.uk\)](#)

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- 4.13 The results and feedback received during the public consultation were positive, demonstrating general support for the draft LFRMS and Action Plan, in addition to the environmental assessment.
- 4.14 An overview of the results and feedback provided via the statutory public consultation was presented to the CCFSP Scrutiny Committee on 22nd November. The CCFSP Scrutiny report and 'Statutory Public Consultation' report can be found on the Council's website⁷. Members were supportive of the draft LFRMS and Action Plan and the relevant statutory public consultation, noting one recommendation for more targeted consultation during implementation of the final LFRMS and Action Plan for community specific measures and actions.
- 4.14 The results and feedback from the public consultation have been used to inform changes to the final LFRMS and Action Plan. The final LFRMS and Action Plan is included in Appendix 1. A summary of the key changes to the final LFRMS and Action Plan, and accompanying environmental assessments, has been discussed in more detail in Sections 5 and 6.

5. SUMMARY OF KEY CHANGES TO THE FINAL LFRMS & ACTION PLAN

- 5.1 To ensure consistency across Local Strategies produced in Wales, the Welsh Local Government Association (WLGA) have, in consultation with a focus group of Local Authorities including this Council. Prepared a LFRMS template which the Council has principally adhered to. The structure of the final LFRMS and Action Plan included in Appendix 1, is as follows:

Chapter 1: Introduces the background and purpose of the Local Strategy.

Chapter 2: Provides an overview of the legislative context which has informed the development of this Local Strategy. It also summarises how this Local Strategy aligns with our other strategic plans and how we have developed the Local Strategy in coordination with other stakeholder plans.

Chapter 3: Gives an overview of the different sources of flooding and presents an assessment of the risk of flooding across the Authority.

⁷ [Cabinet Report 22nd November 2023 MTSP One4aLL LG \(moderngov.co.uk\)](https://www.moderngov.co.uk/cabinet-reports/2023/11/22/mtsp-one4a-ll-lg)

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Chapter 4: Provides an overview of climate change in the context of flood risk and outlines how this Local Strategy seeks to address these risks in RCT.

Chapter 5: Sets out the roles and responsibilities for managing flood risk in RCT.

Chapter 6: Describes the strategic Objectives for managing flood risk in the coming years, and how these align with the objectives set out in the National Strategy.

Chapter 7: Sets out the flood risk management Measures. These are broad activities and ways of working which help us to meet our strategic objectives.

Chapter 8: Introduction to the Flood Action Plan. This is a focused plan, detailing specific deliverable actions required to meet our measures. The Flood Action Plan is included in Appendix A of the Strategy.

Chapter 9: Summarises the different ways in which flood risk management activities can be funded as well as how we prioritise these activities.

Chapter 10: Outlines how this Local Strategy will contribute to 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.

- 5.2 A summary of the key changes to the final LFRMS and Action Plan has been included in Table 1. The changes reflect how the LLFA have enhanced its final LFRMS and Action Plan to align with the feedback received via the statutory public consultation on the draft LFRMS and Action Plan.

Table 1: Summary of key changes to the final LFRMS and Action Plan

Section	Key Changes
General Structure	The front cover and header of the final LFRMS and Action Plan have been updated to improve the visual design.

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Section	Key Changes
	<p>A foreword from the Leader of the Council, Councillor Andrew Morgan OBE, has also been included at the start of the document.</p> <p>'Appendix C: Public Consultation Outcomes' has been included in the final LFRMS and Action Plan which describe the outcomes of the Council's initial public engagement exercise (13th Dec 2022 – 24th Jan 2023) and the statutory public consultation (21st Aug – 2nd Oct 2023).</p> <p>Minor typos have been amended throughout the document.</p>
Chapter 1: Introduction	<p>Figure 1 describes the tiered approach to objectives, measures and actions to provide clarity on the strategic objectives which will be achieved by a range of measures which will be delivered through a set of planned actions. This has been updated to improve the visual design.</p>
Chapter 2: Coordination	<p>Following consultation with internal departments within the Authority, including Planning Policy and Countryside, minor amendments to the relevant Council strategies and plans that align with the LFRMS and Action Plan have been actioned to reflect the correct terminology. These include RCTCBC's revised Local Development Plan and the RCT Local Nature Partnership – 'Action for Nature' Plan.</p> <p>Figure 2 summarises the national, regional and local policies and plans that have informed the final LFRMS and Action Plan. This has been updated to reference 'Future Wales: The National Plan 2040 (2021)' and also to improve the visual design.</p>
Chapter 3: Flood Risk in RCT	<p>Figure 3 outlines the sources of flooding in RCT and who to contact in each case. This has been updated to include reservoir flooding and also to improve the visual design.</p> <p>The 'SINC area (Ha)' at high/medium/low flood risk in Tables 3-6 have been updated following a review of the most up-to-date datasets to reflect a more accurate depiction of SINC coverage at risk of local flooding.</p>

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Section	Key Changes
Chapter 4: Climate Change and Flood Risk	Minor amendments to the relevant national and local strategies and plans that align with the LFRMS and Action Plan and address the risk of climate change have been actioned to reflect the correct terminology. These include the 'Future Wales: The National Plan 2040' and the RCT Local Nature Partnership – 'Action for Nature' Plan.
Chapter 5: Roles and Responsibilities for Managing Flood Risk in RCT	Table 5 depicts the Risk Management Authorities responsible for managing the different sources of flooding in RCT. This has been updated to highlight the distinction between the role of the Highway Authority and Trunk Road Agency as Risk Management Authorities and also to improve the visual design.
Chapter 6: Strategic Objectives	The description of Objective 12 has been enhanced to include the LLFA's contribution towards the achievement of sustainable development in accordance with Section 27 of the FWMA 2010.
Chapter 7: Flood Measures	Minor amendments to Measures 1, 6, 8, 14, 15, 17, 18 and 31 have been actioned to reflect updated terminology, provide greater clarity and strengthen the wording used in certain areas.
Chapter 8: Flood Actions Appendix A: Flood Action Plan	<p>The Flood Action Plan provides information at two scales. The RCT Flood Action Plan sets out the flood actions to be delivered across RCT (Table 1). Specific Flood Action Plans for each 12 SFRA has also been produced which contain actions at the local scale.</p> <p>Minor amendments to the wording of Action A20 in Table 1 has been actioned to reflect the relevant department leading on the delivery of the action. No further changes to the 31 RCT wide actions have been proposed.</p> <p>Minor amendments to the type and number of SFRA specific actions have been updated following a review of the Council's capital pipeline application process for Welsh Government funding. The number of SFRA specific actions has increased by 7. A breakdown of the 59 SFRA specific actions, along with a risk ranking based on the number of receptors at risk in each SFRA is provided below. The number of actions in each SFRA is proportional to risk.</p>

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Section	Key Changes		
	SFRA	Receptors at Risk Rank	Total No of Actions
	Upper Rhondda Fawr	1	9 (+1)
	Lower Rhondda Fawr	2	5 (+2)
	Lower Taf	3	9 (+1)
	Mid Cynon 1	4	14 (+3)
	Lower Rhondda Fach	5	10
	Upper Rhondda Fach	6	2
	Taf East	7	1
	Ely	8	1
	Upper Cynon	9	1
	Lower Cynon	10	4 (+1)
	Mid Cynon 2	11	2 (-1)
	Taf West	12	1
	<p>Each flood action has been given an indicative timescale and cost for delivery, along with how the flood measure will be funded, status of the action (ongoing/not started) and how they align with the local flood measures. Only minor amendments to these factors have been made in the final Flood Action Plan and a more detailed breakdown of the financial implications of these actions is included in Section 9.</p>		
Chapter 9: Funding and Prioritisation	Minor amendments to the description of funding streams have been actioned.		
Chapter 10: Environmental Assessments	No alterations have been made to Section 10 of the final LFRMS and Action Pan.		
Chapter 11: Monitoring Progress	No alterations have been made to Section 11 of the final LFRMS and Action Pan.		

6. KEY RESULTS – ENVIRONMENTAL ASSESSMENTS (SEA & HRA)

- 6.1 In accordance with the relevant legislation, a Strategic Environmental Assessment (SEA) and Habitats Regulations Assessment (HRA) was produced alongside the LFRMS which formed part of the consultation on the draft LFRMS and Action Plan.
- 6.2 The results and feedback received during the public consultation on the SEA and HRA were positive, demonstrating general support for the draft environmental assessments.

APPENDIX A

6.3 Minor alterations to the final SEA – Environmental Report in light of the consultation responses include greater reference to the impact of asset maintenance, green spaces and Natural Flood Management, and the role of woodland and forestry practices on the environment (including their impact on human health and wellbeing).

6.4 No alterations to the final HRA – Appropriate Assessment have been made following the results of the statutory public consultation.

7. **EQUALITY AND DIVERSITY IMPLICATIONS**

7.1 An Equality Impact Assessment (EIA) screening form has been prepared for the purpose of this report and was consulted upon as part of the public consultation on the draft LFRMS and Action Plan. It has been found that a full report is not required following consultation.

8. **CONSULTATIONS**

8.1 The initial non-statutory public engagement exercise via a questionnaire was conducted in-house and ran for a period of six weeks from the 13th December 2022 to the 24th January 2023.

8.2 The results and review of this exercise on the revised LFRMS and Action Plan was presented to CCFSP Scrutiny Committee on 22nd March 2023⁶. Members were supportive of the public engagement and the review and agreed their comments to be fed into the drafting of the revised Strategy.

8.3 It is a requirement of the FWMA 2010 for the LLFA to consult on the LFRMS and accompanying environmental documents (SEA and HRA) with the public and risk management authorities that may be affected by the strategy.

8.4 The statutory public consultation on the draft LFRMS and Action Plan, and accompanying environmental documents, was conducted in-house and ran for a period of six weeks from 21st August to 2nd October 2023.

8.5 The results and review of the statutory public consultation on the draft LFRMS and Action Plan was presented to CCFSP Scrutiny Committee on 22nd November 2023⁷. Members were supportive of the draft LFRMS and Action Plan and the relevant statutory public consultation, noting one recommendation for more targeted consultation during implementation of the final LFRMS and Action Plan for community specific measures and actions.

8.6 Following consideration of the consultation responses and the CCFSP Scrutiny Committee's review, the draft LFRMS and Action Plan and accompanying environmental documents have been finalised and are presented to Cabinet in Appendix 1 for approval.

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8.7 This is the final opportunity for Cabinet and CCFSP Scrutiny Committee to review and comment on the final LFRMS and Action Plan, and accompanying environmental assessments, before they are submitted to the Welsh Government for Ministerial approval, as per the agreed program presented to Cabinet on 15th May 2023¹.

9. **FINANCIAL IMPLICATION(S)**

9.1. The costs associated to the review of the LFRMS and Action Plan, and to facilitate the consultations, is supported by Revenue grant funding provided by the WG.

9.2 The measures and actions placed as part of the LFRMS and Flood Action Plan will incur costs over the life cycle of the LFRMS. These were presented to and agreed by Cabinet in draft form on 17th July 2023⁸.

9.3 The measures and actions placed as part of the final LFRMS and Flood Action Plan will incur costs over the life cycle of the LFRMS. In terms of financial implications, indicative costs have been grouped as follows:

- Existing Resources (ER): No cost implication. Within current budgets.
- Low Cost: Additional cost of £1K - £10K
- Medium Cost: Additional cost of £11K – £200K
- High Cost: Additional cost of £201K - £999K
- Very High Cost: Additional cost of £1m and above

Funding option(s) for each measure and action has also been provided. These are as follows:

- RCT Revenue
- WG Revenue Grant
- Capital Grant Funding
 1. WG FCERM Grant
 2. WG FCERM Small Scale Schemes
 3. WG Resilient Roads Fund.
- Potential Partnership Funding, both private and public.

9.4 Table 2 provides an indication of the financial implications of the final measures. The summary demonstrates that 87% of the final measures will have no cost implications, i.e., they will be delivered using existing resources within the current revenue budgets. 9% of the final measures will be delivered within the low to medium cost range through revenue/capital grants, as well as potential partnership funding. Only 3%

⁸ [Decision - Report to commence formal statutory consultation of the authority's review of the Local Flood Risk Management Strategy and Action Plan - Rhondda Cynon Taf County Borough Council \(modern.gov.co.uk\)](#)

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of the final measures will have a medium to very high cost implication and this will be funded through capital grant and potential partnership funding.

Table 2: Summary of the number of final measures per indicative cost range

Indicative Cost	No of Measures
Existing Resources (Existing Revenue (ER))	27
Low – Medium Cost	3
Medium – Very High Cost	1

- 9.5 Table 3 provides an indication of the financial implications of the final actions for the RCT and SFRA Flood Action Plans contained in Appendix A of the Strategy. The summary demonstrates that 97% of the RCT Wide Flood Actions will have no financial implication, i.e., they will be delivered using existing resources within the current revenue budgets. 3% of RCT Wide flood actions will be delivered at low cost.

Approximately 61% (+23%) of SFRA specific flood actions will have a medium cost implication, 25% (-4%) will have a high cost implication and 9% (+1%) will have a very high cost implication. Each of the Capital actions within the SFRA Flood Action Plans will be funded through capital grants and RCT funding, mostly as match funding. The remaining 6% of flood actions will be funded through current revenue budgets and therefore incur no financial implication.

Table 3: Summary of the number of final actions (RCT and SFRA) per indicative cost range

Indicative Cost	RCT Flood Actions	SFRA Flood Actions
Existing Resources (ER)	30	3
Low Cost	1	0 (-10)
Medium Cost	0	36 (+16)
High Cost	0	15
Very High Cost	0	4 (+1)

10. LEGAL IMPLICATIONS OR LEGISLATION CONSIDERED

- 10.1 The legal implications, and the relevant legislation has been considered in Section 4.1.

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11. LINKS TO THE COUNCILS CORPORATE PLAN / OTHER CORPORATE PRIORITIES / FUTURE GENERATIONS – SUSTAINABLE DEVELOPMENT

- 11.1 The final LFRMS and Action Plan has identified how the detailed flood risk objectives, measures and actions align with local policies such as the Council's Corporate Plan "Making a Difference" 2020-2024 and the Council's former LFRMS and FRMP produced in 2013 and 2015, respectively. Furthermore, it reflects the sustainable development principles of the Well-being for Future Generations Act and will contribute to all seven national goals.
- 11.2 The final LFRMS and Action Plan has also identified opportunities to align with emerging local policies such as the Council's revised Local Development Plan, RCT's Local Nature Partnership – 'Action for Nature' Plan⁹ and the Council's Tackling Climate Change Strategy¹⁰.

12. CONCLUSION

- 12.1 Following the publication of the Welsh Government's National Strategy on FCERM in October 2020, there is a duty under S10 of the FWMA for the Council as LLFA to review and update its LFRMS. There is now a significant opportunity within this review to set a sustainable strategy to manage flood risk and build resilience and facilitate adaptation for future generations.
- 12.2 Improvements in available mapping and datasets, local evidence of the impacts of frequent storm events, together with the results from the initial public engagement exercise and comments raised by CCFSP Scrutiny Committee on 22nd March 2023, has provided the LLFA with an enhanced understanding of local flood risk. This has allowed the development of objectives, measures and actions which reflect the current challenges facing RCT.
- 12.3 The results from the statutory public consultation on the draft LFRMS and Action Plan and environmental assessments, in addition to the comments raised by CCFSP Scrutiny Committee on 22nd November 2023, have been positive and this has demonstrated overall support for the draft LFRMS and Action Plan from the public and relevant risk management authorities.
- 12.4 Feedback provided as part of the public consultation has informed the changes made to the final LFRMS and Action Plan and environmental assessments which is presented to Cabinet in Appendix 1.

⁹ [RCT Action 4 Nature \(rctlnp.wixsite.com\)](https://www.rctlnp.wixsite.com)

¹⁰ Think Climate RCT - Pdf ([browsealoud.com](https://www.browsealoud.com))

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- 12.5 It is important to note, this is the final opportunity for Cabinet and CCFSP Scrutiny Committee to review and comment on the final LFRMS and Action Plan, and accompanying environmental assessments, before they are submitted to the Welsh Government for Ministerial approval.

Other Information: -

Relevant Scrutiny Committee

Contact Officer

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Flood and Water Management Act 2010

Local Flood Risk Management Strategy and Action Plan

March 2024



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DOCUMENT VERIFICATION

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FOREWORD

Our climate is changing, and forecasts suggest that we will see higher sea levels, increases in the intensity of rainfall and more frequent flooding in years to come. The National Flood Risk Management Strategy indicates that 1 in 8 properties are at risk of flooding in Wales and the same statistics indicate that 1 in 5 properties are at risk of flooding in Rhondda Cynon Taf. This means that as a Council we must continue to invest in strategic flood alleviation measures, to mitigate the impact of flooding from local sources brought about by climate change to our residents and communities. This continued to be one of the Council's main priorities.



The Local Flood Risk Management Strategy and Action Plan is a key policy underpinning these priorities and demonstrated the Council's major investment into flood alleviation measures over recent years. The Council has a requirement to monitor and revise our Strategy and Action Plan to ensure it aligns with national policy. Therefore, this is Rhondda Cynon Taf County Borough Council's second Local Flood Risk Management Strategy, which sets out the overarching approach to managing flood risk in RCT. This strategy has built upon the lessons learnt from the 2013 Strategy and replaced it. However, the focus remains on local flood risk, defined as flooding caused by surface runoff, groundwater, and ordinary watercourses, and it also continues to recognise how this interacts with other sources of flood risk including from main rivers and sewers.

Since the publication of our previous strategy, we have witnessed first-hand the devastation flooding can bring to the communities of Rhondda Cynon Taf through the frequent storm events of 2020. These were the most destructive weather events RCT had experienced in over 40 years, and the impact of Storm Dennis in-particular was detrimental to our infrastructure, economy, and the environment. Despite this, during this time we also saw the remarkable generosity, resilience, and strength of our communities across the County Borough, who worked collaboratively to repair the significant damage caused. This collective responsibility, and the significance of multi-agency collaborative work between residents, risk management authorities, stakeholders, and all those involved, is encouraged widely throughout this new Strategy.

We know that, for all the will in the world, we cannot stop all flooding from happening, but mitigating its impact where possible and building resilience remains a priority for this

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Council. It is vital that we are as prepared and ready to respond to severe weather events, and the Council has developed robust plans and procedures for such instances, including the proactive inspection of culverts and drafting in of additional extra resources as precautionary measures. Key culverts are also monitored throughout Warnings from our Emergency Control Room.

Following these extreme weather events, the Council has invested heavily in flood alleviation measures using Council and Welsh Government funding and has made remarkable progress on over 100 targeted flood alleviation schemes across our County Borough. All Section 19 Flood Reports for 19 communities affected in Storm Dennis have been completed to gain a better understanding of what happened, to inform future policy, and to note how flooding could be alleviated in the future. Significant lessons were learned regarding the need for this Council to reinforce our strategic priorities through our Local Flood Risk Management Strategy and Action Plan, to manage the impacts and consequences of flooding, enhance community resilience through raising awareness and building preparedness, and climate adaptation.

The new Strategy incorporates the Council's 2015 Flood Risk Management Plan, into a Flood Action Plan, which develops the objectives and high-level measures outlined in the Strategy into a more detailed plan for how the Council will manage the risk of flooding from local sources in our communities over the next 6 years. These objectives, measures, and actions are reflective of the current challenges facing RCT, including the rising effects of climate change, budget pressures, and growing development needs. They are also consistent with the objectives, related policies and legislation set out in the National Strategy for Flood and Coastal Erosion Risk Management in Wales, published by Welsh Government in October 2020.

RCTCBC will continue to enhance its emergency response plan and procedures to provide a comprehensive response that meets the communities' needs. Extensive consultations have taken place with residents, RCT employees, risk partners, and neighbouring authorities to help inform this new Strategy. Therefore, this Local Flood Risk Management Strategy presents Rhondda Cynon Taf County Borough Council's preferred strategy for managing flood risk.

A. Morgan

Councillor Andrew Morgan OBE
Leader of the Council

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1. INTRODUCTION

1.1. THE NEED FOR A LOCAL STRATEGY

The Welsh Government's National Strategy for Flood and Coastal Erosion Risk Management (FCERM) in Wales (National Strategy)¹ identifies 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 stipulates 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 meaning more communities will be affected by flooding, including some that are not currently considered to be at risk.

Flooding remains a key threat to communities across Rhondda Cynon Taf (RCT). The storm events of 2020 have emphasised the need to reinforce Rhondda Cynon Taf County Borough Council's (RCTCBC) strategic priorities for managing local flood risk, improving resilience and climate adaptation.

Under the Flood and Water Management Act 2010 (FWMA), RCTCBC has been established as the Lead Local Flood Authority (LLFA) for its administrative area. Under this legislation, RCTCBC is required to develop, maintain, apply and monitor a strategy for local flood risk management, i.e., a Local Flood Risk Management Strategy (Local Strategy).

'Local flood risk' is defined as flood risk from:

- Surface water runoff
- Groundwater; and
- Ordinary watercourses

This Local Strategy encompasses the administrative area of RCTCBC and forms the framework within which communities have a greater say in local flood risk management decisions.

¹ [National Strategy for Flood and Coastal Erosion Risk Management in Wales, October 2020](#)

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This Local Strategy focuses on these local sources of flood risk but acknowledges and considers other sources of flood risk (including main rivers and sewers) and associated Risk Management Authorities (RMAs) responsible.

A summary of the legislative context to FCERM activities in Wales is provided in Appendix B – legislative context.

1.2. PURPOSE OF THIS LOCAL STRATEGY

RCTCBC published our first Local Strategy in 2013², setting out our overarching approach to managing local flood risk. Alongside our Local Strategy, RCTCBC published a Flood Risk Management Plan (FRMP)³, as required under the 2009 Flood Risk Regulations. The FRMP developed the objectives and high-level measures outlined in the Local Strategy into a more detailed plan for managing the risk of flooding from local sources in our communities, over the next 6 years.

The publication of the second iteration of the National Strategy in Wales in October 2020 triggered the requirements under Section 10 (5) of the FWMA for the LLFA to review its current Local Strategy and publish a revised version within the timeframe stipulated by the Welsh Government. This document is RCTCBC's second Local Strategy. Whilst the Council previously published the Local Strategy and FRMP separately, this new Local Strategy integrates the two documents into one. This reduces complexity and enables the Council to communicate and manage local flood risk more effectively. The FRMP is referred to as the Flood Action Plan within this Local Strategy.

This Local Strategy will build upon the lessons learnt from the first Strategy and sets out how flooding from local sources will be managed across RCT, consistent with the objectives, measures and related policies and legislation set out in the National Strategy. This Strategy will be reviewed within 2 years of the publication of the next National Strategy approximately every 6 years, and the Flood Action Plan will be reviewed and updated every 2 years.

² [RCT Local Flood Risk Management Strategy, 2013](#)

³ [RCT Flood Risk Management Plan, 2015](#)

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1.3. STRUCTURE OF THIS LOCAL STRATEGY

This document is structured as follows:

Chapter 1 introduces the background and purpose of the Local Strategy.

Chapter 2 provides an overview of the legislative context which has informed the development of this Local Strategy. It also summarises how this Local Strategy aligns with other Council strategic plans and how the Local Strategy has been developed in coordination with other stakeholder plans.

Chapter 3 gives an overview of the different sources of flooding and presents an assessment of the risk of flooding across RCTCBC.

Chapter 4 provides an overview of climate change in the context of flood risk and outlines how this Local Strategy seeks to address these risks in RCT.

Chapter 5 sets out the roles and responsibilities for managing flood risk in RCT.

Chapter 6 describes the strategic Objectives for managing flood risk in the coming years, and how these align with the objectives set out in the National Strategy.

Chapter 7 sets out the flood risk management Measures. These are broad activities and ways of working which help us to meet our strategic objectives.

Chapter 8 introduces the flood risk management Action Plan. This is a focused plan, detailing specific deliverable actions required to meet the measures. The Flood Action Plan is included in Appendix A.

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

Chapter 10 outlines how this Local Strategy will contribute to wider environmental objectives.

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

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1.4. OBJECTIVES, MEASURES AND ACTIONS

This Local Strategy sets out RCTCBC's flood risk management Objectives, Measures and Actions to outline how RCTCBC intends to manage local flood risk within the life of this strategy.

These three groupings provide different levels of detail on how flood risk will be managed. A summary of each grouping is provided in Figure 1.

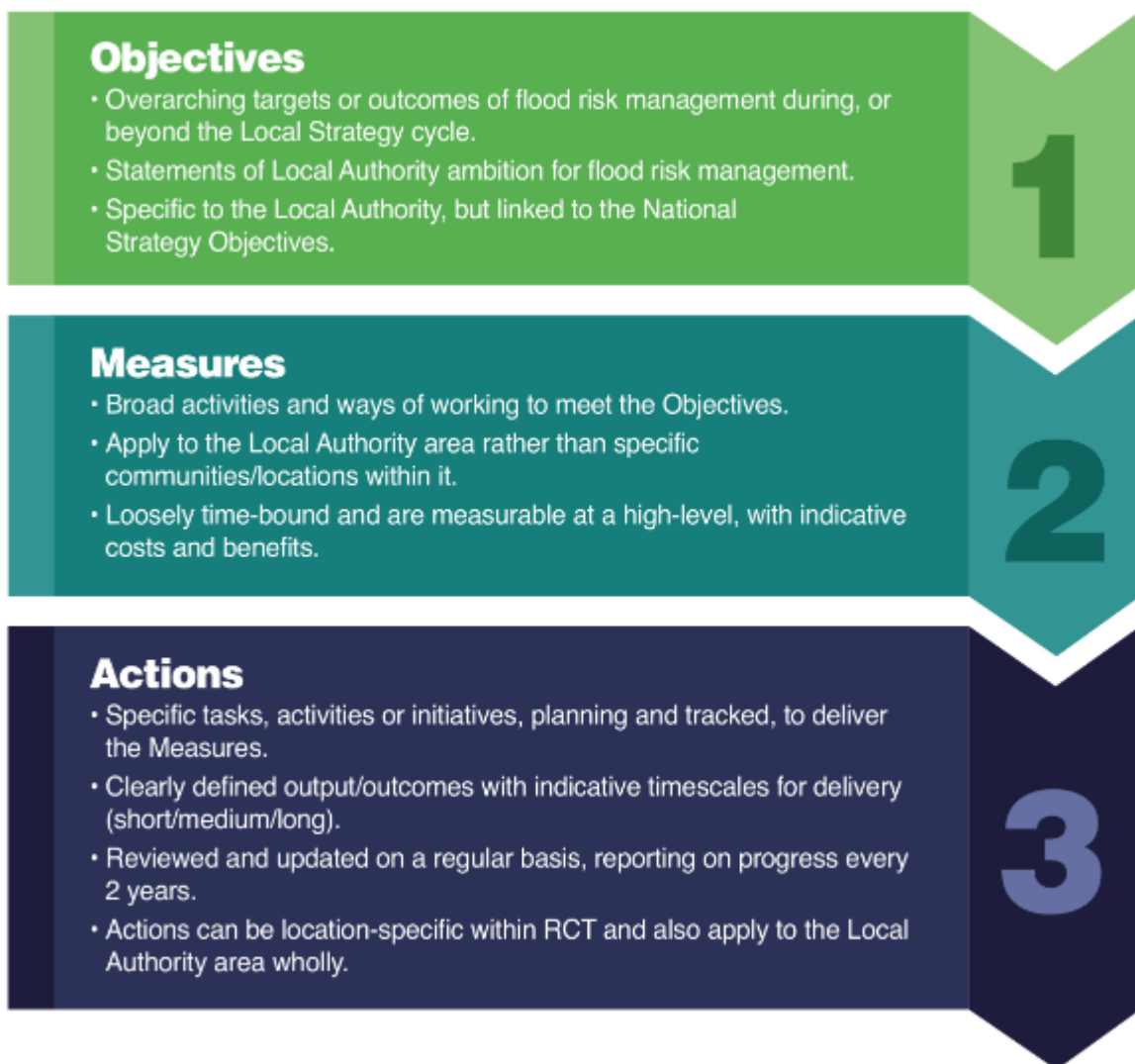


Figure 1: Definition of the Objectives, Measures and Actions for delivering RCTCBC's Local Strategy

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2. COORDINATION OF FLOOD RISK MANAGEMENT

2.1. LEGISLATIVE CONTEXT

The management of local flood risk in RCTCBC is informed by the requirements and evidence within a number of relevant European, national and local legislation, policies and plans, concerning flood and water management. The most significant of which are outlined in Figure 2 and detailed, along with other relevant legislation, in Appendix B.

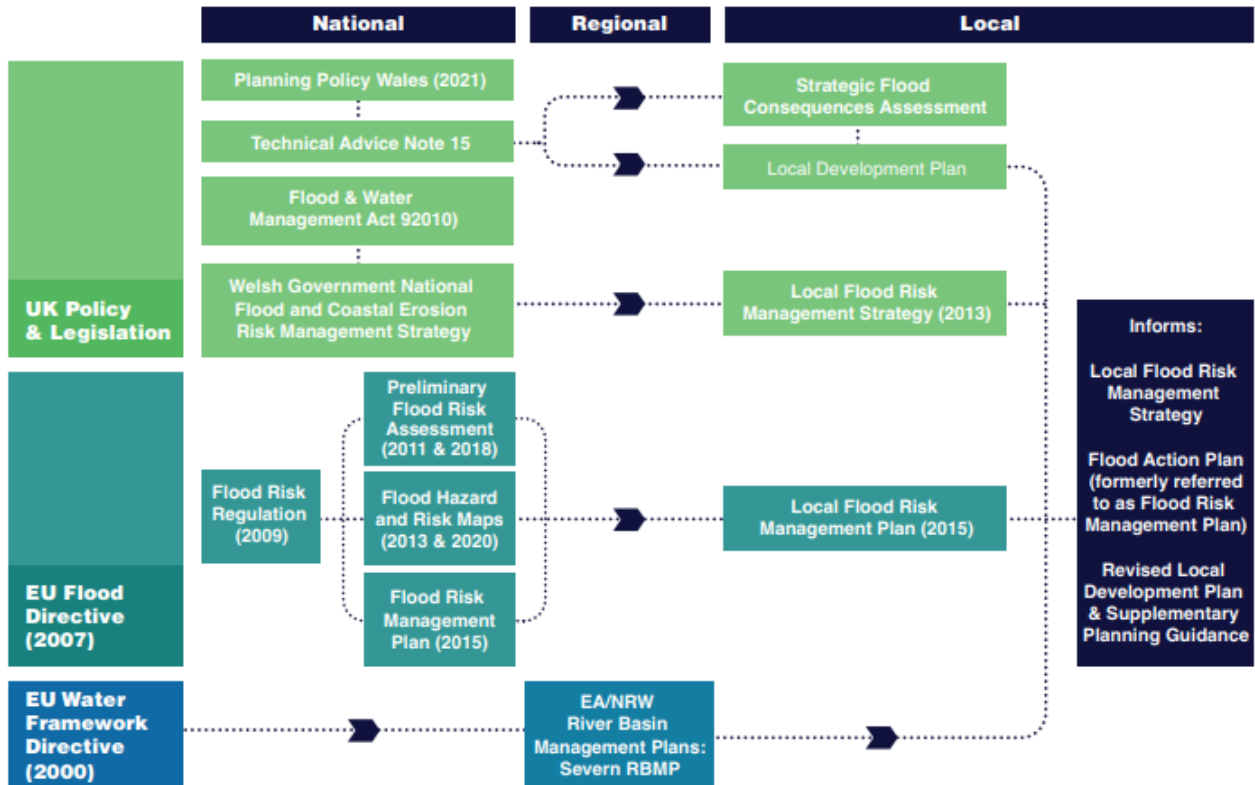


Figure 2: Overview of current flood risk management drivers and legislation which inform the development of this Local Strategy

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Whilst the requirements for preparing a Local Strategy and FRMP stems from the FWMA 2010 and the FRR 2009, policy guidance associated with flood risk and development is also contained within Planning Policy Wales (PPW) and Technical Advice Note 15 (TAN 15). The production of the Severn RBMP also informs the production of RCTCBC's Local Strategy to ensure it compliments and contributes to the continued improvement of the water environment. Although PPW, TAN 15 and the Severn RBMP do not dictate the requirements for, or provide any guidance on, preparing a strategy, the Local Strategy is consistent with the requirements of these documents.

The publication of the Welsh Government's National Strategy sets the direction for local flood risk management strategies and plans. There are also various sub-national or local strategies and plans that are relevant to this Local Strategy, addressing challenges such as new development, local economic growth, climate change and enhancing the natural environment. The key local strategies and plans that influence how flood risk is managed in RCT are discussed below.

2.2. HOW THIS STRATEGY ALIGNS WITH RCTCBC'S OTHER STRATEGIC PLANS

The Local Strategy is one of several strategic documents that influence how local flood risk is managed in RCT, from national policy and guidance through to local strategies and plans. Some of the key local strategies and plans that have informed the development of the Local Strategy have been listed below:

- **RCTCBC's Corporate Plan 2020-2024, 'Making a Difference'**⁴: Sets out the Authority's priorities, directs what they do and how they use their resources so that RCTCBC is better able to meet future challenges. The plan's vision is *'for RCT to be the best place in Wales to live, work and play, where people and businesses are independent, healthy and prosperous'*. This Local Strategy's objectives, measures and actions align with the principal vision and priorities outlined within the Corporate Plan.
- **RCTCBC's Climate Change Strategy, 'Think Climate Change'**⁵: Provides a framework to meet corporate targets and commitments to reduce carbon emissions within RCT through the delivery of Climate Commitments. Managing

⁴ [RCTCBC Making a Difference: Corporate Plan 2020-24](#)

⁵ [RCTCBC Think Climate RCT](#)

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flood risk is identified as one of RCTCBC's Climate Commitments and several plans and processes to manage flood risk and deliver against the Climate Change Strategy are outlined within the document. These have been detailed further in Section 4.

- **RCTCBC's Local Development Plan (LDP)⁶:** Provides a long term plan for development in RCT, primarily used to support investment decisions and determine planning applications. The LDP includes specific policies which set out how all development proposals should be considered in relation to flood risk. The current LDP has a plan period of 2006-2021. This LDP will remain in force until it is replaced by the Revised LDP for the plan period 2022-2037, which is being prepared at the time of preparing this Local Strategy. It is expected that the Revised LDP will be adopted in early 2026. This Local Strategy supports the delivery of RCT's LDP, in addition to key national policy and guidance in relation to flooding and development. Conversely, this Local Strategy will help prepare appropriate flood risk planning policy in the Revised LDP up to 2037.
- **RCT Local Nature Partnership - 'Action for Nature' Plan⁷:** A nature recovery action plan for RCT which focuses on actions needed to help wildlife to thrive in RCT. Biodiversity has been an integral consideration in the development of this Local Strategy's objectives, measures and actions.
- **RCTCBC's Local Flood Risk Management Strategy 2013 and Flood Risk Management Plan 2015:** The Authority's previous Local Strategy was published in 2013 following the publication of the Welsh Government's initial National Strategy in 2011. RCT's initial Flood Risk Management Plan was published in 2015 and outlined how the Authority intended to achieve the Local Strategy's objectives and measures through the delivery of actions. The development of this Local Strategy and Action Plan builds upon the original objectives, measures and actions to manage local flood risk in RCT, however improvements in national flood risk mapping/datasets, together with recent flood events have allowed RCTCBC to enhance its Local Strategy and Action Plan to reflect these improvements in knowledge and understanding.

⁶ [RCT Local Development Plan, March 2011](#)

⁷ [RCT Local Nature Partnership: RCT Action for Nature Plan](#)

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2.3. COORDINATION WITH OTHERS

RCTCBC are committed to working in partnership with RMAs, other stakeholders and local communities to achieve the flood risk objectives, measures and actions in this Local Strategy.

RCTCBC is adopting a catchment-based approach to managing flood risk in RCT, which promotes collaborative working and forward planning with other stakeholders to reduce the risk of flooding in RCT whilst also delivering wider social, economic and environmental benefits. Exploring opportunities for catchment-scale interventions, including the implementation of Natural Flood Management (NFM) measures, will form a large part of RCTCBC's commitment to working closely with partner organisations.

The Local Strategy has been developed in coordination with the strategic planning processes and plans of other Risk Management Authorities (RMAs). A summary of which has been detailed below:

- **Severn River Basin Management Plan (RBMP)⁸:** The production of the Severn RBMP, produced by NRW and the Environment Agency (EA), is applicable to the administrative boundary of RCTCBC and is a requirement of the Water Framework Directive 2000 (WFD). The management plan outlines the measures that NRW/EA are likely to implement to meet the requirements of the Directive which involve improving water quality, promoting sustainable use of water as a natural resource, and habitats and species conservation. In the development of this Local Strategy's objectives, measures and actions, RCTCBC have considered how the Strategy can assist, and benefit from, the delivery of the WFD objectives, particularly through the use of catchment interventions.
- **NRW's updated FRMP:** Under the FRR, NRW is required to produce a FRMP for main river and coastal flood risk. The FRMP sets out NRW's objectives and managing flood risk from these sources. RCTCBC have and will continue to engage with NRW in the development and delivery of its Local Strategy and Action Plan to identify potential opportunities for partnership working and collaboration.

⁸ [Welsh part of the Severn River Basin Management Plan \(2021-2027\), NRW December 2022](#)

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- **Water Resource Management Plan (WRMP):** WRMP are a statutory requirement under the Water Industry Act 1991 for water companies to produce once every 5 years, and which play a crucial role in securing the public water supply for the region. Dŵr Cymru Welsh Water (DCWW) is the regional water and sewerage treatment company serving RCT. The WG Guiding Principles for Developing WRMPs 2022 stipulate that water companies should consider nature-based solution to increase ecosystem and water supply resilience, deliver local benefits and contribute to regional water resource needs. The promotion of nature-based solutions in the development of WRMP aligns closely with that of the National Strategy and therefore RCTCBC's Local Strategy will also reflect this commitment.
- **Drainage and Wastewater Management Plan (DWMP):** DWMP is a long-term planning study which looks at drainage and sewerage needs over the next 25 years, produced by DCWW. They embed an approach of working together with others, including RCTCBC as the LLFA, to investigate options for sustainable management of DCWW's wastewater services, giving consideration to reducing the risk of sewer flooding to communities.

The LLFA will continue to coordinate the delivery of its objectives, measures and actions through future consultation and engagement activities with RMAs, particularly in the development of its updated flood and water management related plans.

The LLFA also recognise the importance of coordinating its Local Strategy with the public. As such, RCTCBC have undertaken public engagement and consultation activities in the development of this Local Strategy. The details and outcomes of both engagement and consultation activities are discussed in Appendix C.

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3. FLOOD RISK IN RCT

Flooding is a hazard as it has the potential to cause harm to human health and life and effect the natural and built environment. Flooding is often caused by natural weather events such as prolonged, extensive rainfall and heavy rainfall and thunderstorms over a short period.

The term 'risk' acknowledges the actual harm caused and is different to hazard. Flood risk is a combination of the likelihood (or probability) of a flood event occurring and the severity of its impacts.

Flooding remains a key threat to communities across RCT, and this is evidenced by the impact of recent storm events such as the devastating consequences of Storm Dennis in February 2020 where approximately 1,600 properties were internally flooded.

This Section summarises the different sources of flooding in RCT and provides an overview of these flood risks, focusing on the risk from local sources. The risk from other sources of flooding in RCT will also be touched upon in this section.

The assessment of flood risk in RCT draws upon data that currently provides the best understanding and evidence base. The approach to the assessment is further explained in Section 3.2 and the results of the assessment in terms of receptors at risk is included in Section 3.4.

3.1. SOURCES OF FLOODING IN RCT

RCT is vulnerable to flooding from several sources and often during a flood event, flooding is caused by a combination of these flooding sources.

Figure 3 summarises the different types of flooding in RCT and outlines the key points of contact in each case.

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	<p>Surface Water flooding occurs when heavy rainfall exceeds the capacity of the ground and local drainage networks to absorb it. This can lead to water flowing across the ground and ponding in low-lying areas. This type of flooding is typically caused by short, intense rainfall and is often localised with short lead-times, making it difficult to predict.</p>	<p>Contact RCTCBC as the LLFA in this case.</p>
	<p>An Ordinary Watercourse is defined as a watercourse that does not form part of a main river and includes streams, ditches, drains, culverts and passages through which water flows. Flooding from ordinary watercourses occurs as a result of flows in a watercourse exceeding their capacity which can result in overtopping and/or breaching of flood defences following heavy rainfall. It can also be caused by debris build up causing blockages to infrastructure.</p>	<p>Contact RCTCBC as the LLFA in this case.</p>
	<p>Groundwater flooding results when the natural water table within the underlying strata rises to ground level or from water flowing from normal springs. This tends to occur after extended periods of sustained rainfall and the areas most at risk are often low-lying where the water table is likely to be at shallow depth.</p>	<p>Contact RCTCBC as the LLFA in this case.</p>
	<p>Main Rivers are classified as such by Natural Resources Wales typically because of their important in land drainage for the catchment which they serve. Where watercourses are classified as a 'main river' the responsible RMA for their regulation is NRW. Flooding from main rivers occurs as a result of flows in a watercourse exceeding their capacity, resulting in overtopping and/or breaching of flood defences structures.</p>	<p>Contact NRW in this case.</p>
	<p>Flooding from Reservoirs occurs when above ground water storage fails and spills onto the surrounding area. Reservoirs present a flood risk to communities however that risk is well managed in line with the requirements of the Reservoirs Act, meaning that the likelihood of a flood from a reservoir is very low.</p>	<p>Contact Reservoir owner in this case.</p>
	<p>Sewer flooding is often caused by excess surface water entering the drainage network and exceeding the capacity of the sewer or failure of a sewer due to collapse or debris build up. During sewer flooding both foul and surface water can occur. Dŵr Cymru Welsh Water as the water and sewerage undertaker for RCT is responsible for sewer flooding.</p>	<p>Contact DCWW in this case.</p>
	<p>Flooding from Roads occurs when the volume of rainwater does not drain away through existing drainage systems.</p>	<p>Contact the:</p> <ul style="list-style-type: none"> • Welsh Government Trunk Road Agency for flooding from motorways and major trunk roads. • RCTCBC as the Highway Authority for flooding from other roads.

Figure 3: Sources of flooding in RCT and who to contact in each case



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3.2. How RCTCBC ASSESS FLOOD RISK

The LLFA's assessment of local flood risk in RCT is critical to managing and reducing the risk of flooding. Since the publication of the Authority's first Local Strategy in 2013, and its FRMP in 2015, improvements in available mapping and datasets, together with improved asset data, has provided the LLFA with a much more enhanced and accurate understanding of local flood risk in RCT.

The LLFA have utilised the best available datasets and tools to accurately assess local flood risk in RCT, giving consideration to our ability to update our assessments where required, i.e., when new data is updated in line with the schedule set out in the National Strategy. These datasets include NRW's development of the Flood Risk Assessment Wales (FRAW) map and production of the Communities at Risk Register. Both have been described in further detail below.

The datasets, paired with geographical knowledge of the catchment drainage basins in RCT and local flood history to provide local context, have been used to develop 12 assessment boundaries for assessing flood in RCT. These 12 assessment boundaries are referred to as Strategic Flood Risk Areas (SFRAs) and have been depicted in Figure 4 and listed in Table 1 along with the communities that fall within each SFRA, as per the Communities at Risk Register (CaRR). Of those SFRAs shown in Figure 4, 4 fall within the Rhondda valley; 4 in the Cynon valley and 4 in the Taf valley.

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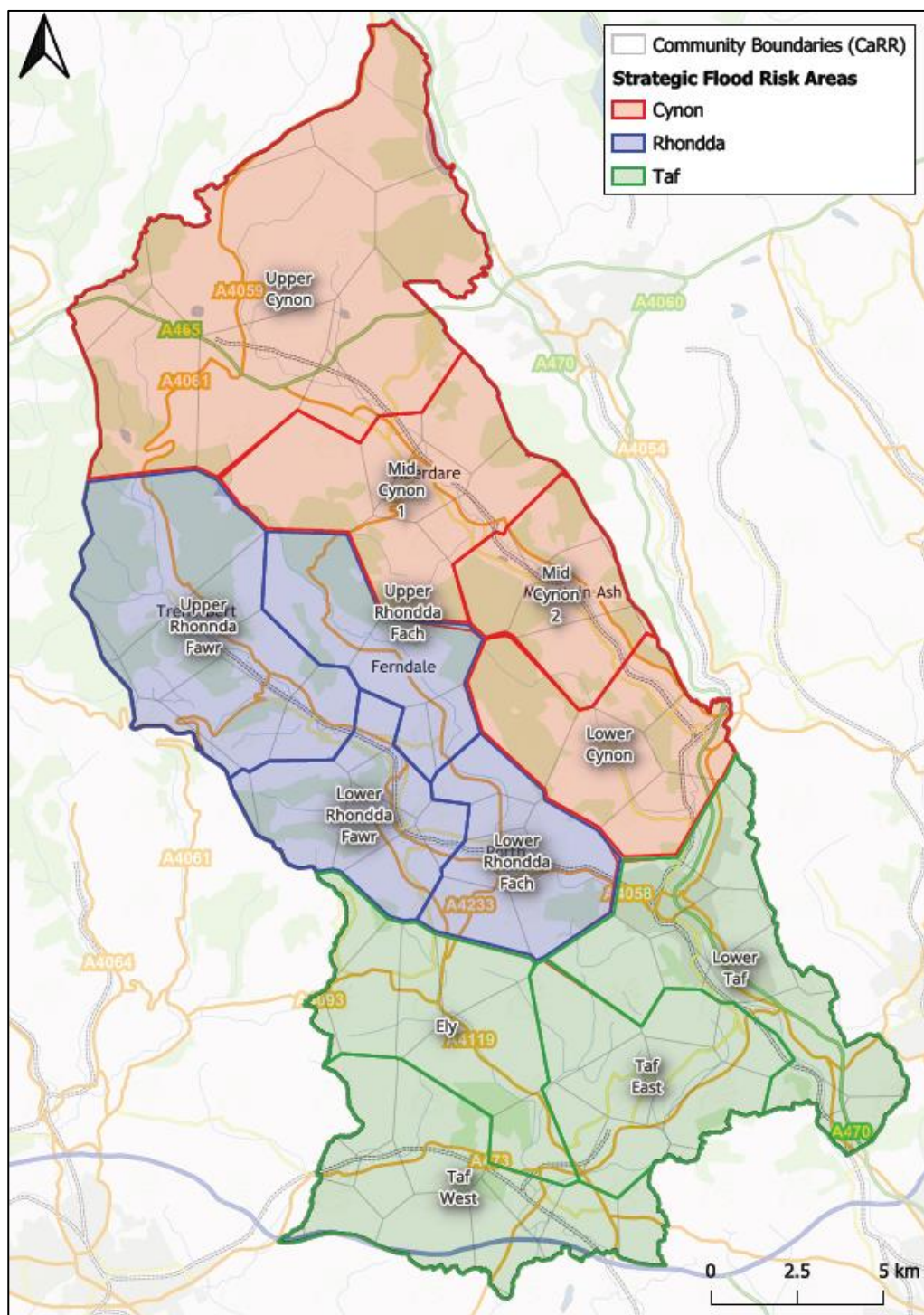


Figure 4: RCT's 12 Strategic Flood Risk Area (SFRA) Boundaries



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Table 1: RCT's 12 Strategic Flood Risk Areas

No	Strategic Flood Risk Area	Communities (CaRR)	Area (Ha)
1	Upper Rhondda Fawr	Blaenrhondda Cwmparc Rhondda Treherbert Treorchy	4445.56
2	Lower Rhondda Fawr	Clydach Vale Llwynypia Penygraig Tonypany Trealaw Ystrad	2284.47
3	Upper Rhondda Fach	Ferndale Maerdy Penrhys Tylorstown	2110.33
4	Lower Rhondda Fach	Porth Trebanog Trehafod Wattstown Ynyshir	2245.70
5	Upper Cynon	Hirwaun Llwydcoed Penderyn Penywaun Rhigos	8845.37
6	Mid Cynon 1	Aberaman Aberdare Aber-nant Cwmaman Cwmbach Cwmdare Trecynon	3614.03
7	Mid Cynon 2	Abercwmboi Cefnpennar Mountain Ash Penrhiwceiber	2077.91
8	Lower Cynon	Abercynon Glyncoch Llanwonno Ynysboeth Ynysybwl	2896.44

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No	Strategic Flood Risk Area	Communities (CaRR)	Area (Ha)
9	Lower Taf	Cilfynydd Glyntaff Nantgarw Rhydyfelin Pen-y-coedcae Pontypridd Taffs Well Treforest Ty Rhiw	3803.95
10	Taf East	Beddau Castellau Church Village Cross Inn Efail Isaf Llantrisant Llantwit Fadre Ton-teg	3014.77
11	Ely	Bryn Golau Coedely Gilfach Goch Hendreforgan Talbot Green Tonyrefail	3127.68
12	Taf West	Bryncae Brynna Brynnay Gwynion Brynsadler Groes-faen Miskin Llanharan Llanharry Llanilid Pontyclun	3637.18

The production of SFRAs in RCT utilise a catchment-based approach for assessing local flood risk in RCT which seeks to provide a more holistic and integrated approach to managing flood risk. The catchment-based approach aims to enhance our understanding of the sources and movement of flood water through catchments, or sub-catchments, to produce a comprehensive range of flood risk management measures, prioritising those areas identified at greatest risk.

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The mapping, datasets and local knowledge used to produce the SFRA assessment boundaries have been discussed in further detail in Table 2 below.

Table 2: Datasets and tools used to produce RCT's SFRA assessment boundaries

Dataset / Tool	Description of Dataset / Tool	Application in the development of SFRAs
Flood Risk Assessment Wales (FRAW) Map	A flood map, developed and maintained by NRW, showing detailed information on flood risk from all sources.	<p>The output of the FRAW provides the best estimation of flood risk from Rivers, Sea and surface water and ordinary watercourses.</p> <p>The FRAW displays risk at three levels: high, medium and low.</p> <p>High Risk: An area has a chance of flooding of greater than 1 in 30 (3.3%) each year.</p> <p>Medium Risk: An area has a chance of flooding of between 1 in 100 (1%) and 1 in 30 (3.3%) each year.</p> <p>Low Risk: An area has a chance of flooding between 1 in 1000 (0.1%) and 1 in 100 (1%) each year.</p>
Communities at Risk Register (CaRR)	The CaRR provides a national assessment of flood risk and hazard from all sources of flooding. It was produced by NRW, on behalf of the Welsh Government, to provide an objective method for identifying risk and prioritising flood risk management activities at a Wales wide, community level.	<p>The production of community boundaries allows flood risk and hazard to be quantified and ranked at a local level, enabling the identification of communities at highest risk in RCT.</p> <p>Investment in flood risk management interventions will be prioritised to those high risk communities.</p>
Catchment Drainage Basins	<p>A catchment is an area of land with several, often interconnected water bodies (watercourses, lakes, groundwater) which drain into a single major river system.</p> <p>The catchments of RCT are characterised by steep and narrow valleys whereby water drains from</p>	The identification of catchments, and sub-catchments, in RCT allow us to consider the sources and movement of flood water within a whole river or watercourse drainage basin and is not constrained by administrative boundaries.

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Dataset / Tool	Description of Dataset / Tool	Application in the development of SFRAs
	<p>and finds its way into watercourses and into the soil, eventually discharging into the Rivers Cynon, Ely, Rhondda and Taf.</p>	
<p>Section 19 Investigations & Historic Flooding</p>	<p>The LLFA has a duty to investigate all incidents of flooding, insofar as it considers necessary or appropriate. This is a requirement under Section 19 of the FWMA.</p> <p>The purpose of these investigations is to identify the causes and mechanisms of flooding and assess the impact from an event.</p> <p>Records of historical flood events are maintained by RCTCBC.</p>	<p>Flood investigation reports of historic flooding, inclusive of Section 19 reports, provide local nuance and context to supplement data derived from the FRAW and the CaRR. This can aid in the identification of further areas at risk of flooding that have not been identified by the mapping and datasets.</p>

The identification of SFRAs allows local flood risk to be assessed holistically and provides the LLFA with a greater understanding as to how a catchment floods which is not based on administrative or political boundaries.

The utilisation of the CaRR has also allowed the Authority to develop a greater understanding of its local flood risk, at both the national and local scale, enabling the comparison of risk between communities. This has been further described below.



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3.3. OVERVIEW OF FLOOD RISK IN RCT

Flooding is determined by factors in the surrounding landscape, such as steepness of the land, geology, and land use.

The catchments of the South East Wales Valleys within RCT are the Rhondda, Cynon, Taf and Ely. Each catchment is characterised by steep sided hillsides which are susceptible to intense rainfall and associated flash flooding. An extensive network of watercourses drain these hillsides, while urban development is confined to the narrow valley floors of each catchment.

The combination of topographic, geological and geographical factors causes the catchment within RCT to react almost immediately to rainfall, with events often subsiding in hours, rather than days. RCT is therefore extremely vulnerable to flooding from a range of sources but particularly from local sources.

Further details relating to land use type, geology, hydrology and ecology of each of the catchments in RCT have been described in detail within RCT's previous FRMP, published in 2015.

Recent storm events have highlighted how many parts of RCT are susceptible to flooding, and the impacts can be wide ranging and severe.

Between April 2018 and January 2023, the authority received 85 weather warnings from the Met Office and over 2,202 properties suffering internal flooding during that period. Storm Dennis in February 2020 was the most significant storm event during that period, accounting for over 72% of the total properties impacted.

3.3.1. LOCAL FLOOD RISK IN RCT

Local flood risk is defined as the risk from ordinary watercourse, surface water and groundwater sources. This is also referred to as 'Pluvial Risk' in datasets such as the CaRR.

Based on national assessments of present-day risk, RCTCBC is in fact ranked as the highest risk authority for surface water and ordinary watercourse flood risk in Wales.

Figure 5 depicts the number of communities per Unitary Authority in Wales within the top 5% of communities at risk of pluvial flooding, according to the CaRR. The results



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identified 25 communities within the top 5% of communities in Wales at risk of pluvial flooding. This accounts for 22.5% of the national pluvial risk.

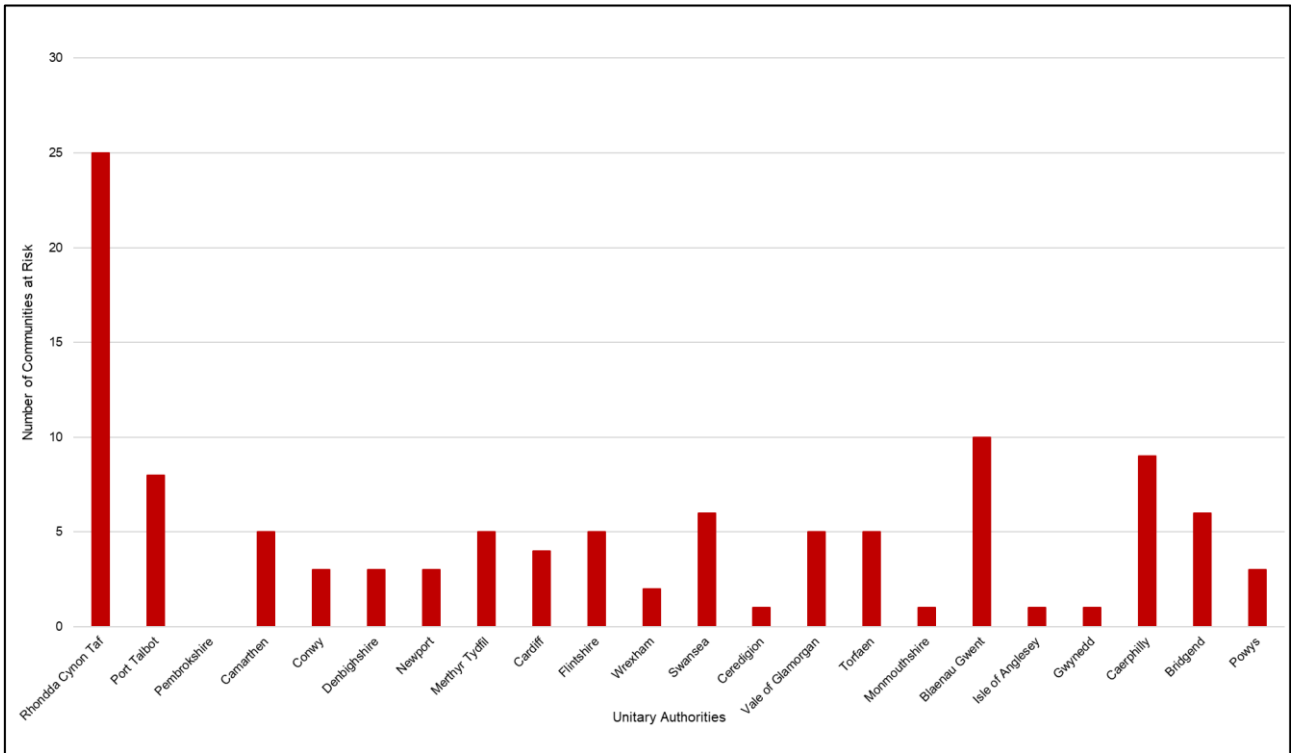


Figure 5: Number of communities per Unitary Authority within the top 5% (top 111) of communities in Wales at highest risk of pluvial flooding (Communities at Risk Register, 2019)

The assessment of the CaRR data identified large parts of the Rhondda valley as being at significant risk of surface water and ordinary watercourse flooding, with the ‘Rhondda’ community ranking highest in Wales for pluvial flood risk, closely followed by ‘Tremochoy’ 3rd, and ‘Treherbert’ 6th.

The steep topography of RCT makes it extremely susceptible to flash floods, with the steep sided valleys causing rapid runoff of surface water towards lower reaches. As a result of the areas topography, climate and concentrated urban development, flooding from surface water and ordinary watercourses is the most common source of flooding in RCT and is particularly prominent following a prolonged period of rainfall when a catchment is saturated, or after an intense storm and drainage systems become overwhelmed. This also leads to an increased risk of flooding to the highway as highway drainage infrastructure will often become overwhelmed with the volume of rainfall and surface water run-off flowing towards lower reaches of RCT.



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Groundwater flooding is much more difficult to predict and assess however in RCT, historic mining activities have disrupted the 'natural' groundwater regime within the coal measures, and it is likely that the interconnection between many of the collieries has resulted in cross catchment 'groundwater flow' in certain parts of RCT, making our ability to quantify groundwater flood risk particularly challenging.

3.3.2. MAIN RIVER FLOOD RISK IN RCT

The main rivers in the area include the River Taf, River Rhondda, River Cynon and River Ely, which are all prone to flooding during periods of heavy rainfall. Main river flooding is often caused by river levels 'overtopping' their 'banks' and/or 'breaching' of defence structures.

The risk of main river flooding (also referred to as 'Fluvial' flooding in the CaRR) is primarily owed to the urban extent of the communities within RCT located in and around the river flood plains.

Based on national assessments of present-day risk, RCTCBC is ranked as having significant fluvial flood risk.

Figure 6 depicts the addresses at risk (residential, non-residential and key services) during the medium risk event per Unitary Authority in Wales. The results show RCTCBC have the third highest number of addresses at risk of fluvial flooding in Wales, with Cardiff identified as having the greatest number of addresses at risk, followed by Port Talbot.

Events such as the flooding experienced during Storm Dennis in February 2020 have highlighted the dangers of main river flooding, particularly to those communities residing on the River Taf, Cynon, Rhondda and Ely flood plains. Anecdotal evidence collated during Storm Dennis also suggests that flooding from local sources is exacerbated in some areas when gravity drains and outfalls are restricted due to high river levels.

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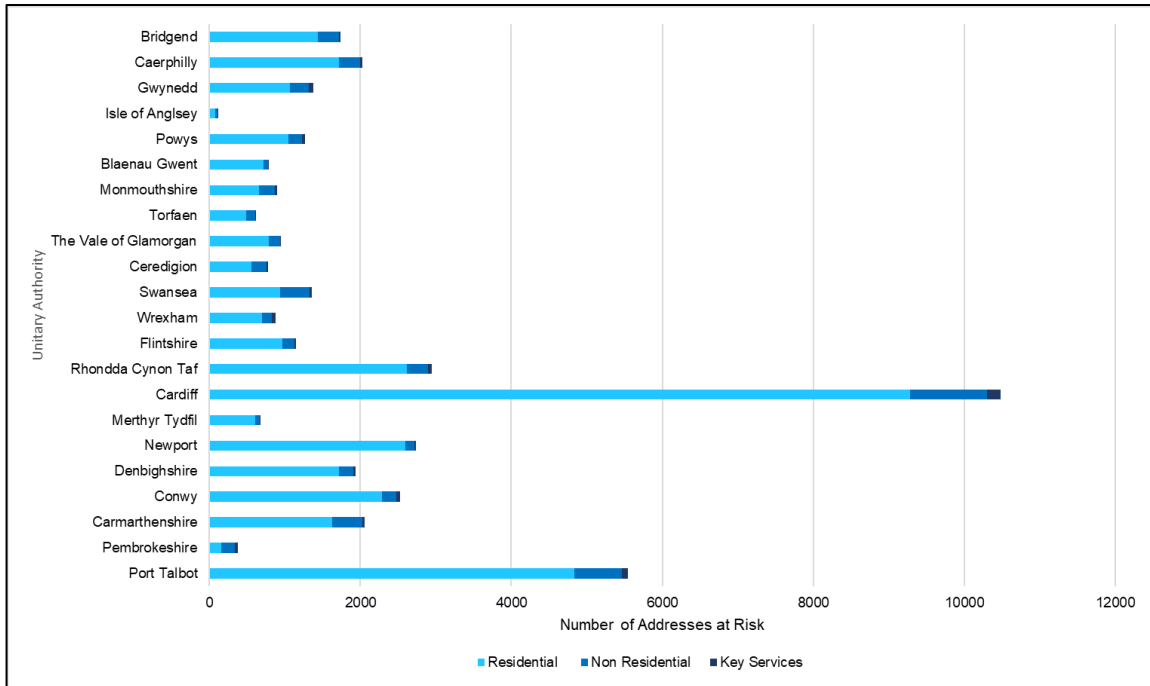


Figure 6: Addresses at Risk of fluvial flooding per Unitary Authority in Wales during the Medium risk event (Communities at Risk Register, 2019)

3.3.3. SEWER FLOOD RISK IN RCT

Sewer flooding is often caused by excess surface water entering the drainage network and exceeding the capacity of the network. When this occurs, sewage can overflow from manholes and gullies and cause flooding to land and properties.

Due to RCT’s significant surface water flood risk, particularly within the catchments lower reaches where water will naturally pond, the sewer network can become overwhelmed during periods of heavy or sustained rainfall. Sewer flooding is therefore acknowledged by both the LLFA and the water and sewerage undertaker (DCWW) as a significant risk in RCT.



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3.4. RESULTS OF RCT'S FLOOD RISK ASSESSMENT

Establishing SFRA assessment boundaries through the methodology described in Section 3.2 has enabled the LLFA to strategically assess and compare local flood risk across communities and catchments in RCT. The results of these assessments have been described below.

Table 3 provides an overview of total risk receptors at high, medium and low risk of flooding from local sources in RCT.

Table 3: Receptors at high, medium and low risk of flooding from local sources in RCT

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 Properties (n)	9136	2452	7266
Commercial Properties (n)	852	180	393
Essential Services (n)	118	18	60
Primary/Trunk Roads (km)	40.05	12.63	39.22
Main Line Railways (km)	6.80	1.74	4.93
Agricultural Land - Grades 1, 2 and 3 (ha)	83.95	22.50	76.44
Special Areas of Conservation (SAC) (ha)	9.77	2.04	6.41
Special Protection Areas (SPA) (ha)	0	0	0
Ramsar Sites (ha)	0	0	0
Sites of Special Scientific Interest (SSSI) (ha)	41.31	8.95	30.53
Sites of Interest for Nature Conservation (SINC) (Ha)	383.62	95.19	347.19
National Nature Reserves (NNR) (ha)	0.41	0.10	0.28
Local Nature Reserves (LNR) (ha)	1.06	0.14	0.53
Ancient Woodland (ha)	73.69	14.34	49.24

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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)
Registered Parks and Gardens (ha)	2.45	0.83	2.25
Country Parks (ha)	8.33	1.92	6.87
Scheduled Ancient Monuments (SAM) (ha)	0.86	0.28	2.07
Listed Buildings (n)	53	11	29

Further analysis has been undertaken to determine the total risk receptors at high, medium and low risk of flooding from local sources within each SFRA. The results of which are shown in Tables 4-6.



Table 4: Total number of risk receptors at High risk flooding sources in RCT

Risk Receptor	Strategic Flood Risk Areas											
	Upper Rhondda Fawr	Lower Rhondda Fawr	Upper Rhondda Fawr	Lower Rhondda Fawr	Upper Cynon	Middle Cynon	Middle Cynon	Lower Cynon	Lower Cynon	Ely	Taf West	Taf East
Residential Properties (n)	3202	1345	564	638	337	820	182	337	964	380	118	462
Commercial Properties (n)	202	164	55	73	38	69	9	5	156	33	21	27
Essential Services (n)	31	19	8	4	8	15	3	3	17	5	0	5
Primary/Trunk Roads (km)	4.17	5.87	0.9	2.83	8.39	1.54	0.84	1.39	6.49	3.66	1.98	2
Main Line Railways (km)	1.55	2.67	0	1.2	0	0	0.32	0.13	0.39	0.03	0.70	0.2
Agricultural Land - Grades 1, 2 and 3 (ha)	0	0.70	0	2.11	0.26	24.23	3.85	2.92	9.62	5.48	18.83	15.96
SAC (ha)	0	0	0	0	9.77	0	0	0	0	0	0	0
SPA (ha)	0	0	0	0	0	0	0	0	0	0	0	0
Ramsar Sites (ha)	0	0	0	0	0	0	0	0	0	0	0	0
SSSI (ha)	6.55	0.21	0	1.39	6.55	0	0.21	1.39	0.73	4.58	0.55	4.33

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Risk Receptor	Strategic Flood Risk Areas											
	Upper Rhondda Fawr	Lower Rhondda Fawr	Upper Rhondda Fach	Lower Rhondda Fach	Upper Cynon	Mid Cynon 1	Mid Cynon 2	Mid Cynon 3	Mid Cynon 4	Ely	Taf West	Taf East
SINC (Ha)	98.62	21.28	16.84	7.32	57.04	57.61	15.95	25.01	18.31	15.27	26.03	24.34
NNR (ha)	0	0	0	0	0	0	0	0	0	0	0	0
LNR (ha)	0	0.99	0	0	0	0	0.99	0	0.05	0	0	0
Ancient Woodland (ha)	4.33	3.75	0.57	2.62	4.33	0.57	3.75	2.62	9.72	5.74	6.95	7.67
Registered Parks and Gardens (ha)	0	0	0	0	0	0	0	0	0.63	0	0.75	0
Country Parks (ha)	0	0	0	0	0	0	0	0	0	0	0	0
Scheduled Ancient Monuments (ha)	0	0	0	0	0	0	0	0	0.06	0	0.03	0.12
Listed Buildings (n)	8	2	2	5	8	2	2	5	18	0	2	4

Table 5: Total number of risk receptors at Medium flooding source in RCT

Risk Receptor	Strategic Flood Risk Areas											
	Upper Rhondda Fawr	Lower Rhondda Fawr	Upper Rhondda Fawr	Lower Rhondda Fawr	Upper Cynon	Mid Cynon	Mid Cynon	Lower Cynon	Lower Cynon	Ely	Taf West	Taf East
Residential Properties (n)	461	407	152	171	91	302	94	53	328	162	59	172
Commercial Properties (n)	11	26	25	13	6	32	5	1	29	7	17	8
Essential Services (n)	2	1	2	2	1	2	0	2	3	0	0	3
Primary/Trunk Roads (km)	1.14	1.66	0.38	1.02	1.96	1.14	0.33	0.28	2.28	1.32	0.38	0.74
Main Line Railways (km)	0.19	0.42	0	0.23	0	0	0.19	0.3	0.25	0.01	0.08	0.08
Agricultural Land - Grades 1, 2 and 3 (ha)	0	0.15	0	0.34	0.12	3.21	1.08	1.14	3.48	1.98	6.37	4.62
SAC (ha)	0	0	0	0	2.04	0	0	0	0	0	0	0
SPA (ha)	0	0	0	0	0	0	0	0	0	0	0	0
Ramsar Sites (ha)	0	0	0	0	0	0	0	0	0	0	0	0
SSSI (ha)	2.07	0.04	0	0.39	3.42	0	0	0	0.09	1.26	0.37	1.32

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Risk Receptor	Strategic Flood Risk Areas											
	Upper Rhondda Fawr	Lower Rhondda Fawr	Upper Rhondda Fach	Lower Rhondda Fach	Upper Cynon	Mid Cynon 1	Mid Cynon 2	Lower Cynon	Upper Ely	Ely	Taf West	Taf East
SINC (Ha)	24.43	6.97	6.85	2.02	14.41	13.10	3.21	5.32	4.74	4.13	6.46	6.97
NNR (ha)	0	0	0	0	0.10	0	0	0	0	0	0	0
LNR (ha)	0	0.12	0	0	0	0	0	0.01	0.01	0	0	0
Ancient Woodland (ha)	0.74	0.68	0.10	0.46	2.86	0.76	0.84	1.31	2.07	0.91	1.60	2.01
Registered Parks and Gardens (ha)	0	0	0	0	0	0.11	0	0	0.27	0	0.45	0
Country Parks (ha)	0	0	0	0	1.92	0	0	0	0	0	0	0
SAM (Ha)	0	0	0	0	0.21	0.01	0	0	0.01	0	0.05	0.01
Listed Buildings (n)	1	2	0	2	0	2	0	0	1	0	2	1

Table 6: Total number of risk receptors at L... flooding... resources... in RCT

Risk Receptor	Strategic Flood Risk Areas											
	Upper Rhondda	Lower Rhondda	Upper Rhondda	Lower Rhondda	Upper Cynon	M... Cynon	M... Cynon	Lower Cynon	L...	Ely	Taf West	Taf East
Residential Properties (n)	1099	917	372	541	341	663	448	235	1218	467	166	799
Commercial Properties (n)	41	38	17	20	26	47	31	1	81	33	25	33
Essential Services (n)	7	9	1	5	3	6	2	1	10	4	4	8
Primary/Trunk Roads (km)	2.85	4.58	1.63	2.97	5.67	2.62	1.64	1.44	7.43	3.58	1.56	3.25
Main Line Railways (km)	0.37	0.83	0	0.4	0	0.01	0.49	0.69	0.75	0.12	0.5	0.78
Agricultural Land - Grades 1, 2 and 3 (ha)	0	0.30	0	1.49	0.15	10.39	4.50	3.78	10.03	6.66	21.64	17.49
SAC (ha)	0	0	0	0	6.41	0	0	0	0	0	0	0
SPA (ha)	0	0	0	0	0	0	0	0	0	0	0	0
Ramsar Sites (ha)	0	0	0	0	0	0	0	0	0	0	0	0
SSSI (ha)	7.02	0.20	0	1.81	10.85	0	0.02	0	0.40	3.73	1.06	5.46

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Risk Receptor	Strategic Flood Risk Areas											
	Upper Rhondda Fawr	Lower Rhondda Fawr	Upper Rhondda	Lower Rhondda	Upper Cynon	Mid Cynon 1			Cynon		Ely	Taf West
SINC (Ha)	85.42	25.51	17.33	9.28	53.42	42.92	14.50	20.65	18.83	14.18	21.96	23.18
NNR (ha)	0	0	0	0	0.28	0	0	0	0	0	0	0
LNR (ha)	0	0.47	0	0	0	0	0	0.03	0.04	0	0	0
Ancient Woodland (ha)	2.66	2.22	0.71	1.71	8.91	3.36	3.53	4.44	8.69	2.52	4.97	5.52
Registered Parks and Gardens (ha)	0	0	0	0	0	0.31	0	0	0.73	0	1.21	0
Country Parks (ha)	0	0	0	0	6.87	0	0	0	0	0	0	0
Scheduled Ancient Monuments (ha)	0.16	0	0	0	1.60	0.07	0	0	0.15	0	0.05	0.04
Listed Buildings (n)	2	1	0	1	1	11	6	0	3	2	2	0

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The results from Tables 4-6 indicate that the Upper Rhondda Fawr SFRA has a significantly higher number of receptors at high, medium and low flood risk compared with other SFRAs in RCT. The total number of residential properties at high risk of flooding in the Upper Rhondda Fawr SFRA accounts for approximately 35% of the total residential properties at high risk from local sources in RCT.

Figure 7 illustrates the number of residential and commercial properties, and essential services at risk of flooding from local sources in each SFRA during the high risk event. The Upper Rhondda Fawr SFRA accounts for the majority of receptors at risk, followed by the Lower Rhondda Fawr SFRA, the Lower Taf SFRA and the Mid Cynon 1 SFRA. Based on RCTCBC's assessment, the Taf West SFRA and Mid Cynon 2 SFRA are identified to have the lowest number of receptors at risk in RCT.

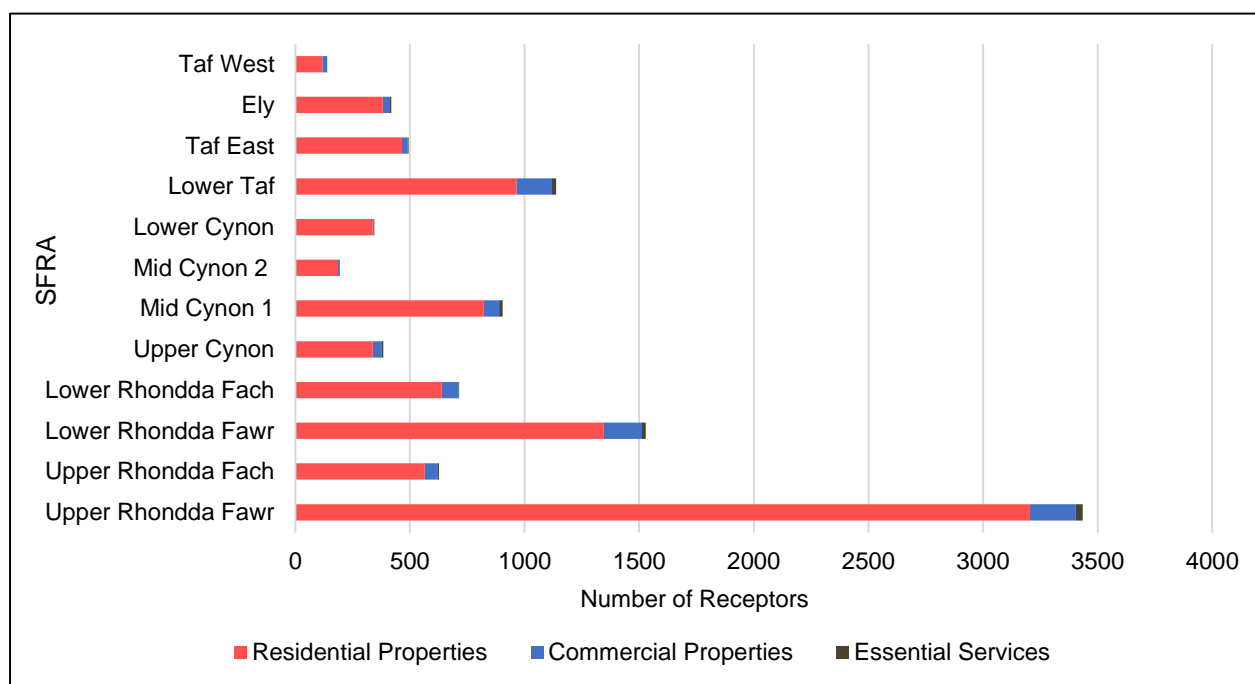


Figure 7: Number of receptors at risk (residential, commercial and essential services) in each SFRA in RCT during the high risk event

The Flood Risk Regulations (FRR) 2009 requires all LLFAs which have a Flood Risk Area, as identified by NRW's Preliminary Flood Risk Assessment **Error! Bookmark not defined.**, to produce and publish a Flood Risk Management Plan (FRMP) for that area. RCT's initial FRMP, published in 2015, developed the objectives and high-level measures outlined in our 2013 Local Strategy into a more detailed plan for managing the risk of flooding from local sources in our communities, over the lifetime of its cycle.



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The second cycle of the FRR publications are underway. A Preliminary Flood Risk Assessment (SFRA) was prepared in 2017 by RCTCBC to meet its duties to manage local flood risk under the second cycle of the FRR publications. This fed into the identification of Flood Risk Areas within NRW's PFRA in 2018. The 2018 PFRA identified 3 Flood Risk Areas within RCT as having significant local flood risk; Treorchy, Treherbert and Rhondda. As required by the FRR, a FRMP is required for each of these 3 Flood Risk Areas.

The identification of Flood Risk Areas in RCT aligns with our assessment of the CaRR, which identifies the Rhondda catchment as having significant local flood risk. RCTCBC's analysis of the CaRR ranking data, shown in Section 3.3, however suggests a much higher number of communities are at significant local flood risk than the 3 Flood Risk Areas identified by the PFRA. This is supplemented by local knowledge of recent flood events. For this reason, RCT have produced Flood Action Plans within this Local Strategy, to replace the former FRMP, which cover the entire RCTCBC administrative area, in addition to 12 Flood Action Plans for each SFRA which are reflective of the risk assessment. The Flood Action Plans have been introduced in Section 8 and included in Appendix A.

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4. CLIMATE CHANGE AND FLOOD RISK

4.1. CLIMATE CHANGE RISK IN RCT

The Senedd was the first Parliament in the world to declare a climate emergency. Climate change is expected to increase the risk of flooding across Wales, not only through sea level rise but also from frequent and intense storms, flash flooding and storm surges.

Although every storm cannot be attributed to the effects of climate change, evidence suggests that extreme weather events will become more frequent in the future. Climate projections over UK land for the 21st century suggest that winters will become warmer and wetter, summers will be drier, and we will experience an increase in the frequency and intensity of extreme weather events.

According to the UKCIP 2018, winters in the UK, for the most recent decade (2009-2018), have been on average 5% wetter than 1981-1990 and 12% wetter than 1961-1990. Summers in the UK have also been wetter, by 11% and 13% respectively, and the number of extreme rainfall events has also increased by 17% when comparing 2008-2017 with the 1961-1990 period⁹.

The increased frequency of extreme weather events can be observed in RCT. This is illustrated in Figure 8 which identifies a record total of 32 storm events occurring between April 2022 and March 2023, compared to only 10 storm events recorded between April 2018 and March 2019. These figures are based on the number of wet weather warnings received from the Met Office for RCT.

⁹ MET Office, 2018, [UK Climate Projections \(UKCP\) - Met Office](#)



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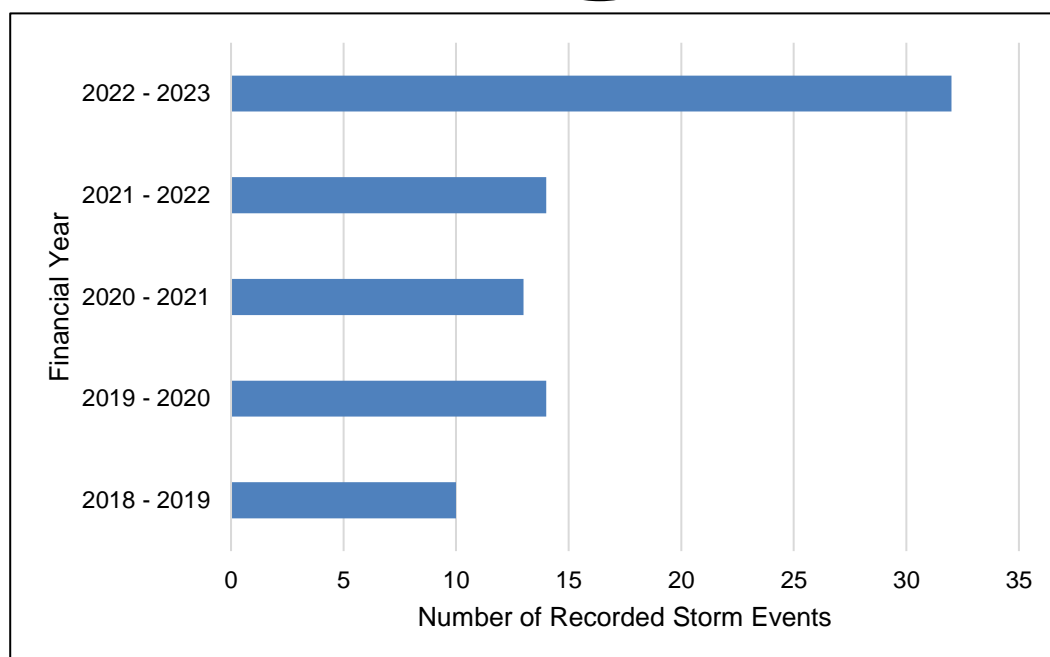


Figure 8: The number of storm events recorded in RCT over the last 5 years (2018 – 2023)

RCT has also experienced record-breaking rainfall intensities in recent years. On the 15th and 16th February 2020, RCT was impacted by an extreme weather event which was designated by the Met Office as ‘Storm Dennis’. The storm was the second of three consecutive storm events that made landfall in February 2020 and has since been recorded as the wettest February on record in Wales and the UK. Communities within RCT were amongst the worst impacted by the storm with several hundred homes and businesses flooded. Rainfall in the catchment areas of RCT during Storm Dennis was of such intensity that rivers and watercourses reacted extremely quickly, reaching record levels and flows. A major incident was declared by the South Wales Police following the serious disruption caused by the flooding.

The observed increase in storm frequency and intensity is expected to continue, and is considered to be a factor of climate change which will result in local flood risk increasing across RCT. The projected increase in winter rainfall will increase groundwater recharge, leading to more frequent groundwater flooding. We can also expect greater flows within our ordinary watercourses, as well as main rivers, which will lead to more frequent overtopping and potential breaches of defence structures. Higher water levels within RCT’s watercourses can also reduce the ability of drainage networks to discharge water which increases the risk of surface water flooding.



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Additional pressures are also being placed upon the capacity of the drainage infrastructure within RCT as a result of more intense and frequent rainfall and paired with the demand for new development in our urban town centres to meet the demand of a growing population. The 2021 National Census recorded a population of 237,497 in RCT, seeing a population increase of 3,124 in the last decade¹⁰. Although this is below the Welsh Government estimated population growth for RCT¹¹, 1,987 new dwellings have been built on greenfield land since 2012 – 2013, using approximately 66.2 hectares of greenfield land for residential development. The growing development needs, paired with loss of greenfield areas, will only increase the flood risk challenges facing individuals, communities and RMAs now and in the future.

The British Red Cross (2023)¹² published a report exploring the impacts of climate change through comparing social flood risk across UK local authorities. Social Flood Risk is a measure of probability and exposure to flooding, in addition to area and population vulnerability to flooding impacts. The report identified RCT as having the greatest social flood risk in the UK for surface water flooding. RCT is also predicted to have the steepest increase in social flood risk across the UK for combined flooding by the 2050s and 2080s, under both a 2°C and 4°C warming scenario.

Climate change is a well-established phenomenon which will bring significant challenges to our communities, particularly in relation to flood risk. The evidence of the impact of climate change in RCT is overwhelming and this strategy will aim to manage these impacts. The objectives, measures and actions identified in this Local Strategy will help us to reduce the risk of flooding where we can, as well as adapt our communities and infrastructure both in terms of preparedness for such extreme events and becoming more resilient to flooding when it occurs.

¹⁰ [Home - Office for National Statistics \(ons.gov.uk\)](https://ons.gov.uk)

¹¹ [Population estimates by local authority and year \(gov.wales\)](https://gov.wales)

¹² [UK Flooding report | Research | British Red Cross \(2023\)](#)

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4.2. HOW OUR STRATEGY ADDRESSES THESE RISKS

The strategy has been developed with a longer-term, strategic view, recognising the nature of flood risk with respect to the challenges of climate change.

In June 2022, RCT’s Climate Change Strategy – ‘Think Climate RCT’¹³ was approved by Cabinet, providing a framework to meet corporate targets and commitments to reduce carbon emissions within the Council and the County Borough, and in doing so playing our part to tackle climate change through our Climate Commitments. Managing flood risk has been identified as one of RCTCBC’s Climate Commitments to reducing carbon emissions within the Council.

The Council has also established a Climate Change Working Group (March 2021) and subsequent sub-groups, aiming to support the practical implementation of the policies and strategic direction determined by the Climate Change Cabinet Sub Committee (CCCSC) and other Council bodies in relation to targeting climate change impacts and delivering the Council’s ambition of becoming a carbon-neutral organisation by 2030.

RCT’s Climate Change Strategy outlines several aims and plans to deliver against the three main priorities of the Council’s Corporate Plan 2020-24, all of which will contribute to and benefit from tackling climate change. Table 7 identifies the aims and plans relevant to flood risk management which will achieve the Climate Commitments and deliver against RCTCBC’s three corporate priorities. These have been considered within the Local Strategy objectives, measures and actions to align with RCTCBC’s Climate Change Strategy.

Table 7: Flood risk management related aims and plans to achieve the Council’s Corporate priorities and Climate Change Strategy

Corporate Priority	Climate Change Strategy Aims	Climate Change Strategy Plans
Creating Places: where people are proud to live, work and play	Protecting and enhancing our wild spaces and working with nature to tackle both the Climate and Nature emergencies	Continuing to investigate and promote opportunities to use natural processes, green infrastructure, and management techniques in RCT’s countryside to reduce environmental risks such as flooding.

¹³ [RCTCBC 2022-2025 Think Climate Change Strategy](#)



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Corporate Priority	Climate Change Strategy Aims	Climate Change Strategy Plans
	and benefit our communities.	<p>Working with partners to expand green infrastructure and agroforestry to limit deforestation which in turn will significantly increase flood defences.</p> <p>Minimising flood risk by promoting nature-based solutions in appropriate locations as well as traditional engineering works, for example SuDS.</p> <p>Attracting private sector investment to increase areas of woodland regeneration and creation, ensuring that we protect and store carbon and reduce the risk of flooding.</p>
Enabling Prosperity: creating the opportunity for people and businesses to be innovative; be entrepreneurial; and fulfil their potential and prosper	Setting out Zero carbon ambition for new homes and future developments in our Local Development Plan.	Minimising flood risk by promoting nature-based solutions in appropriate locations as well as traditional engineering works, for example Sustainable Drainage Systems (SuDS).
	Supporting local businesses to become more sustainable and capitalise on the new opportunities offered by the green and emerging economies.	Using natural planting in public areas of our town centres to improve air quality and well-being, reduce flood risk, provide cooling during heatwaves and other climate benefits for residents.
Ensuring People: are independent, healthy, and successful	Raising Climate Awareness	Working with young people, including through schools and their eco councils, youth groups and arts projects in ways they can help shape our plans for their future.
		Providing opportunities for communities to become involved in developing local solutions through Neighbourhood Networks.

In addition to RCT's Climate Change Strategy which provides the overarching framework for managing the impacts of climate change, there are several national and local strategies, plans and guidance the LLFA has considered when developing our



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objectives, measures and actions to managing local flood risk and addressing climate change risks in RCT. Table 8 identifies these and how they have been considered in the development of this Local Strategy.

Table 8: National and local strategies, plans and guidance considered in the development of RCT's Local Strategy to manage flood risk and address climate change risks in RCT

Strategic, Plans & Guidance	How this Local Strategy aligns with and addresses the risk of climate change
RCT's Corporate Plan 2020 – 2024 'Making a Difference'	Aligns directly with RCT's Climate Change Strategy with the ambition to mainstream 'green' thinking across all our plans and processes.
RCT's Local Development Plan	Support future developers, the public, and the Local Planning Authority (LPA), by providing clarity about the type of development that will be permitted at a particular location and setting appropriate acceptability criteria for surface water flooding consequences, giving due consideration to the impact of climate change on flood risk.
RCT Local Nature Partnership - 'Action for Nature' Plan	The 'Action for Nature' plan, prepared by the RCT Local Nature Partnership, has been developed to benefit the wildlife and communities of RCT and to assist the Council in meeting its Biodiversity Duty obligations under Section 6 of the Environment (Wales) Act 2016. Several of the Local Strategy's objectives, measures and aims have considered how flood risk management can contribute to environmental and biodiversity enhancement, particularly in relation to the promotion of interventions that work with nature to reduce flood risk and deliver wider benefits, including NFM, green infrastructure and sustainable land management.
RCT's Air Quality Action Plan	The Council has produced Air Quality Action Plans for individual Air Quality Management Areas which set out actions to improve air quality. This Local Strategy will explore the wider benefits to improving air quality within our urban areas with the promotion of green infrastructure, SuDS and NFM options; all of which provide additional environmental benefits.
Welsh Government's Guidance on Adapting to Climate Change	Stipulates climate change allowances for the development of Flood Alleviation Schemes (FAS), thereby providing consideration to the impact of

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Strategic, Plans & Guidance	How this Local Strategy aligns with and addresses the risk of climate change
	climate change early in the business case development process.
Future Wales: The National Plan 2040	Future Wales: The National Plan 2040 sits alongside Planning Policy Wales at the highest tier of Welsh Government planning in Wales and sets the direction for development in Wales to 2040. Policy 8 of the Plan sets out the national strategic approach to flood risk management which aims to enable and support sustainable strategic growth and regeneration in National and Regional Growth Areas. The Plan outlines the Welsh Government’s intentions to work with LLFAs and developers to plan and invest in new and improved infrastructure, promoting nature-based solutions as a priority whilst also contributing to the achievement of sustainable development, both of which align with the objectives of this Local Strategy.
Technical Advice Note 15: Development, Flooding and Coastal Erosion (TAN15)	The new TAN outlines ways in which the planning system can support communities to avoid being affected by flooding, and to develop more resilience where it cannot be avoided. It also recognises that changes in rainfall intensity over the next century will impact local flood risk.
NRW’s Flood Map for Planning	Provides information on the predicted future flood risk to enable LPAs to develop locally-appropriate approaches for area at risk, or in close proximity to risk, giving due consideration to the impacts of climate change.
Welsh Government’s Guidance on Climate Change Allowances and Flood Consequence Assessments	To consider the potential impact of climate change over the lifetime of development in RCT.
British Red Cross (2022) Every time it rains: British Red Cross research on flooding in the UK	The Social Flood Risk Index (SFRI) highlights RCT’s vulnerability to the impacts of climate change and flooding. This will feed into RCTCBC’s risk-based approach for prioritising investment to those areas of greatest vulnerability.
Well-being of Future Generations (Wales) Act 2015	This Act places a duty on public bodies to carry out sustainable development and to maximise their contribution to the achievement of the well-being goals.



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Alignment of our Local Strategy and its objectives with other relevant Local Authority strategies and plans will be critical to delivering RCTCBC's ambition of becoming Carbon Neutral by 2030, alongside managing the risk of local flooding.



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5. ROLES AND RESPONSIBILITIES FOR MANAGING FLOOD RISK IN RCT

5.1. RISK MANAGEMENT AUTHORITIES AND THEIR FUNCTIONS

The term ‘Risk Management Authority’ refers to the organization(s) that have legislative powers concerning flood risk management. Risk Management Authorities (RMA) across Wales include NRW, the 22 Local Authorities as LLFA and highway authority, water companies, and the Welsh Government as highway authority for trunk roads. Each RMA is required to fulfil a number of statutory duties, as defined under the FWMA. 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.

Table 9 summarises which RMAs are primarily responsible for managing flood risk dependent on the sources of flooding outlined in Figure 3. The roles and responsibilities for each of individual RMA to manage flood risk is further described within the sections below.

Table 9: Risk Management Authorities responsible for managing different sources of flooding in RCT

Source of Flooding	Lead Local Flood Authority	Natural Resources Wales	Water Company	Highway Authority	South Wales Trunk Road Agency (Trunk Roads & Motorway)
Main River		✓			
Surface Water	✓			✓ (on or coming from the Highway)	✓ (on or coming from the Highway (Trunk Roads & Motorway))
Ordinary Watercourse	✓				
Groundwater	✓				
Sewer Flooding			✓		
Reservoirs		✓			



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5.1.1. LEAD LOCAL FLOOD AUTHORITY

Within the FWMA, RCTCBC has been established as the Lead Local Flood Authority (LLFA) for its administrative area.

As defined in the FWMA, RCTCBC is responsible for managing what is termed, its 'local flood risk'. This includes the risk of flooding from ordinary watercourses, surface water and groundwater.

The FWMA places a number of statutory duties on Local Authorities in their role as LLFAs including:

- 1 A duty to develop, maintain, apply and monitor a strategy for local flood risk management in its area
- 2 A duty to comply with the National Strategy
- 3 A duty to co-operate with other authorities, including sharing data
- 4 A duty to investigate all flooding within its area, insofar as a LLFA consider it necessary or appropriate
- 5 A duty to maintain a register of structures and features likely to affect flood risk
- 6 A duty to contribute to sustainable development
- 7 Consenting powers on ordinary watercourses

Under the Flood Risk Regulations 2009 the LLFA also have duties to contribute to the production of Flood Risk Management Plans.

In addition to these, each LLFA has a number of permissive powers under the FWMA. These are powers that allow them to do something, but do not compel them to and include:

- 1 Powers to request information in connection with the authority's flood and coastal erosion risk management functions;
- 2 Powers to designate certain structures or features that affect flood or coastal erosion risk;
- 3 The expansion of powers to undertake works to include broader risk management actions; and
- 4 The ability to cause flooding or coastal erosion under certain conditions

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RCTCBC also manage flood risk via the permissive powers bestowed upon all Lead Local Flood Authorities under the Land Drainage Act 1991, which allow them to regulate ordinary watercourses (outside of internal drainage districts) to maintain proper flow by;

- Issuing consents for altering, removing or replacing certain structures or features on ordinary watercourse; and
- Enforcing obligations to maintain flow in a watercourse.

These powers are for the purpose of preventing flooding or remedying or mitigating any damage caused by flooding. Enforcement powers under the Act assist the Council in carrying out its duties under the Flood and Water Management Act 2010 and the Land Drainage Act 1991 to help with their land drainage and flood risk management functions across RCT through better regulation of activities on, near or adjacent to an ordinary watercourse, which may increase the risk of flooding. The responsibility for maintenance of watercourses ultimately rests with the landowner. Riparian landowners' rights and responsibilities are discussed in Section 5.2.

LLFA's in Wales also take on the role of the SuDS Adopting and Approving Body (SAB) in relation to sustainable drainage systems as of the 7th January 2019. In this role they have a duty to ensure surface water drainage for new developments with drainage implications is built and functions in accordance with mandatory National Standards for Sustainable Drainage Systems (SuDS) prior to construction work taking place¹⁴.

¹⁴ <https://gov.wales/sites/default/files/publications/2019-06/statutory-national-standards-for-sustainable-drainage-systems.pdf>

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5.1.2. NATURAL RESOURCES WALES

Under the FWMA 2010, Natural Resources Wales is responsible for managing the risks of flooding from main rivers and the sea, and for regulating the safety of reservoirs. In addition, NRW also have operational responsibilities in relation to coastal erosion and a wider oversight role for all flood and coastal erosion risk management in Wales.

The oversight role is integral to the delivery of national policy on flooding and coastal erosion risk management and has been taken forward to ensure that Natural Resources Wales has the remit to support the Welsh Government across the full range of flood and coastal erosion risks affecting Wales.

As part of their oversight role, Natural Resources Wales will lead on the provision of technical advice and support to other Risk Management Authorities. They will also lead on national initiatives such as Flood Awareness Wales, the national raising awareness program, and be the single point of contact for enquiries and information on flood risk, via their Flood Line warning service¹⁵.

The FWMA 2010 places a number of statutory duties on Natural Resources Wales including:

- 1 Co-operating with other authorities, including sharing data;
- 2 Reporting to the Minister on flood and coastal erosion risk in Wales including the application of the National Strategy; and
- 3 The establishment of Regional Flood and Coastal Committees.

¹⁵ NRW Flood line Warning - <https://naturalresources.wales/flooding/sign-up-to-receive-flood-warnings/?lang=en>



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In addition to their statutory duties, Natural Resources Wales has a number of permissive powers. These are powers that allow them to do something, but do not compel them to and include:

- 1 Powers to request information
- 2 The ability to raise levies for local flood risk management works, via the Regional Flood and Coastal Committees
- 3 Powers to designate certain structures or features that affect flood or coastal erosion risk
- 4 The expansion of powers to undertake works to include broader risk management actions; and
- 5 The ability to cause flooding or coastal erosion under certain conditions.

This new allocation of responsibilities is also consistent with Natural Resources Wales' role; in relation to the Flood Risk Regulations 2009, which allocates specific responsibility for conducting assessments in relation to mapping and planning the risks of flooding from main rivers, the sea and reservoirs to Natural Resources Wales, as well as providing guidance to Local Authorities on these matters for flooding from other sources.

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5.1.3. WATER COMPANY

Dŵr Cymru Welsh Water (DCWW) is the regional water and sewerage treatment company serving RCTCBC. Water and sewerage companies are responsible not only for the provision of water, but also for making appropriate arrangements for the drainage of foul water, the treatment of waste, surface water sewers and combined sewers. They have primary responsibility for floods from water and sewerage systems, which can include sewer flooding, burst pipes or water mains or floods caused by system failures.

No changes have been made to the operational arrangements for water and sewerage companies in respect of flood risk.

Water companies, when exercising their flood or coastal erosion risk management functions in relation to an area within Wales, must have regard to the relevant Local Strategies and any associated guidance.

The FWMA 2010 places a number of statutory duties on Water and Sewerage Companies including:

- 1 A duty to act consistently with the National Strategy;
- 2 A duty to have regard to the content of the relevant Local Strategy; and
- 3 Co-operation with other Authorities, including sharing data.

Water and sewerage companies often hold valuable information, which could greatly aid the understanding of flood risks faced by communities across Wales.

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5.1.4. HIGHWAY AUTHORITY

Highway authorities have the lead responsibility for providing and managing highway drainage and roadside ditches under the Highways Act 1980. The owners of land adjoining a highway also have a common-law duty to maintain ditches to prevent them causing a nuisance to road users.

RCTCBC, as the highway authority, is the relevant RMA with responsibility for ensuring the roads and highways within its area (except for motorways and major trunk roads) is clear of obstructions and to manage and maintain the surface water drainage infrastructure to an appropriate design standard to drain surface water from the highway. As part of their duty, they are responsible for carrying out routine and reactive works to these systems to ensure they are working to maximum capacity.

Highway drainage is not designed to manage overland flows from private areas, parks or open space. In these instances, the capacity of the highway drainage may become exceeded by a combination of highway and private surface water, resulting in surface water flooding.

5.1.5. SOUTH WALES TRUNK ROAD AGENCY (SWTRA)

The Welsh Government has a responsibility for managing flood risk on motorways and major trunk road drainage under the Highways Act, section 100. The Trunk Road Agency must ensure that road projects do not increase flood risk and road discharges do not pollute receiving waterbodies.



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5.2. ROLE OF OTHER STAKEHOLDERS

Whilst not designated flood risk management authorities, stakeholders such as infrastructure providers, riparian landowners and residents have responsibilities to maintain their assets for the purposes of managing flood risk. These have been discussed in detail below, along with a list of other internal and external authorities and stakeholders which have a responsibility for flood risk management in their own area of discipline (Table 10).

5.2.1. NETWORK RAIL & TRANSPORT FOR WALES

Whilst legislation does not impose an official role on Network Rail/Transport for Wales, they have an operational responsibility for flooding as a land and asset owner and are required to undertake regular maintenance of all drainage infrastructure and assets that pose a risk to flooding.

5.2.2. RIPARIAN LANDOWNERS

If you own land or property located adjacent to or abutting a waterway (watercourse, stream, ditch) then in legal terms you are a Riparian Owner and have certain common law rights and responsibilities.

Riparian Landowners are legally responsible under common law for the maintenance of the land generally up to the centreline of any watercourse adjacent to their property¹⁶. This includes the maintenance of the bed, banks and any boundary features, e.g., vegetated strips such as hedging, with routine clearance of debris and/or blockages.

This does not mean that the owner must remove all debris from the watercourse, but it does require the owner to maintain as far as it does not pose a risk or 'nuisance' to a neighbour. Any works to modify the watercourse by the landowner must first be passed through the relevant Risk Management Authority, Lead Local Flood Authority (LLFA) or Natural Resources Wales (NRW).

¹⁶ Natural Resources Wales – Riverside Property Owners - <https://naturalresources.wales/flooding/managing-flood-risk/riverside-property-owners-know-your-rights-and-responsibilities/?lang=en>

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Under common law, Riparian Owners have rights and responsibilities relating to any watercourse that passes through or adjacent to the boundaries of their land. This means that the landowner must:

- Pass on flow without obstruction, pollution or diversion affecting the rights of others;
- Accept natural flood flows through their land, even if caused by inadequate capacity downstream, as there is no common law duty to improve a watercourse;
- Maintain the bed and banks of the watercourse (including trees and shrubs growing on the banks) and clear any debris, natural or otherwise;
- Not cause any obstruction to the free passage of fish;
- Keep the bed and banks clear from any matter that could cause an obstruction either on their land, or by being washed away by high flow to obstruct a structure downstream;
- Take responsibility for protecting their property from seepage through natural or constructed banks, and;
- Keep clear any structure that they own such as culvert, trash screen, weirs and mill gates.

Under the FWMA 2010, a landowner needs consent from the Land Drainage Authority if they want to construct a culvert or flood relief control structure on any ordinary watercourse.

5.2.3. RESIDENTS, PROPERTY & BUSINESS OWNERS

Residents, property and business owners are responsible for the protection of their own properties against flooding as well as maintaining private surface water drainage infrastructure such as guttering and soakaways. Residents have the right to defend their property as long as they do not subsequently increase the risk of flooding to other properties.

Residents are advised to review their personal flood resilience to ensure that they are as prepared as possible for any future flooding events. For more information on property flood products and services to help reduce the risk of flooding to homes and/or businesses, see The Blue Pages webpage¹⁷.

¹⁷ [Blue Pages, Flood Directory - http://bluepages.org.uk/](http://bluepages.org.uk/)

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5.2.4. ADDITIONAL STAKEHOLDERS

Table 10: Additional internal and external stakeholders with responsibility for flood risk management in RCT

Internal	External
Highways and Streetcare	South East Wales Flood Risk Management Group (SEWFRMG)
Strategic Planning Policy	Natural Resources Wales (Forestry Commission Wales)
Development Control	Emergency Services
Emergency Planning	National Farmers Union
Environmental Health	Utility providers
Countryside	Local partnerships, forums and community groups
Parks Services	Association of British Insurers
Public Health & Protection	Housing Associations
Building Control	Country, Land and Business Association
Corporate Estates	Bannau Brycheiniog National Park Authority
Customer Services	CADW
ICT	National Flood Forum
	Local Resilience Forum
	SuDS Working Group for Wales
	Professional Institutions



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6. STRATEGIC OBJECTIVES

6.1. NATIONAL STRATEGY OBJECTIVES

The National Strategy for Flood and Coastal Erosion Risk Management in Wales sets out an overarching aim to reduce the risks to people and communities from flooding and coastal erosion. It identifies 5 objectives for delivering this aim. These are summarised below in Figure 9.



Figure 9: National Strategy Aim and Objectives

For this Local Strategy, RCTCBC have developed a series of strategic objectives which outline, at a high-level, how the Authority intends to manage flood risk within the lifecycle of this strategy. The strategic objectives align with the National Strategy objectives and reflect RCT local context and priorities.

6.2. LOCAL STRATEGIC OBJECTIVES

Table 11 presents RCTCBC's local strategic objectives and provides a detailed description of each objective and their inter-relationship against the National Strategy objectives.

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Table 11: RCTCBC's Local Strategic Objectives and delivery against the National Strategy objectives

No	Local Strategy Objectives	Description of Objective	National Strategy Objectives				
			A	B	C	D	E
1	Reduce distress by decreasing the number of people exposed to the risk of flooding	To reduce social vulnerability of communities exposed to flood risk	X	X	X	X	X
2	Reduce community disruption by reducing the number of residential and commercial properties exposed to the risk of flooding	To reduce the impact of flooding on physical receptors to improve individual and community well-being	X	X	X	X	X
3	Reduce risk to life by reducing the number of people exposed to risk of flooding of significant depth and velocity	To reduce the consequences of flooding to those individuals and communities at highest risk of flooding	X	X	X	X	X
4	Reduce disruption caused by severe weather to critical infrastructure and essential services	To reduce disruption and to maintain the operation of critical infrastructure and essential services (for example, critical road and railway networks, electricity sub-stations and hospitals) during flooding events	X	X	X	X	X
5	Improve or not detrimentally affect water quality	To align with the requirements of the Water Framework Directive and consider the Severn River Basin Management Plan					
6	Identify opportunities that work with natural processes to reduce the risk of flooding	To investigate opportunities that help to protect, restore, and emulate the natural functions of catchments, including implementing Natural Flood Management, promoting green infrastructure, sustainable land management techniques and adopting a catchment-based approach to flood risk management		X		X	
7	Maintain, or where possible, improve the status of Special Areas of Conservation (SACs), Sites of Special Scientific Interest (SSSIs), Sites of Importance for Nature and Conservation (SINC) sites and contribute to the RCT Local Nature Partnership 'Action for Nature' Plan.	To minimise damage to environmentally sensitive areas, and where possible, aim to protect and enhance areas of environmental and cultural significance through managing flood risk		X			



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No	Local Strategy Objectives	Description of Objective	National Strategy Objectives				
			A	B	C	D	E
8	Improving our understanding of local flood risk in RCT and how this risk may be impacted by climate change in the future	Continue to develop and improve our knowledge and understanding of local flood risk across RCT, considering the impacts of climate change. This will offer multiple benefits such as enabling the Council to identify those areas at greatest risk, prioritising measures to address known risks, validating the accuracy of modelled flood mapping, raising awareness of risks to communities, and informing emergency response plans	X	X	X	X	X
9	Develop effective communication tools to share information and improve individual and community awareness of local flood risks and how they can be managed proactively	The LLFA to take a leadership role in ensuring individuals understand their roles and responsibilities in relation to local flood risk management by improving the communication and sharing of information to raise awareness of local flood risk and seek to support individuals in managing their risk proactively	X	X		X	
10	Improve individual and communities' ability to prepare, respond and recover to the impacts of flooding	Raise awareness and building preparedness within the community through the promotion of resilience themes, including property resilience measures, flood warning and informing, regularly updating emergency response plans, and promoting community engagement activities	X	X			X
11	Ensure that RCT work in partnership with Risk Management Authorities and other stakeholders to holistically manage the risk of flooding	RCT as the LLFA to work together with Risk Management Authorities, stakeholders, and the public to manage the risk of local flooding by sharing data and resources efficiently and effectively to the greatest benefit.	X	X		X	X



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No	Local Strategy Objectives	Description of Objective	National Strategy Objectives				
			A	B	C	D	E
12	Ensure flood risk management functions are considered and delivered in a sustainable way	To ensure the LLFA takes a sustainable and holistic approach to flood risk management functions, aiming to make a contribution towards the achievement of sustainable development (in accordance with Section 27 of the FWMA 2010) and seeking to deliver wider environmental, social, and economic benefits.			X	X	
13	Ensure that investment decisions for flood risk management schemes are prioritised utilising a risk-based approach	RCT as the LLFA to prioritise investment in the most at risk communities utilising a risk-based, transparent and consistent approach, and with due regard to the Welsh Government FCERM Business Case Guidance.	X		X	X	



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7. FLOOD MEASURES

7.1. INTRODUCTION TO FLOOD MEASURES

The detailed strategic objectives outlined in Section 6.1 will be delivered through the implementation of a wide range of measures.

Measures have been categorised under the following six high level themes;

- Development, planning and adaptation (encompassing both new and adaptations to existing developments/landscapes)
- Flood awareness, preparedness, and response
- Studies, assessments, and plans
- Land, cultural and environmental management
- Asset management and maintenance
- Monitoring (of the local flood risk issue)

The following sections outline the proposed measures, categorising them according to the high level theme under which they reside. Each measure has also been provided with an indicative timescale and cost for delivery. The timescales and costs proposed are a factor of relative priority and the likely complexity of what might be required; they are also subject to funding and capacity. The indicative timescales and costs are shown below.

Timescales:

- **Short Term:** Planned to be delivered in the short term (years 1 – 2)
- **Medium Term:** Planned to be delivered in the medium term (years 2 – 5)
- **Long Term:** Planned to be delivered in the long term (years 5+)
- **Recurring:** Continuing elements of work that will remain as ongoing activities throughout the lifetime of this Local Strategy.

Costs:

- **Existing Resources (ER):** No cost implication. Within current budgets
- **Low Cost:** Additional cost of £1k- £10k
- **Medium Cost:** Additional cost of £11k - £200k
- **High Cost:** Additional cost of £201k - £999k
- **Very High Cost:** Additional cost of £1m and above

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7.2. DEVELOPMENT PLANNING AND ADAPTATION

Development Planning plays a crucial role in managing development to avoid inappropriate siting, reduce flood risk where possible and not increase risk elsewhere. The Welsh Government’s policy of directing development away from areas at high risk of flooding and managing water is set out in Future Wales: The National Plan 2040, Planning Policy Wales and TAN 15 which compliments the National Strategy and this Local Strategy. These principles are also set out in the RCTCBC’s Local Development Plan.

Flood risk must be considered at the earliest opportunity not only to avoid inappropriate development but also to enable the sustainable management of water into new housing development.

In January 2019, SuDS became a mandatory requirement for the management of surface water on new development. This reflects the need to protect and enhance the environment, in a controlled way similar to natural processes, which also forms a vital part of the response in adapting to climate change and helping to achieve sustainable development.

Measure 1	Consultee to the Local Planning Authority
Description	<p>RCTCBC as the LLFA will work with the Local Planning Authority (LPA) to produce robust local planning policies and supplementary planning guidance to manage the risk of flooding from local sources for existing communities and in respect of new development.</p> <p>This measure will support the delivery of Future Wales: The National Plan 2040, Planning Policy Wales (PPW), Technical Advice Note 15 (TAN 15) and RCTCBC’s Local Development Plan and Strategic Flood Consequences Assessment (SFCA). This measure will also support the LLFA’s role as a consultee to the LPA on local flood risk for all planning applications.</p> <p>Aligning our Local Strategy with planning policy is essential to informing better development and infrastructure decisions, not locating people into high risk areas and avoiding the build up of future problems which will require difficult and expensive solutions to resolve.</p> <p>This measure will also support future developers, the public, and the LPA, by providing clarity about the type of development that will be permitted at a particular location, setting appropriate acceptability</p>



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	criteria for surface water flooding consequences and encouraging transparency and consistency for development management across RCT.
Benefits	<ul style="list-style-type: none"> • Assist the LPA to make clear decisions based upon the best available evidence. • Reducing the number of people living in high and medium flood risk areas. • Ensure new development does not increase local flood risk elsewhere. • Provide effective planning advice and guidance on local flood risk and consequences to reduce inappropriate development in areas at risk of flooding. • Identify opportunities to reduce the causes and impacts of flooding. • Ensure development is appropriately flood resilient and resistant.
Status	Statutory Requirement
Indicative Timescale	Recurring
Indicative Cost	Existing Resources
Link to National Strategy	Objective B and D Measure 17
Related Local Strategy Objectives	Objective 1, 2, 3, 4, 9 and 12
Funding Option(s)	Revenue
Delivery Partners	Local Planning Authority
Link to Other Council Plans	RCT's Climate Change Strategy RCT's Local Development Plan

Measure 2	SuDS Approval Body
Description	<p>Schedule 3 of the FWMA 2010 assigns RCTCBC the role of Sustainable Drainage Systems (SuDS) Approval Body (SAB). The legislation gives statutory responsibility to the SAB for:</p> <ul style="list-style-type: none"> • Assessing and approving the drainage design for all construction work which has drainage implications; • Regulating the design and construction of works that have drainage implications via enforcement powers; and • Adoption and maintenance of SuDS schemes which meets the requirements for approval. <p>The SAB may voluntarily adopt a SuDS system where it is not under a statutory duty to do so. For example, this may include existing SuDS which may not have been built to the statutory SuDS Standards,</p>



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	<p>schemes serving developments which are exempt from adoption under the transitional arrangements or SuDS serving a single property.</p> <p>In addition to these statutory functions, the SAB also provides discretionary services to provide pre-application advice to developers in advance of formal applications being made.</p> <p>The purpose of the above functions and services provided by the SAB is to ensure construction work with drainage implications will adhere to the statutory SuDS Standards which will promote appropriate FRM principles in terms of reducing surface water flood risk from new development, promote the use of green infrastructure, improve water quality, and provide wider amenity and biodiversity benefits.</p> <p>RCTCBC as the SAB will continue to carry out its statutory functions and enhance its discretionary services to support the promotion of good quality SuDS and the associated wider benefits in RCT.</p>
Benefits	<ul style="list-style-type: none"> • SuDS are designed to manage rainfall at source, thereby reducing runoff rates and the risk of flooding on site and downstream. • Ensure new development does not increase local flood risk elsewhere. • Encourage water re-use and treat rainfall as a valuable natural resource. • Encourage natural groundwater recharge. • Minimise potential pollution risk posed by the surface water runoff emanating from a development site. • Enhancement of amenity, environmental and aesthetic value of open spaces. • SuDS promote an innovative low carbon society which takes into account the likely future pressures of flood risk the environment and water resources such as climate change and urban creep. • Voluntary adoption provides the opportunity for SuDS to be brought into public maintenance which supports the promotion of ensuring good quality and well-maintained SuDS. • Pre-application services help ensure the applicant is fully aware of requirements at the outset, thereby limiting delays to approval and reducing cost in the long term.
Status	Statutory Requirement
Indicative Timescale	Recurring
Indicative Cost	Existing Resources
Link to National Strategy	Objective B and C Measure 16



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Related Local Strategy Objectives	Objective 1, 2, 3, 4, 5, 6, 7, 9 and 12
Funding Option(s)	Revenue
Delivery Partners	N/A
Link to Other Council Plans	RCTCBC's Climate Change Strategy RCTCBC's Local Development Plan



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7.3. FLOOD AWARENESS, PREPAREDNESS AND RESPONSE

A greater number of people are increasingly aware of flood risk in their local area as a result of more frequent and extreme flood impacts occurring at a community level in RCT over the past few years. With increasing threats of flooding linked with climate change and increased development it is important that communities are well informed and prepared.

Improved communication of flood risk can foster understanding, raise awareness and build preparedness within communities so that they are resilient to the impacts of flooding.

Measure 3	Communications
Description	<p>Improving our understanding and communication of risk is identified as 1 of 5 objectives of the National Strategy and has been embedded in RCTCBC's Local Strategy as a key objective with associated deliverable measures and actions.</p> <p>RCTCBC will establish and deliver a set of planned actions and methods aimed at effectively communicating key information about flood risk to raise awareness, foster understanding, promote engagement, and build preparedness within communities to prepare for and manage the impacts of flooding.</p> <p>Effective flood risk communication requires collaboration and coordination among stakeholders, effective risk assessment and planning, and the development and dissemination of clear and concise messages to the public.</p> <p>RCTCBC will strengthen its role in supporting the communities of RCT through improving access to information via awareness-raising activities and digital improvements. This will ensure the sharing of key information, best practice and available support to foster greater understanding of flood risk and build resilience to the impacts of flooding.</p>
Benefits	<ul style="list-style-type: none"> • Helps raise awareness of flood risk amongst communities in RCT. • Build resilience within the community through the sharing of information and best practice will improve their ability to prepare, respond and recover from the impacts of future flood events.



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	<ul style="list-style-type: none"> • Improve the public’s understanding of the roles and responsibilities of RMAs and non RMAs to manage flood risk, together with the support capabilities and resources available. • Individuals and communities will be provided with the knowledge, resources and capabilities to make informed decisions and take proactive action to prepare for and respond to the impacts of flooding. • Providing support and information that is easily accessible fosters behavioural change in individuals and communities around accepting and managing their flood risk.
Status	Best Practice
Indicative Timescale	Short - Medium Term
Indicative Cost	Existing Resources
Link to National Strategy	Objective A, B, D and E
Related Local Strategy Objectives	Objectives 1, 2, 3, 4, 9, 10, 11 and 12
Funding Option(s)	Revenue
Delivery Partners	N/A
Link to Other Council Plans	RCTCBC’s Corporate Plan RCTCBC’s Climate Change Strategy

Measure 4	Warning and Informing
Description	<p>The Council has a duty under the Civil Contingencies Act (2004), as a Category 1 responder, to warn and inform its residents of the risks and implications of those risks before, during and after any incidents.</p> <p>Warning and informing aims to provide timely and accurate information to the public and relevant stakeholders regarding flood risk, impending flood events, and the appropriate actions to take.</p> <p>Responders have developed several different tools for their own use and for the public in preparing for and dealing with flood events. These include Flood Guidance Statements produced by the Flood Forecasting Centre, National Severe Weather Warnings and Hazard Manager, provided by the Met Office and flood mapping, warning and informing services provided by NRW. NRW are responsible for providing early warning information for main river flooding and helping inform RMAs and the public through their forecasting, warning and mapping activities.</p>



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	<p>RCTCBC support NRW's programmed work to improve and maintain their flood forecasting, warning and informing services, and the LLFA will ensure available warning and informing services are communicated and well understood amongst the public. This will enable both RCTCBC and the public to take more effective action in response to flooding.</p> <p>RCTCBC's network of telemetry sensors have also been introduced to provide early warnings of potential blockages to drainage infrastructure such as culvert inlets. This has provided RCTCBC with the ability to mobilise resources rapidly and effectively to reduce the risk of flooding caused by blockages.</p> <p>Warning and informing is not a standalone function, and it will be included within several measures relating to emergency response planning, raising awareness and improving communication of flood risk.</p>
Benefits	<ul style="list-style-type: none"> • Ensure that individuals are promptly informed about potential flooding, allowing them to take appropriate actions to protect themselves, their families, and their property. • Providing clear and accessible information to the public of the available early warning services will contribute to reducing the potential impacts of flooding and enhancing community resilience. • Enhancing RCTCBC's early warning notification system via its telemetry network will improve the Council's response functions in managing the risk of asset blockages.
Status	Statutory Requirement
Indicative Timescale	Recurring
Indicative Cost	Existing Resources
Link to National Strategy	Objective A, B, D and E Measure 12
Related Objectives	Objective 1, 2, 3, 4, 8, 9, 10, 11 and 12
Funding Option(s)	Revenue
Delivery Partners	N/A
Link to Other Council Plans	N/A

Measure 5	Emergency Response Plans
Description	Under the Civil Contingencies Act 2004, RCTCBC has a lead role in emergency planning and recovery after a flood event and must establish and maintain plans to respond to emergencies, and control or reduce the impact of an emergency.



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	<p>RCTCBC will continue to enhance its emergency response plan and procedures to extreme weather events to provide a comprehensive response to meet the communities' needs. Events such as the flooding caused by Storm Dennis in February 2020 have enabled RCTCBC to feed in lessons learnt into the evolution of our emergency response plan and procedures, for example, strengthening community awareness and support by providing practical information on what to do before, during and after a flood.</p> <p>Funding was given by Welsh Government to the lead local authority (Merthyr Tydfil) for development of an offsite multi-agency response plan for the 4 high risk reservoirs based in Powys and Merthyr Tydfil (Pontsticill, Llwyn Onn, Beacons, Cantref) that have the potential to impact on South Wales LRF Local Authority Areas.</p> <p>Emergency response plans can help communities become better prepared and more resilient to future flood events. This involves effective communication from RCTCBC to promote actions such as personal flood plans, developing evacuation plans, and implementing resilience measures to minimise the impacts of flooding to properties.</p> <p>RCTCBC will also work alongside the South Wales Local Resilience Forum (LRF) in multi-agency planning for severe weather emergencies to share information and co-operate with other local responders, including NRW, DCWW and the emergency services, to enhance co-ordination and ensure all are best prepared to respond to flooding. This measure also concerns the development of an offsite multi-agency flood plan for the 4 high risk reservoirs based in Powys and Merthyr Tydfil (Pontsticill, Llwyn Onn, Beacons, Cartref) that have the potential to impact on South Wales LRF Local Authority areas.</p>
Benefits	<ul style="list-style-type: none"> • Help communities become better prepared and more resilient to future flood events. • Sets clear actions and defines responsibilities of local responding agencies. • Well-designed emergency response plans can reduce the impact of flooding by making the response and recovery to a flood event more effective and efficient. • Enable a coordinated response effort, ensuring the safety and well-being of individuals.
Status	Statutory Requirement



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Indicative Timescale	Recurring
Indicative Cost	Existing Resources
Link to National Strategy	Objective A, B and E
Related Local Strategy Objectives	Objectives 1, 2, 3, 9, 10, 11 and 12
Funding Option(s)	Revenue
Delivery Partners	Category 1 & 2 Responders under the Civil Contingencies Act 2004
Link to Other Council Plans	N/A

Measure 6	Community Adaptation & Resilience
Description	<p>We cannot remove all risk, therefore ensuring our communities are well-prepared and adaptable will increase its resilience to the impacts of flooding.</p> <p>Community adaptation and resilience are complimentary functions. Community adaptation is about adjusting to the reality of flooding and taking action to manage the risks. A resilient community is well prepared for a flood and knows what action to take to reduce the potential impacts and damages caused.</p> <p>There can be physical and psychological impacts from a flood event, therefore RCTCBC support action to improve the resilience of communities so they are prepared to respond more effectively and recover quickly. This includes but is not limited to the preparation of community flood plans and outreach work with residents, businesses, and schools to raise awareness and preparedness.</p> <p>The use of property-level flood resistance and resilience (PFR) techniques will also be promoted by the Authority to improve a communities' ability to adapt and become resilient to the impacts of flooding. PFR measures can help to prevent flood water ingress into properties and aid the recovery response following a flood. Information on PFR will be made available on RCT's flood risk webpage and initial awareness campaigns will be targeted at areas identified as being at high risk of surface water flooding to encourage property owners to install/deploy PFR measures.</p>



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	Improving community adaptability and resilience to flooding across RCT will be achieved and supported by the actions relating to emergency response planning, raising awareness and improving communication.
Benefits	<ul style="list-style-type: none"> • The installation of PFR measures can reduce the risk of surface water ingress into properties and minimise potential damages caused. • Actions to improve community adaptation and resilience can improve the social and mental well-being of those at risk. • Aim to generate a culture of personal and community responsibility for their own management of risk. • Awareness raising campaigns and ensuring accessible support and information enables behavioural change within a community to accept and manage risk.
Status	Best Practice
Indicative Timescale	Recurring
Indicative Cost	Existing Resources
Link to National Strategy	Objective A and B
Related Local Strategy Objectives	Objective 1, 2, 3, 9, 10, 11 and 12
Funding Option(s)	Revenue
Delivery Partners	N/A
Link to Other Council Plans	RCTCBC's Climate Change Strategy

Measure 7	Partnership Working
Description	<p>Partnership working aims to foster collaboration and co-operation among relevant stakeholders to help manage the risk of flooding.</p> <p>RCTCBC will endeavour to co-operate with other risk management authorities and stakeholders on new functions and potential future projects that are products of the Local Strategy. RCTCBC will also ensure that risk is engaged in a co-ordinated way beyond authority boundaries, for example across catchments, with LLFAs and other RMAs and organisations working together collectively to deliver the greatest benefit(s).</p> <p>The South East Wales Flood Risk Management Group (SEWFRMG) has been established to facilitate best practice, consistency in</p>



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	<p>interpretation and collaborative working. RCTCBC will continue to actively participate and share best practice in the SEWFRMG.</p> <p>Partnership funding will also be explored and encouraged to attract and secure further investment in FAS for RCT, aiming to reduce local flood risk while also delivering wider benefits to communities.</p>
Benefits	<ul style="list-style-type: none"> • Partnership working avoids duplication of effort and investment amongst RMAs. • Enables a better understanding of regional and local risks and the actions required to manage them. • Improving collaboration and co-operation will strengthen relationship between RMAs and organisations. • Increased opportunities to deliver innovative solutions and multiple benefits for communities.
Status	Best Practice
Indicative Timescale	Recurring
Indicative Cost	Existing Resources
Link to National Strategy	Objective C and D Measure 24
Related Local Strategy Objectives	Objective 11 and 12
Funding Option(s)	Revenue
Delivery Partners	Other RMAs
Link to Other Council Plans	N/A

Measure 8	Public Engagement & Consultation
Description	<p>Raising community awareness and engaging with local communities will enable RCTCBC to set realistic expectations and achievable outcomes for local flood risk management. RCTCBC will explore opportunities to raise awareness and involve residents, schools, landowners and local businesses in decisions which will affect their community.</p> <p>Raising awareness and community engagement can improve the mental health of those at risk and ultimately aims to prevent loss of life. RCTCBC will proactively inform those that are at risk of local flooding and advise them on what steps to take.</p>



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	This measure will be supported and achieved by the actions relating to raising awareness, improving communication, and enhancing community adaptation and resilience.
Benefits	<ul style="list-style-type: none"> • Public engagement of the risk of flooding will encourage people to be more pro-active at community level. • By engaging with communities, they will achieve a clearer understanding of flooding, as well as the work RCTCBC to help manage the risk of flooding and be best placed to take action to manage their personal risk. • Raising awareness of the work RCTCBC do to help manage the risk of flooding will ensure communities are kept informed of the decisions that affect them.
Status	Best Practice
Indicative Timescale	Recurring
Indicative Cost	Existing Resources
Link to National Strategy	Objective A, B, D and E
Related Local Strategy Objectives	Objective 1, 2, 3, 9, 10, 11 and 12
Funding Option(s)	Revenue
Delivery Partners	N/A
Link to Other Council Plans	RCTCBC's Climate Change Strategy



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7.4. STUDIES, PLANS AND ASSESSMENTS

The production and development of flood risk related studies, assessments and plans is key to managing flood risk strategically. They foster good practice which can help to provide much better outcomes for communities.

Measure 9	Investigation of Flooding Incidents
Description	<p>RCTCBC as the LLFA has a duty to investigate all flooding within its area, in so far as it is considered necessary or appropriate.</p> <p>RCTCBC will record and investigate all flooding incidents and subsequently produce a flood investigation report identifying the causes and mechanisms of flooding.</p> <p>A flood investigation report will be progressed into Section 19 reporting following the thresholds set out by the Welsh Government within the National Strategy. Current guidance stipulate that Section 19 reports should be produced for flooding incidents where twenty or more receptors (residential and commercial) in one area experience internal flooding following a storm event.</p> <p>The Section 19 report is a statutory requirement of the FWMA 2010. The investigation must identify which risk management authorities have relevant flood risk management functions and whether they have exercised those functions appropriately in response to the incident. The results of the investigation must subsequently be published, and any relevant risk management authorities notified.</p>
Benefits	<ul style="list-style-type: none"> • Enable a greater understanding of flood risk in RCT. • A higher standard of available flood event data can be utilised in subsequent studies and assessments. • Utilise Section 19 reports as part of local evidence in support of business cases for future investment, where appropriate.
Status	Statutory Requirement
Indicative Timescale	Recurring
Indicative Cost	Existing Resources
Link to National Strategy	Objective A, C and E Measure 21
Related Local Strategy Objective	Objective 8, 9, 11 and 13
Funding Option(s)	Revenue

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Delivery Partners	Other RMAs
Link to Other Council Plans	N/A

Measure 10	Flood Alleviation Scheme Business Case Development
Description	<p>There is a need for a compelling and longer-term programme of investment across RCT to ensure our assets/defences remain fit for purpose and to accelerate the delivery of new Flood Alleviation Schemes (FAS) where required.</p> <p>Welsh Government's National Strategy provides direction on how FCERM investment is prioritised, which is supported by new FCERM Business Case Guidance.</p> <p>The new FCERM Business Case Guidance encourage inclusion of wider wellbeing benefits in business cases for FAS, in addition to promoting the use of Natural Flood Management (NFM) in developing options for FAS.</p> <p>RCTCBC will establish, maintain and deliver a long-term capital pipeline of FAS schemes in accordance with Welsh Government's FCERM Business Case Guidance. This includes the development of the following processes:</p> <ul style="list-style-type: none"> - Pre-Feasibility Studies - Strategic Outline Business Case (SOC) - Business Justification Case (BJC) / Outline Business Case (OBC) - Full Business Case (FBC) <p>The Business Case development processes, from pre-feasibility study towards construction, is illustrated in Figure 10 below. Further definitions of each stage process can be found in Appendix D: Glossary/Definitions.</p> <pre> graph LR A[Pre-feasibility Study] --> B[Strategic Outline Business Case (SOC)] B --> C[Outline Business Case (OBC)] C --> D[Full Business Case (FBC)] D --> E[Construction] F[Business Justification Case (BJC)] --> C F --> D </pre> <p>Figure 10: Business Case Development processes as per the Welsh Government FCERM Business Case Guidance</p>



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	Effective forward planning and programme delivery of FAS in RCT is key to address increasing local flood risk. Not only does it represent a renewed strategic approach to delivering FAS in RCT, but it also accelerates delivery of FAS, and building RCT's resilience to climate change with a stronger pipeline of future projects.
Benefits	<ul style="list-style-type: none"> • The delivery of FAS and asset improvements in RCT will be accelerated. • The investment in potential FAS can be effectively prioritised utilising a risk-based approach to the most at risk communities. • A longer investment programme will help to evidence future FCERM funding requirements. • The appraisal of FAS will consider wider wellbeing benefits, which is inclusive of economic, social and environmental improvements.
Status	Best Practice
Indicative Timescale	Recurring
Indicative Cost	Low - Medium
Link to National Strategy	Objective A, B, C and D Measure 15 and 22
Related Local Strategy Objective	Objective 1, 2, 3, 4, 5, 6, 7, 10, 11, 12 and 13
Funding Option(s)	Revenue (WG funding) Capital (WG funding) Potential External funding
Delivery Partners	Other RMAs, private landowners
Link to Other Council Plans	N/A

Measure 11	Strategic Flood Risk Area Management
Description	<p>A priority of the National Strategy is to promote wider catchment approaches to managing flood risk. The development of Strategic Flood Risk Areas (SFRAs) in RCT (previously described in Section 2) utilises a catchment based approach for assessing local flood risk in RCT which seeks to provide a more holistic and integrated approach to managing flood risk.</p> <p>The catchment approach:</p>



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	<ul style="list-style-type: none"> • Aims to look at a whole river catchment, or sub-catchment and identify areas that are at risk of local flooding and that have experienced flooding in recent events; • Provides an understanding of the sources and movement of flood waters through catchments, which has not been based on administrative boundaries.; • Will consider a range of flood risk management measures and options of varying size, scale and complexity that may be appropriate; and • Acknowledges that a number of authorities, agencies and communities need to come together to mitigate local flood risk. <p>The catchment based approach can include activities such as: restoring or implementing natural features and processes, improving land management techniques, promotion of SuDS, enhancing drainage and sewer systems, and strengthening the resilience of our infrastructure and communities.</p> <p>RCTCBC as the LLFA will adopt a catchment based approach to assessing and managing the risk of flooding from local sources.</p>
Benefits	<ul style="list-style-type: none"> • Increase our understanding of the probability and impact of flooding from local sources, gaining an understanding of those catchments and communities at greatest risk. • Adopting a catchment-based approach will encourage collaborative working between RMAs and other organisations in the sharing of ideas and liaising with communities. • Increase opportunities to achieve wider environmental and wellbeing benefits through better integrated water and flood management. • Catchment-based approached to managing flood risk may be more cost-effective than relying solely on structural defences. • Increase the opportunity for developing new sources of funding as well as pooling resources and expertise.
Status	Best Practice
Indicative Timescale	Recurring
Indicative Cost	Existing Resources
Link to National Strategy	Objective A, B and C Measure 15 and 24
Related Local Strategy Objectives	Objective 1, 2, 3, 4, 5, 6, 7, 8, 11, 12 and 13



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Funding Option(s)	Revenue
Delivery Partners	Other RMAs, private landowners
Link to Other Council Plans	RCT's Climate Change Strategy

Measure 12	Flood Risk & Hazard Methodology
Description	<p>RCTCBC as the LLFA will develop a standardised methodology for assessing and mapping the flood risk and hazard to people and property which will be applied to all ordinary watercourse assets across RCT.</p> <p>The methodology will consider the risk (probability and consequences of a flood incident) and hazard (danger) from an asset, together with the vulnerability of the community at risk.</p> <p>The production of the Flood Risk Assessment Wales (FRAW) map and the Communities at Risk Register (CaRR), paired with local knowledge, will be utilised by RCTCBC to produce the flood risk and hazard methodology.</p> <p>The overarching aims of producing a flood risk and hazard methodology for assets is to improve our understanding of local flood risk across RCT and to promote strategic decision-making for prioritising flood risk management functions and schemes to those areas at greatest risk.</p>
Benefits	<ul style="list-style-type: none"> • Improve RCTCBC's understanding of local flood risk and helps to identify areas at greatest risk. • Provides a methodology to identify significant assets which will assist RCTCBC in delivering its statutory function under Section 21 of the FWMA. • Flood mapping of significant assets will identify risk 'hot spots' and steer the development of risk management measures to those areas at greatest risk. • Enables tactical decision-making of resource allocation during extreme weather events.
Status	Best Practice
Indicative Timescale	Short Term
Indicative Cost	Existing resources
Link to National Strategy	Objective A, B, C, D and E Measure 5, 6 and 7



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Related Local Strategy Objectives	Objective 1, 2, 3, 4, 8 and 13
Funding Option(s)	Revenue
Delivery Partners	N/A
Link to Other Council Plans	N/A

Measure 13	Flood Action Plan
Description	<p>The Flood Risk Regulations (2009) requires LLFAs to prepare and publish Flood Risk Management Plans (FRMPs) where the risk of flooding from local flood risk is identified as significant in the Preliminary Flood Risk Assessment (PFRA). FRMPs attempt to assess, map and develop action plans to manage flood risk.</p> <p>As previously stipulated in Section 1, whilst we previously published our Local Strategy and FRMP separately, this new Local Strategy integrates the two documents into one. As such, RCTCBC have prepared a Flood Action Plan (Appendix A: Flood Action Plan), replacing the former FRMP published in 2015, which set out RCTCBC's actions for managing flood risk within its administrative area in the short, medium and long term, ensuring delivery against the objectives and measures within this Local Strategy.</p> <p>The Flood Action Plan will consider a holistic approach to flood risk management and will not be solely reliant on traditional structural flood risk solutions but also include nature-based solutions and awareness raising activities.</p> <p>RCTCBC will update its Flood Action Plan every 2 years to reflect continued delivery against the objectives and measures in this Local Strategy.</p>
Benefits	<ul style="list-style-type: none"> • By incorporating the Flood Action Plan into the Local Strategy, a holistic appreciation of wider, catchment scale, flooding issues will be embedded into the Local Strategy. • Synergies between the Local Strategy objectives and measures and those actions contained within the Flood Action Plan could be used to realise multiple benefits. • The biennial update to the Flood Action Plan allows the Council to reflect and be transparent with the public and other Risk Management Authorities of its continued delivery against the objectives and measures of the Local Strategy.



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Status	Statutory Requirement
Indicative Timescale	Short term, to be updated every 2 years
Indicative Cost	Existing Resources
Link to National Strategy	Objective A, B, C and D Measure 5 and 22
Related Local Strategy Objectives	Objective 1, 2, 3, 4, 6, 12 and 13
Funding Option(s)	Revenue
Delivery Partners	N/A
Link to Other Council Plans	N/A



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7.5. LAND, CULTURAL AND ENVIRONMENTAL MANAGEMENT

As well as reducing the risks to people and property, flood risk management can bring significant economic, environmental and social benefits. It can enhance and protect the built, rural and natural environments, cultural heritage and biodiversity by preventing loss and damage to habitats and heritage assets, reducing the impact on water quality.

Working with other stakeholders and RMAs in the development of strategic plans and schemes can also provide opportunities to deliver multiple benefits, including wider wellbeing and environmental outcomes.

Measure 14	Natural Flood Management
Description	<p>A key priority of the National Strategy and our Local Strategy is to deliver more natural interventions and catchment approaches to help improve environmental, social and economic resilience, all while helping to reduce the risk of flooding. This includes working with natural processes and green infrastructure, collectively defined as Natural Flood Management (NFM).</p> <p>NFM is described as “reducing flood and coastal erosion risk by implementing measures that help to protect, restore and emulate the natural functions of catchments, floodplains, rivers and the coast”. NFM can reduce water flows through the catchment and is most effective in larger catchment scale projects or when used in conjunction with more traditional interventions, acting to reduce and delay peak flows, also known as ‘hybrid schemes’. Examples of NFM include interventions such as tree planting, offline storage areas, in-stream obstructions, soil and land management and using Sustainable Drainage Systems (SuDS).</p> <p>Promoting the delivery and retrofitting of green infrastructure also forms part of the Authority’s contribution to working with natural processes to reduce flood risk.</p> <p>RCTCBC proposed to undertake further assessments of the viability of implementing NFM as a means of reducing flood risk in RCT. Where feasible, RCTCBC proposes to use NFM ahead of structural measures when undertaking business case development for FAS.</p> <p>By working with natural processes and identifying opportunities for Natural Flood Management to reduce flood risk, the LLFA are</p>



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	contributing to the well-being goals through the Sustainable Management of Natural Resources, maintaining and enhancing biodiversity including wetland and other habitats and delivering our Natural Resources Policy.
Benefits	<ul style="list-style-type: none"> • Greater understanding of the benefits of NFM and where NFM can be used within RCT • Implementation of NFM would offer a 'sustainable' flood risk management solution, particularly when compared to structural measures. • NFM can provide wider benefits such as carbon storage, recreation, biodiversity improvements and social wellbeing. • The use of NFM demonstrate delivery against the Well-being for Future Generations (Wales) Act, and duties under the Environment Wales Act. • Potential for greater engagement of land use owners and other stakeholders in local flood risk management and the ability to work collaboratively with other RMAs.
Status	Best Practice
Indicative Timescale	Recurring
Indicative Cost	Low - Medium
Link to National Strategy	Objective A, B and C Measure 13, 14 and 15
Related Local Strategy Objectives	Objective 1, 2, 3, 4, 5, 6, 7, 8 and 12
Funding Option(s)	Revenue (WG funding) Capital (WG funding) Potential External funding
Delivery Partners	Other RMAs, private landowners
Link to Other Council Plans	RCT's Climate Change Strategy RCT's Local Development Plan RCT Local Nature Partnership - 'Action for Nature' Plan RCT's Tree Strategy RCT's Air Quality Plans

Measure 15	Environmental Enhancement & Habitat Creation
Description	Implementing the measures contained in the Strategy affords significant opportunity to enhance the wider environment of RCT such as enhancing biodiversity and habitats in accordance with the RCT Local



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	Nature Partnership - 'Action for Nature' Plan, improving water quality and mitigating the impacts of climate change.
Benefits	<ul style="list-style-type: none"> • Maintain, or where possible, enhance biodiversity and habitat creation in accordance with RCT's 'Action for Nature' Plan. • Protect and enhance the water environment. • Provide opportunities to improve human health. • Protect and enhance land quality. • Mitigate the impacts of climate change.
Status	Best Practice
Indicative Timescale	Medium – Long Term
Indicative Cost	Existing Resource
Link to National Strategy	Objective B
Related Local Strategy Objective	Objective 5, 6, 7 and 12
Funding Option(s)	Revenue Capital (WG funding) Potential External funding
Delivery Partners	Other RMAs, private landowners
Link to Other Council Plans	RCT's Climate Change Strategy RCT Local Nature Partnership - 'Action for Nature' Plan RCT's Tree Strategy

Measure 16	Risk Management Authority Coordination
Description	<p>Other RMAs including NRW and DCWW are required under the relevant legislation and best practice to produce strategic management plans. These include NRW's production of River Basin Management Plans (RBMPs) under the Water Framework Directive (WFD), DCWW's Water Resource Management Plan (WRMP) under the Water Industry Act 1991 and DCWW's Drainage and Wastewater Management Plan as the water and sewerage treatment company serving RCT.</p> <p>NRW's production of Forest Resource Plans also forms part of RMA best practice that has the potential to incur wider flood risk and environmental benefits.</p> <p>RCTCBC will develop and deliver its Local Strategy and Action Plan in a way that aligns with the relevant plans produced by other RMAs with responsibilities for managing flood risk, so they are well co-ordinated</p>



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	<p>during engagement and consultation activities, and the Flood Action Plan supports the delivery of wider environmental outcomes.</p> <p>Where applicable, RCTCBC will also contribute to the development of updated RMA strategies and plans through consultation and engagement opportunities.</p>
Benefits	<ul style="list-style-type: none"> • Alignment of RCTCBC’s Local Strategy and Action Plan with other plans and policies being developed by Welsh RMAs. • Promotes partnership working to jointly establish and deliver actions that aim to improve the flood and water environment in RCT. • The RMBP aims to deliver wider benefits to the environment and people which includes the delivery of flood risk management benefits. • Welsh Government guidance for developing WRMPs encourages the use of nature-based solutions to combat water resource risks. The delivery of nature-based solutions also aligns with the objectives and measures in our Local Strategy.
Status	Best Practice
Indicative Timescale	Recurring
Indicative Cost	Existing Resource
Link to National Strategy	Objective A, B and C
Related Local Strategy Objectives	Objective 5, 11 and 12
Funding Option(s)	Revenue
Delivery Partners	Other RMAs
Link to Other Council Plans	RCTCBC’s Climate Change Strategy RCT Local Nature Partnership - ‘Action for Nature’ Plan RCT’s Tree Strategy



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7.6. ASSET MANAGEMENT AND MAINTENANCE

The management and maintenance of assets including culverts and road gullies is key to maintaining the existing standard of protection against flooding.

This Local Strategy recognises the need take a more strategic approach to managing our assets through the development of asset registers and asset management plans, in addition to encouraging and regulating the maintenance of private and public assets to sustain resilience.

Measure 17	Spatially Mapping Drainage Assets
Description	<p>There is an estimated 708.7km of culverted watercourse and 1,442 km of highway drainage infrastructure within RCT.</p> <p>RCTCBC as the Highway Authority have enhanced their Drainage Maintenance teams, a Cynon, Rhondda and Taf team, to identify and maintain highway, surface water and ordinary watercourse drainage assets (under remit of the Highway Authority) and assess their structural and operational condition via surveying operations. RCTCBC as the LLFA may also assess the structural and operational condition of drainage networks via their permissive powers bestowed upon them via the Land Drainage Act 1991 and as part of their duty to investigate flooding under the FWMA 2010. This has enabled RCTCBC to enhance our asset information whilst also improving the way we record and store asset information.</p> <p>RCTCBC will digitise all surveyed asset information to spatially map the network of drainage assets within catchments and sub-catchments. This will enable the LLFA and the Highway Authority to enhance our understanding of how drainage systems within the catchment operate, whilst also enabling the identification of asset ownership which will inform the development of catchment management plans and maintenance operations, and where feasible, advise on carrying out repairs.</p> <p>Spatially mapping drainage assets will facilitate the successful delivery of catchment asset management plans and the LLFA's duty under Section 21 of the FWMA.</p>
Benefits	<ul style="list-style-type: none"> • Improve the LLFA's understanding and awareness of asset location and condition which will facilitate the assessment of risk associated to an asset.



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	<ul style="list-style-type: none"> Assist the Highway Authority in developing a targeted cleansing regime of highway drainage assets. Spatially mapping assets will enable asset ownership to be identified which will assist in the production of asset management plans.
Status	Best Practice
Indicative Timescale	Recurring
Indicative Cost	Existing Resource
Link to National Strategy	Objective A, B, C, D and E Measure 5, 6 and 7
Related Local Strategy Objectives	Objective 1, 2, 3, 4 and 8
Funding Option(s)	Revenue (WG funding)
Delivery Partners	RCT Highway Authority
Link to Other Council Plans	N/A

Measure 18	Catchment Asset Management Plans
Description	<p>RCTCBC, in its role as the LLFA, now operates a single flood risk asset management system where data on a variety of assets, including highway drainage assets and culverts, is stored.</p> <p>By maintaining and enhancing the Authority's asset management system, the LLFA will develop asset management plans utilising a catchment-based approach which looks at drainage systems as a whole and considers asset ownership.</p> <p>An asset management plan is a tactical plan for managing RCTCBC's infrastructure, as well as other assets, to deliver an agreed standard of service. Its purpose is to inform the Authority's commitment to best practice asset management and enable strategic investment for asset repair works. The effective functioning of existing assets, particularly those of importance to flood risk, can be critical to community resilience from the impacts of flooding.</p> <p>RCTCBC will review asset ownership and establish catchment asset management plans appropriate to its flood risk. Where these assets are RCTCBC's, asset management plans for inspection and maintenance will be produced.</p>



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	Further asset management plans will also be implemented for third party structures where there is a requirement to inspect. RCTCBC do not routinely maintain any private assets as we have no legal duty to do so however RCTCBC will look to enhance its communication of riparian rights and responsibilities and provide advice on the duties of private landowners.
Benefits	<ul style="list-style-type: none"> • Maintenance regimes will be able to take into account assets important for managing flood risk, particularly in high risk areas. • Greater awareness of critical flood risk infrastructure within RCT and the implementation of a co-ordinated regime of inspection and maintenance. • Improving the management of data surrounding assets and structures can allow RCTCBC to react to flood warnings more effectively and direct resource to where they are needed most. • Improving the awareness of riparian owners' roles and responsibilities to maintain their assets to reduce the risk of flooding. • Facilitate the development of a long-term programme of repair and restoration works to our existing assets and drainage networks.
Status	Best Practice
Indicative Timescale	Recurring
Indicative Cost	Existing Resource
Link to National Strategy	Objective A, B, C, D and E Measure 5, 6 and 7
Related Local Strategy Objectives	Objective 1, 2, 3, 4 and 8
Funding Option(s)	Revenue
Delivery Partners	RCT's Highway Authority
Link to Other Council Plans	N/A

Measure 19	Asset Register and Records
Description	RCTCBC is required to keep both asset registers (for public use) and asset records (for use by RMAs) for structures and features which are considered to have a significant effect on flood risk, as required under Section 21 of the FWMA 2010.



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	<p>Assets can be public or private assets however inclusion on the Asset Register and Record alone does not afford an asset any increased maintenance provision. Private assets, even those on the Council's Asset Register and Record, will remain the maintenance responsibility of the private landowner.</p> <p>There is no formal definition of when an asset has a 'significant effect' but will largely be determined on the flood history of the site and the vulnerability of any infrastructure likely to be affected by a failure of an asset. The flood risk and hazard methodology described in Measure 12 will produce thresholds for RCTCBC to determine whether an asset is 'Significant'.</p> <p>RCTCBC proposes to be pro-active in the recording of flood risk assets, using the mechanisms of OWC, investigation of flooding incidents, the Planning Application process, enforcement activities and its role as the SAB to expand its asset record.</p> <p>The flood risk asset register will continue to be developed on the asset management system and populated as assets are identified.</p>
Benefits	<ul style="list-style-type: none"> • Confusion over ownership of flood risk assets is reduced. • Develop informed maintenance regimes which will be able to take into account assets important for managing flood risk, particularly in high risk area. • RCTCBC will be able to establish where all assets are, allowing for quicker identification of the responsible authority in flooding incidences. • RCTCBC would be able to produce/refine their own asset maintenance schedule in addition to providing guidance to riparian owners as to how they should maintain their assets.
Status	Statutory Requirement
Indicative Timescale	Recurring
Indicative Cost	Existing Resource
Link to National Strategy	Objective A, B, C, D and E Measure 5, 6 and 7
Related Local Strategy Objectives	Objective 1, 2, 3, 4 and 8
Funding Option(s)	Revenue
Delivery Partners	N/A



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Link to Other Council Plans	N/A
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Measure 20	Designation of Structures
Description	<p>The FWMA 2010 makes RCTCBC the 'Designating Authority' with the power to designate a structure (either man-made or a natural feature of the environment in private ownership) if RCTCBC believes the structure or features affects flood risk. A person may then not alter, remove or replace the designated structure or features without the permission of RCTCBC.</p> <p>Walls, earth embankments, attenuation ponds and isolated pieces of naturally high ground can all be designated features.</p> <p>The LLFA is able to take enforcement action against a person who does alter, remove or replace a designated feature without prior consent.</p> <p>The powers to designate are permissive which means that there is not a mandatory duty to use them however the LLFA will look to identify opportunities to designate structures where there are flood risk concerns.</p>
Benefits	<ul style="list-style-type: none"> Overcomes the risk of a person damaging or removing a structure or features on private land which is relied upon for flood risk management. Ensures that records of significant flood risk structures/features are formally recorded and monitored. Designated structures or features will be registered in the Local Land Charged Register.
Status	Permissive Power
Indicative Timescale	Recurring
Indicative Cost	Existing Resources
Link to National Strategy	Objective D
Related Local Strategy Objectives	Objective 1, 2, 3 and 4
Funding Option(s)	Revenue
Delivery Partners	N/A
Link to Other Council Plans	N/A



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Measure 21	Land Drainage Consenting & Byelaws
<p>Description</p>	<p>Under Section 23 of the Land Drainage Act 1991, consent is required from RCTCBC as LLFA to build a culvert or structure or carry out works within the banks of any ordinary watercourse which may alter or impede the flow of water, regardless of whether the watercourse is culverted or not. RCTCBC as LLFA has responsibilities to maintain ordinary watercourses and land drainage system where it is the riparian owner.</p> <p>RCTCBC intend, in general, to oppose any culverting/obstruction of watercourses because of adverse ecological, flood risk and other effects that are likely to arise. Wherever practical, RCTCBC will also seek to have culverted watercourses restored to open channels.</p> <p>Also contained within the Land Drainage Act are the various permissive legal powers that permit the Land Drainage Authority to undertake the operation, maintenance and improvement of any watercourse in its area. To assist the Land Drainage Authority in undertaking these roles, RCTCBC have called upon their ability, under Section 66 of the LDA, to create and enact the Land Drainage Byelaws that control all activities within 8 metres of a watercourses (Byelaws distance) for the purpose of reducing the risk of flooding, or mitigating any damage caused by flooding.</p> <p>The LLFA may permit certain works or structures to be erected or undertaken within the Byelaws distance, however a formal consenting system must be followed. Riparian owners, utility companies and developers must obtain Land Drainage Consent from RCTCBC before any work commences.</p> <p>A policy approach will be developed to support the application of ordinary watercourse consenting powers, in addition to Byelaw consenting powers.</p>
<p>Benefits</p>	<ul style="list-style-type: none"> • Prohibiting the culverting of watercourses will mitigate against the detrimental environmental impact caused by culverting, e.g., removal of species and watercourse features such as pools, riffles, graven, cobble, sand, silt, marginal/aquatic vegetation, earth banks with associated vegetation, invertebrate communities and fish. • Decrease the likelihood of blockages - compared with an open watercourse, there is an increased risk of blockage once a culvert is installed. If the blockage is within the culvert, there is much greater difficulty in removing it.



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	<ul style="list-style-type: none"> • Decrease the impact of flooding – having a non-culvert policy will reduce the effect of overland flooding that will occur when a culvert cannot cope with all the flow reaching it. • Increase floodwater storage – open watercourses generally provide more storage capacity than a culvert. • Increase the ease of providing drainage connections – drainage can be provided more easily within open watercourses into which drain connections can readily be made and the performance of the drainage system visually monitored. • Reduction of health and safety hazards – culverts are perceived to be more dangerous than open watercourses. • Improve/maintain recharge to groundwater – culverting created an impermeable bed to a watercourse and increases the speed of flow, so reducing recharge of groundwater. • The powers provided by the Byelaws provide a general level of protection for members of the public from watercourses not in RCTCBC ownership.
Status	Statutory Requirement
Indicative Timescale	Recurring
Indicative Cost	Existing Resources
Link to National Strategy	Objective B and D
Related Local Strategy Objectives	Objective 1, 2, 3, 4, 5, 6, 7, 9 and 11
Funding Option(s)	Revenue
Delivery Partners	N/A
Link to Other Council Plans	RCTCBC's Climate Change Strategy RCT Local Nature Partnership - 'Action for Nature' Plan

Measure 22	Land Drainage Enforcement
Description	Land drainage and ordinary watercourse enforcement can be used to ensure the proper flow of water in a watercourse and over the floodplain, the control of water levels and the security of existing assets. To achieve these aims, enforcement action can be used to rectify unlawful and damaging work, using a risk-based approach.



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	<p>RCTCBC has powers under sections 24 and 25 of the LDA to enforce riparian owners to maintain the proper flow of ordinary watercourses in RCT.</p> <p>The Land Drainage Byelaws also create criminal offences that can be prosecuted if contravened or failure to comply. RCTCBC may serve notice under Section 66 (6) of the LDA, requiring any contravention or non-compliance of the proposed byelaws to be remedied within a period not exceeding 28 days. If the breach was not remedied within the specified time scale, the Council could use Section 66 (7) of the Land Drainage Act 1991 to undertake the necessary works and recharge the costs of such works to the offender. There is a statutory right to appeal an enforcement decision made by the Lead Local Flood Authority to an independent arbitrator.</p> <p>Despite the formal legal enforcement powers available, RCTCBC prefers in the first instance to work with landowners and developers to resolve issues on an informal basis. Formal enforcement action will only be considered as a last resort.</p> <p>When completing enforcement, RCTCBC's key objectives are to manage flood risk and bring unauthorised activity under control. Consideration will also be given to protecting the local environment and amenity.</p>
Benefits	<ul style="list-style-type: none"> • The powers help RCTCBC to better manage and control activities which otherwise would increase the risk of flooding. • Allows for the implementation of specific measures and constraints which will assist RCTCBC in implementing elements of the Flood Action Plan. • The Authority's enforcement powers act as a deterrent, reducing pressure on RCTCBC linked with enforcement.
Status	Permissive Power
Indicative Timescale	Recurring
Indicative Cost	Existing Resources Legal Advice – Low - Medium
Link to National Strategy	Objective B and D
Related Local Strategy Objectives	Objective 1, 2, 3, 4, 5, 6, 7, 9 and 11
Funding Option(s)	Revenue



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Delivery Partners	N/A
Link to Other Council Plans	N/A

Measure 23	SuDS Approval Body Enforcement
Description	<p>Schedule 3 of the FWMA 2010 relate to provisions for sustainable drainage (SuDS). These include the establishment of a SuDS Approving Body (SAB). As part of the Schedule 3 provisions, a SAB enforcement and appeals regime has been established.</p> <p>One of the main functions of the SAB is to regulate the design and construction of works that have drainage implications. Where construction work takes place without Sustainable Drainage Approval being granted or in a way that is not in accordance with SAB approval, the SAB can utilise its regulatory enforcement powers to rectify the breaches of approval.</p> <p>Through the commencement of the Sustainable Drainage (Enforcement) (Wales) Order 2018, the SAB is provided a range of enforcement powers which include:</p> <ul style="list-style-type: none"> • Enforcement notice • Stop notices • Temporary stop notices • Powers of entry • Powers to undertake and charge for remedial work <p>In the event that the notice is not complied with, the SAB may launch legal proceedings.</p>
Benefits	<ul style="list-style-type: none"> • The regulatory enforcement powers help the SAB to rectify breaches of approval and better control activities which otherwise would increase the risk of flooding.
Status	Permissive Powers
Indicative Timescale	Recurring
Indicative Cost	Existing Resources Legal Advice – Low - Medium
Link to National Strategy	Objective B and D
Related Local Strategy Objectives	Objective 1, 2, 3, 4, 5, 6, 7, 9 and 11
Funding Option(s)	Revenue

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Delivery Partners	N/A
Link to Other Council Plans	RCT's Climate Change Strategy

Measure 24	Construction of Flood Alleviation Schemes
Description	<p>The requirements for capital flood alleviation works will be identified initially through the Flood Action Plan and range from the outputs of Measure 11. The technical and economic feasibility of such projects will subsequently be assessed via the business case development process and current Welsh Government guidance.</p> <p>The construction of FAS will compliment other, less tangible schemes such as community engagement projects and awareness raising activities.</p>
Benefits	<ul style="list-style-type: none"> The identification of potential capital FAS via the business case development process will place constructing capital works within the context of RCTCBC's wider flood risk management measures.
Status	Best Practice
Indicative Timescale	Short - Long
Indicative Cost	Medium – Very High
Link to National Strategy	Objective B, C and D
Related Local Strategy Objectives	Objective 1, 2, 3, 4, 6, 10, 11, 12 and 13
Funding Option(s)	Revenue Capital (WG funding) Potential External funding
Delivery Partners	Other RMAs, private landowners
Link to Other Council Plans	N/A

Measure 25	Powers of entry upon land
Description	<p>Officers of RCTCBC have the legal power to enter any land for the purposes of carrying out their function under the LDA and to survey any land and inspect the condition of drainage work on it, as per Section 14 and 64 of the LDA.</p>



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	<p>Officers may only enter land at reasonable times and must first produce, if so required, a document showing their authority. Except in the case of emergency, admission to land should not be demanded as of right unless notice of the intended entry has been given to the occupier.</p> <p>Any person who intentionally obstructs or impedes an authorised Officer is guilty of an offence and could be liable to a fine.</p>
Benefits	<ul style="list-style-type: none"> Enables routine inspection and maintenance of, and improvements to, ordinary watercourses and flood risk management structures
Status	Permissive Power
Indicative Timescale	Recurring
Indicative Cost	Existing Resources
Link to National Strategy	Objective D
Related Local Strategy Objectives	Objective 1, 2, 3 and 4
Funding Option(s)	Revenue
Delivery Partners	N/A
Link to Other Council Plans	N/A

Measure 26	Powers to request information and civil sanctions
Description	Section 13 and 14 of the FWMA 2010 provides RCTCBC with the power to request information from third parties to provide information in connection with RCTCBC's flood risk management functions. Failure to provide such information to the Authority may result in a financial penalty.
Benefits	<ul style="list-style-type: none"> RCTCBC has the ability to ensure that it has all relevant information from third parties such that it can build and maintain its register of structures/features which are likely to have a significant effect on flood risk. RCTCBC has the ability to request relevant information for the purpose of producing formal flood investigations as per Section 19 of the FWMA.
Status	Permissive Power
Indicative Timescale	Recurring
Indicative Cost	Existing Resources



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Link to National Strategy	Objective A, B, C, D and E Measure 5 and 6
Related Local Strategy Objectives	Objective 1, 2, 3, 4, 8 and 11
Funding Option(s)	Revenue
Delivery Partners	Other RMAs
Link to Other Council Plans	N/A

Measure 27	Cause incidental flooding for purpose of flood risk management
Description	RCTCBC has powers to manage flooding and water levels in the interests of wider flood risk management, nature conservation, the preservation of cultural heritage or people's enjoyment of the environment or of cultural heritage. The use of this option will be explored in more detail via the Flood Action Plan.
Benefits	<ul style="list-style-type: none"> Measure provides a potential additional flood risk management option and method of co-ordinating a flood risk management measure with potential environmental enhancements.
Status	Permissive Power
Indicative Timescale	Recurring
Indicative Cost	Existing Resources
Link to National Strategy	Objective B and D
Related Local Strategy Objectives	Objective 1, 2, 3, 4 and 6
Funding Option(s)	Revenue Potential External Funding
Delivery Partners	N/A
Link to Other Council Plans	N/A

Measure 28	Enforcement on Private Surface Water Sewers
Description	RCTCBC has power under the Public Health Act to undertake enforcement duties on private surface water sewers.
Benefits	<ul style="list-style-type: none"> The powers, as required, provide a general level of protection for members of the public from assets not in the ownership of RCTCBC.
Status	Permissive Power



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Indicative Timescale	Recurring
Indicative Cost	Existing Resources
Link to National Strategy	Objective D
Related Local Strategy Objectives	Objective 1, 2, 3 and 4
Funding Option(s)	Revenue
Delivery Partners	Public Health
Link to Other Council Plans	N/A



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7.7. MONITORING

Monitoring of the local flood risk issue, the delivery of wider environmental benefits and the reduction in flood risk to people and properties that may derive from flood risk management functions can enhance RCTCBC's understanding of local flood risk.

Measure 29	Monitoring the Reduction of Risk to People and Property
Description	<p>Quantifying the reduction in local flood risk as a result of FAS development will assist the LLFA's ability to measure progress of its delivery against the Local Strategy objectives, measures and actions, particularly the benefits to people and property.</p> <p>Assessing the reduction in local flood risk to people and properties will also provide RCTCBC with a greater understanding of how its delivery of FAS is reducing the risk of local flooding to its communities. This will enable the LLFA to refine its understanding of where in RCT the LLFA should prioritise investment, i.e., the highest risk communities.</p>
Benefits	<ul style="list-style-type: none"> • Able to quantify the areas benefitting from the design and construction of FAS, i.e., quantify the reduction in risk to people and properties. • Greater understanding and awareness of the benefits of local flood risk management, both as the LLFA and also for the public.
Status	Best Practice
Indicative Timescale	Recurring
Indicative Cost	Existing Resources
Link to National Strategy	Objective A, B, C and D
Related Local Strategy Objectives	Objective 1, 2, 3, 4 and 8
Funding Option(s)	Revenue
Delivery Partners	N/A
Link to Other Council Plans	N/A

Measure 30	Hydrological Monitoring & Assessment
Description	The monitoring of hydrological parameters, including rainfall and water levels, will assist in the calibration and effective development of



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	<p>surface water modelling. The assessment of hydrological data will also provide RCTCBC with a greater understanding of how its catchments react to storm events.</p> <p>Additional information will also assist in the study of catchment level flood risk management measures, for example, the effectiveness of FAS and NFM interventions in terms of flow reductions downstream.</p>
Benefits	<ul style="list-style-type: none"> • Monitor the operation of key flood risk management structures, such as culvert inlets, to reduce the risk of blockage which can result in flooding. • Greater understanding and awareness of the frequency and impacts of storm events in RCT.
Status	Best Practice
Indicative Timescale	Recurring
Indicative Cost	Existing Resources
Link to National Strategy	Objective A, B, D and E
Related Local Strategy Objectives	Objective 1, 2, 3, 4 and 8
Funding Option(s)	Revenue
Delivery Partners	N/A
Link to Other Council Plans	N/A

Measure 31	Monitoring the Delivery of Wider Benefits
Description	<p>SACs and SSSIs are monitored by NRW to understand change in the extent and condition of habitats.</p> <p>Wider benefits, such as habitat and biodiversity enhancement, will be identified in the development of FAS and the monitoring of its success will be included as an outcome of RCTCBC's FAS development.</p> <p>Measures to support the monitoring of FAS, particularly the delivery of wider benefits as a result of NFM schemes, can enhance our own evidence-base of potential outcomes and benefits, as well as sharing these with other RMAs so that we can learn lessons on NFM delivery.</p>
Benefits	<ul style="list-style-type: none"> • Quantifying the benefits associated with the delivery of NFM schemes will develop RCTCBC and other RMAs learning around the use of NFM and further encourage its use.



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	<ul style="list-style-type: none"> Deliver against the wider Climate Commitments outlined in RCT's Climate Change Strategy.
Status	Best Practice
Indicative Timescale	Recurring
Indicative Cost	Low - Medium
Link to National Strategy	Objective A and B
Related Local Strategy Objectives	Objective 1, 2, 3, 4, 5, 6, 7 and 8
Funding Option(s)	Revenue Capital (WG NFM Accelerator Grant)
Delivery Partners	N/A
Link to Other Council Plans	RCT's Local Development Plan RCT Local Nature Partnership - 'Action for Nature' Plan RCT's Climate Change Strategy



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8. FLOOD ACTIONS

8.1. INTRODUCTION TO FLOOD ACTIONS

The detailed objectives and measures outlined in Section 6 and 7 will be delivered through the implementation of a wide range of actions which will be referred to as the Flood Action Plan. Each action which will be considered in the short (1 – 2 years), medium (2 – 5 years) and long term (5+ years).

The Flood Action Plan delivers on the requirement of the Flood Risk Regulations (2009) (FRR) for LLFA's to produce a Flood Risk Management Plan.

The Flood Risk Regulations (2009) set out a framework for effective management of flood risk in England and Wales. The FRR requires LLFAs to prepare and publish Flood Risk Management Plans (FRMPs) where the risk of flooding from local flood risk is identified as significant in the Preliminary Flood Risk Assessment (PFRA). FRMPs attempt to assess, map and develop action plans to manage flood risk. The legislative requirements of the FRR are described further in Appendix B.

Whilst we previously published our Local Strategy and FRMP separately, this new Local Strategy integrates the two documents into one. As such, RCTCBC have prepared a Flood Action Plan, replacing the former FRMP published in 2015, which set out RCTCBC's actions for managing local flood risk within its administrative area in the short, medium and long term, ensuring delivery against the objectives and measures within this Local Strategy.

8.2. RCT'S APPROACH TO THE FLOOD ACTION PLAN

RCTCBC has adopted a catchment-based approach for assessing flood risk (previously described in Section 3). This allows the natural movement of water to be assessed according to geographic river catchment or sub-catchment boundaries, enabling a more holistic and integrated approach to managing flood risk.

The catchment-based approach has informed the identification of 12 assessment boundaries in RCT, known as Strategic Flood Risk Areas (SFRAs).

The Flood Action Plan provides information at two scales. The RCT Flood Action Plan sets out the flood actions to be delivered across RCT. A further 12 Flood Action Plans



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have been produced for each of the 12 SFRAs, where more detailed information and actions have been presented at the local catchment scale.

The 12 SFRAs and the communities that fall within each SFRA are shown in Figure 4 and listed in Table 1, Section 3.

The RCT and SFRA Flood Action Plans are presented in Appendix A: Flood Action Plan in this Local Strategy.

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9. FUNDING AND PRIORITISATION

9.1. FUNDING OPTIONS

Measures to manage local flood risk are funded from a range of sources. The majority of funding for flood and coastal erosion risk management (FCERM) in Wales come from the Welsh Government via capital and revenue grants.

It is acknowledged by the Welsh Government that effective forward planning and programme delivery is key to address growing flood risk. The Welsh Government has proposed 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 Guidance¹⁸. This is in fact detailed as a measure within the National Strategy and it represents a renewed strategic approach to accelerate delivery and build resilience to climate change with a stronger pipeline of future projects.

The continued improvement through mapping of risk and understanding the effect of our FCERM assets will also help both the LLFA and Welsh Government direct funding to those who need it most, i.e., the communities identified at greatest risk.

To address increasing flood risk, funding will need to be sought from a variety of sources in order to deliver projects. The following sections outline the current and future potential funding streams which could be utilised to fund the measures and actions contained within the Local Strategy.

- **RCT Capital Core Funding:** Income from Capital receipts and Welsh Government capital grant allocation as part of the annual Welsh Government settlement.
- **RCT Investment Funding:** Capital investment priority funding which is presented to Council and sets out the source and destination of such funding.
- **Welsh Government FCERM Capital Grant Funding:** Intended to support the development, design and construction of new flood alleviation schemes as well as major maintenance works.

¹⁸ The Welsh Government, June 2019, Flood and coastal erosion risk management (FCERM): business case guidance

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- **Welsh Government Small Scale Work Grant:** Introduced in 2016, the small scale work grant is intended to support Local Authorities carry out smaller works, NFM and essential maintenance through a simplified process. This funding is available annually for works up to £150,000 and has proved successful in driving delivery and risk reduction.
- **Welsh Government NFM Accelerator Grant:** Introduced in 2023, this new programme aims to accelerate RMA's delivery of natural flood management interventions by providing 100% funding for the delivery of NFM schemes, including appraisal, design, construction and monitoring equipment. The funding does not include ongoing maintenance or monitoring costs however.
- **Welsh Government Revenue Funding:** Revenue funding remains a vital part of FCERM funding intended to support the duties and functions of LLFAs under the FWMA, in addition to work such as awareness raising and maintenance of assets. Revenue funding is not intended for capital works.
- **Welsh Government Resilient Road Fund:** The Resilient Road Fund is intended to address disruptions caused by severe weather to the highway network, especially to the public transport network. It is intended to improve the resilience of the Authority's transport network against the impacts of flooding. All schemes must comply with the Active Travel (Wales) Act 2013.
- **Community Infrastructure Levy (CIL):** The CIL allows Local Planning Authorities to raise funds from certain types of development to pay for the strategic infrastructure required to support the delivery of the Local Development Plan. CIL could support infrastructure including transport, schools, libraries and flood alleviation structures (amongst others).
- **Section 106 Funding – Developer Contributions:** Local Authorities can potentially require developers to carry out works on sites (including FCERM works) under Section 106 of the Town and Country Planning Act 1990.
- **Local Fundraising:** Partnership funding between public and private sectors and local communities could be adopted as a means of funding projects which are mutually beneficial to groups.
- **Other Possible Sources of Funding:** Partnership working/funding between RMA's will also be considered as a way of achieving flood risk management

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objectives which are of mutual interest to parties. This type of funding will become more important as we look to integrate flood schemes with other infrastructure and environmental projects to bring multiple benefits, seek sustainable and better value interventions.

- **Emergency Funding:** Whilst FCERM funding should focus on alleviative action rather than reactive work, there will be times when flooding occurs and additional support is required urgently to repair damaged assets and support response and recovery efforts. There is no guarantee of emergency funding and applications will be considered on a case-by-case basis.

9.2. PRIORITISATION OF FLOOD MEASURES AND ACTIONS

The Welsh Government has indicated that in future years investment in flood risk management will need to be rigorously prioritised. A methodology for prioritising FCERM funding was approved by the Welsh Government in 2018 after consultation with RMAs, which includes:

- **Communities at Risk Register ranking:** The CaRR provides a consistent way of considering and ranking flood risk from all sources. RCTCBC is committed to using the CaRR to help prioritise investment to those areas at highest risk, however we acknowledge this is just one tool in this process.
- **Details of previous flood events:** To supplement the assessment of flood risk supplied by the CaRR, RCTCBC also acknowledge the important of recording and using locally available information on past flood events to enhance its knowledge of risk.
- **Properties benefitting:** The Welsh Government priorities FCERM schemes which primarily reduce risk to homes. Business and public buildings can also benefit from schemes, in particular those which reduce risk to a mix of development types such as homes and shops along a high street or local district centre.
- **Benefit to cost ratio:** Analysis of the costs and benefits of a project or proposal which quantifies in monetary terms as many of the costs of proposal as feasible, including items for which the market does not provide a satisfactory measure of economic value. The benefit to cost ratio takes into account the whole life costs and benefits of a project.

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- **Opportunities for wider benefits:** In line with the Wellbeing of Future Generations Act 2015 and the FCERM Business Case Guidance, RCTCBC will promote the identification of wider benefits such as regeneration opportunities, improvements to habitats/biodiversity, mental health or recreational benefits when developing FAS.
- **Opportunities for partnership funding:** Where significant benefits are identified to third parties, RCTCBC 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. Partnership funding can also deliver innovative approaches to managing flood risk which in turn can deliver wider benefits.

The LLFA has adopted this methodology for prioritisation of flood measures and actions as it aligns with the Welsh Government's National Strategy.

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10. ENVIRONMENTAL ASSESSMENTS

The implementation of the Local Strategy will, in addition to reducing local flood risk in RCT, also provide an opportunity to improve the natural, rural and built environment within RCT by enhancing the environment for both residents and businesses along with improving biodiversity and habitats.

Assessments have been undertaken alongside the development of this Local Strategy to ensure the Objectives, Measures and Actions presented take into account the environment within the local authority area, including important designations. The environmental assessments consider and record how the Local Strategy contributes to the achievement of wider environmental objectives.

10.1. STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA)

RCTCBC has undertaken a Strategic Environmental Assessment (SEA) in parallel with the development of this Local Strategy. The SEA is a way of assessing and monitoring the likely effects (positive and negative) of the Local Strategy Objectives, Measures and Actions on the environment.

An SEA is a legal requirement to accompany the 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 was developed alongside this Local Strategy and is contained within a separate report. Table 12 provides an appraisal of the key environmental issues identified during the SEA process and how these provide opportunities/constraints with regard to the Local Strategy.

Table 12: Key Environmental Issues in RCT

Key Environmental Issue	Opportunities and constrains for the Local Strategy
<p><i>Sites Designated for Nature Conservation (SINCs), Sites of Special Scientific Interest (SSSI) & Special Areas of Conservation (SAC)</i></p>	<p>A Habitats Regulations Assessment was conducted on the LFRMS to ensure no adverse effect on European Designated Sites (this is defined as any SAC, SPA, cSAC, pSPA or Ramsar Site). The screening exercise identified six objectives and measures that could affect the integrity of eight European Designated Sites.</p>



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Key Environmental Issue	Opportunities and constrains for the Local Strategy
<p>The study area contains numerous locally, nationally and internationally important sites designated for their importance to wildlife conservation.</p>	<p>The Appropriate Assessment concluded that at Strategy level, these objectives and measures provide no indication which, if any, sites will be affected or if the effects will be significant with regard to the conservation objectives of the European Designated Sites. Significant effects are also unlikely, as the LFRMS aims to improve or not detrimentally affect European Designated Sites.</p> <p>Due to this conclusion, there was no requirement to progress to the next stage of the HRA, the Assessment of Alternative Solutions.</p> <p>The Assessment concluded that subsequent HRAs are required for any plans, programmes or polices related to, or that arise from the LFRMS that have the potential to affect any European Designated Site.</p>
<p>Protected, BAP or Notable Species</p> <p>Several rare and protected species and habitats (including those identified in BAPs) are found within the study area.</p> <p>Climate change will have implications for the habitats and species for which sites are designated. eg. evidence shows that British birds are extending their breeding range northwards.</p>	<p>The LFRMS has considered the potential effects of policy options and strategic measures on designated sites.</p> <p>The potential impacts of the LFRMS on features for which sites are designated will need to be considered within the context of a changing baseline.</p> <p>The effect of the LFRMS on species designated under the EU Habitats Directive and the EU Birds Directive have been considered via the Habitats Regulations Assessment.</p>
<p>Population Growth</p> <p>Population growth, principally in urban areas, placing pressure on greenfield sites, water quality and resources, transport infrastructure and natural flood plains.</p>	<p>The LFRMS has attempted to take into consideration predicted population growth within RCT. This is reflected in RCT's flood measures to work with the Local Planning Authority to ensure local flood risk is appropriately managed for existing communities and in respect of new development to accommodate RCT's population growth.</p>



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Key Environmental Issue	Opportunities and constrains for the Local Strategy
<p><i>Deprivation and Regeneration</i></p> <p>Areas within the study area experience high levels of deprivation and economic inactivity.</p>	<p>Decisions made as part of the LFRMS have considered wider economic development and regeneration strategies.</p>
<p><i>Human Health</i></p> <p>The perceived risk of flooding can cause anxiety for local residents and businesses. Property owners in flood risk areas have to consider additional insurance liability and the effects on property values. Flood events can additionally result in human injury and illness.</p>	<p>The LFRMS has taken into consideration the wider implications for human health in terms of both stress and anxiety, as well as injury, illness and resulting potential hospital admissions.</p>
<p><i>Accessible Natural Greenspace</i></p> <p>The study area has generally low levels of accessible natural greenspace, particularly with regard to access within local communities.</p>	<p>The LFRMS will seek to maintain and where possible enhance the potential accessibility of natural greenspace.</p>
<p><i>Soil Quality</i></p> <p>Rhondda Cynon Taf has generally low grades of agricultural land. Poor land management techniques can also exacerbate flooding, both at catchment and local scale.</p>	<p>The LFRMS will seek to maintain and where possible enhance soils whilst simultaneously considering complimentary measures to reduce flooding.</p>
<p><i>Water Quality</i></p> <p>There are a number of surface water bodies within the study area that are monitored for water quality.</p>	<p>The LFRMS has considered the impact of policy options and strategic measures on water quality, maintaining and where possible contributing to the enhancement of water quality.</p>
<p><i>Water Resources</i></p>	<p>The LFRMS will aim to maintain and where possible enhance water resource availability.</p>



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Key Environmental Issue	Opportunities and constrains for the Local Strategy
<p>The sandstone and limestone aquifers underlying a substantial area of RCT are designated as principal aquifers. However these groundwater resources are under-used. There is a single source protection zone in the north of the County Borough. The resource availability of the main rivers show that they are mainly <i>over licensed</i>.</p>	
<p>Flood Risk</p> <p>Surface water flood risk in RCT is relatively high in comparison to neighbouring local authorities. The are estimated to be approximately 21,200 properties at risk of flooding from a 1 in 200 year rainfall event within RCT</p>	<p>The LFRMS will have a positive impact upon reducing flood risk in RCT by utilising a broad range of risk management techniques, including working with natural processes and building resilience into communities.</p> <p>The LFRMS compliments higher level plans and strategies, namely the National Strategy, RCT's previous Local Strategy and FRMP as well as RCT's Climate Change Strategy.</p>
<p>Necessity for increase in housing stock to meet requirements of growing population</p> <p>The number of households required in RCT is likely to increase by approximately 16% in the period to 2023.</p>	<p>The LFRMS has been developed with the development needs of RCT taken fully into consideration.</p>
<p>Transport Infrastructure</p> <p>The economy of RCT is heavily reliant upon the primary transport infrastructure network. Given the topological characteristics of the County Borough, key elements of this network are particularly vulnerable to disruption from flooding.</p>	<p>The LFRMS has taken into account the importance of the principal transport routes within RCT.</p>



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Key Environmental Issue	Opportunities and constrains for the Local Strategy
<p>Cultural Heritage</p> <p>Numerous listed buildings, conservation areas and scheduled monuments within RCT.</p>	<p>The LFRMS will endeavour to maintain, protect and/or where possible enhance the status of RCTs cultural heritage.</p>
<p>Landscape</p> <p>Pressure on urban fringes from the requirement to develop land could affect the landscape character of RCT</p>	<p>The LFRMS will endeavour to maintain, protect and/or where possible enhance the status of RCTs landscape</p>

As part of the SEA process each of RCTCBC's thirteen strategic objectives was assessed against a suite of SEA Objectives to assess the likely wider environmental effects of the LFRMS. A summary of this assessment is presented in Table 13.

Table 13: Summary assessment of the likely environmental effects of LFRMS objectives

No	Local Strategy Objective	Summary of Environmental Effects
1	Reduce distress by decreasing the number of people exposed to the risk of flooding	This objective has a particularly strong, positive effect on the <i>protection and enhancement of human health and well being</i> . Due to the direct effect on reducing the risk of flooding, there is a positive influence on a wide range of environmental issues.
2	Reduce community disruption by reducing the number of residential and commercial properties exposed to the risk of flooding	As an objective which results in a direct reduction if flood risk, it has multiple positive effects across multiple SEA objectives. This positive impact is likely to increase over time as the predicted effects of climate change materialise.
3	Reduce risk to life by reducing the number of people exposed to risk of flooding of significant depth and velocity	This objective has significant positive impacts upon the health and well being of the population of RCT in addition to minimising the potential impact of flooding on infrastructure. Secondary positive impacts on biodiversity water resources, cultural heritage and landscape are also likely to materialise.
4	Reduce disruption caused by severe weather to critical infrastructure and essential services	Significant, positive impacts on managing disruption to infrastructure, minimising the risk of flooding and protecting and enhancing human health and well being will likely result as a consequence of this LFRMS objective.



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No	Local Strategy Objective	Summary of Environmental Effects
5	Improve or not detrimentally affect water quality	This objective will likely result in strong, positive impacts on the protection and enhancements of human health, the maintenance and enhancement of water resources and the protection and enhancement of landscape within RCT. Additional positive impacts upon biodiversity may also result.
6	Identify opportunities that work with natural processes to reduce the risk of flooding	Positive impacts across a wide range of environmental topics are likely to result as a consequence of implementing opportunities that work with natural processes to reduce the risk of flooding. Strong, positive impacts relating to the <i>protection and enhancement of biodiversity</i> and <i>enhancement of landscape</i> will result from this LFRMS objective.
7	Maintain, or where possible, improve the status of Special Areas of Conservation (SACs), Sites of Special Scientific Interest (SSSIs), Sites of Importance for Nature and Conservation (SINC) sites and contribute to the RCT Local Nature Partnership - 'Action for Nature' Plan	The most prominent positive impacts are on <i>biodiversity</i> and <i>landscape</i> features. There will likely be secondary positive impacts on <i>human health</i> and the <i>maintenance and enhancement of water resources and quality</i> .
8	Improving our understanding of local flood risk in RCT and how this risk may be impacted by climate change in the future	Increasing understanding of the risks from local flood risk will assist in reducing the impacts of flooding by enabling more informed decision making to be undertaken with regard to flood risk management.
9	Develop effective communication tools to share information and improve individual and community awareness of local flood risks and how they can be managed proactively	Ensuring that everyone is aware of their roles on flood risk management will assist in the minimisation of flood risk. Hence, the primary positive impact is on <i>minimising the risk of flooding</i> .
10	Improve individual and communities' ability to prepare, respond and recover to the impacts of flooding	The principle positive impacts results to the <i>protection and enhancement of human health and well being</i> and the <i>minimisation of the impact of flooding on infrastructure</i> .
11	Ensure that RCT work in partnership with Risk	The majority of positive environmental impacts are secondary in nature due to the indirect impact that this

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No	Local Strategy Objective	Summary of Environmental Effects
	Management Authorities and other stakeholders to holistically manage the risk of flooding	measure is likely to have. But it should be anticipated that by working collaboratively with neighbouring local authorities will, to a certain extent, extend the scope possible when undertaking flood risk management projects on catchment/regional scales.
12	Ensure flood risk management functions are considered and delivered in a sustainable way	Likely positive impacts on <i>landscape features</i> within RCT. Likely secondary positive impacts on <i>the protection and enhancement of biodiversity, the protection of land quality and the minimisation of risk to flooding.</i>
13	Ensure that investment decisions for flood risk management schemes are prioritised utilising a risk-based approach	It is assumed that if current best practice cost-benefit guidelines are used to assess and prioritise potential flood risk management schemes that appropriate consideration will be given to the benefits arising from social and environmental enhancements arising. It is therefore likely that properly valuing the benefits of various environmental enhancements will bring about positive benefits across a wide range of environmental themes.

The full SEA is contained within a separate report.

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.



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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). Under the WFD a management plan is required for each River Basin District, for which the responsibility for producing these lie with NRW.

River Basin Management Plans (RBMPs) describe the challenges that threaten the water environment and how these challenges can be managed and funded. RCT falls within the Severn RBMP.

Table 14 demonstrates how the relevant Local Strategy objectives have considered the environmental objectives within the Severn RBMP.

Table 14: Local Strategy objectives that consider the Severn RBMP

No	Local Strategy Objectives	How it Considers the River Basin Management Plan
5	Improve or not detrimentally affect water quality	Directly aligns with the requirements of the Water Framework Directive and considers the Severn River Basin Management Plan.
6	Identify opportunities that work with natural processes to reduce the risk of flooding	Investigates opportunities that help to protect, restore, and emulate the natural functions of catchments, including implementing Natural Flood Management measures, promoting green infrastructure, sustainable land management techniques and adopting a catchment-based approach to flood risk management.
7	Maintain, or where possible, improve the status of Special Areas of Conservation (SACs), Sites of Special Scientific Interest (SSSIs), Sites of Importance for Nature and Conservation (SINC) sites and contribute to the RCT Local Nature Partnership - 'Action for Nature' Plan.	Minimises damage to environmentally sensitive areas, and where possible, aim to protect and enhance areas of environmental and cultural significance through managing flood risk.
8	Improving our understanding of local flood risk in RCT and how	Develops and improves our knowledge and understanding of local flood risk across RCT, considering the impacts of climate change. This will

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No	Local Strategy Objectives	How it Considers the River Basin Management Plan
	this risk may be impacted by climate change in the future.	offer multiple benefits such as enabling the Council to identify ecological areas at greatest risk and prioritising measures to address known risks.
9	Develop effective communication tools to share information and improve individual and community awareness of local flood risks and how they can be managed proactively.	Encouraging and working with others (including residents, community groups, voluntary sector organisations, businesses, landowners, Local Enterprise Partnerships, Local Nature Partnerships and public partners) to protect and enhance the water environment.
12	Ensure flood risk management functions are considered and delivered in a sustainable way	Ensuring the LLFA takes a sustainable and holistic approach to flood risk management functions, seeking to deliver wider environmental and ecological benefits.
13	Ensure that investment decisions for flood risk management schemes are prioritised utilising a risk-based approach	Prioritising investment in the most at-risk communities utilising a risk-based, transparent, and consistent approach, whilst acknowledging that schemes are either going to affect a water body's ecology, either worsening it and causing deterioration, or improving it by undertaking environmental improvements.



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11. MONITORING PROGRESS

11.1. MEASURING PROGRESS AGAINST THE OBJECTIVES, MEASURES & ACTIONS

Measuring progress of the delivery of the Local Strategy will focus upon the delivery of the flood actions, and the benefits derived from such actions. The flood actions have been developed to achieve the measures and objectives within the Local Strategy.

All flood measures that are recurring activities, i.e., the LLFA's core activities related to flood risk management as required under the FWMA 2010, FRR 2009 and as the Land Drainage Authority under the LDA 1991, will be monitored and measured on a quarterly basis via the Authority's Flood Risk Management and Strategic Projects Service Delivery Plan.

11.2. HOW REGULARLY WE MONITOR PROGRESS

As the LLFA, RCTCBC is responsible for monitoring the implementation of this Local Strategy. This includes monitoring its own activities and those completed by other RMAs as defined in Section 5.

Delivery of RCT's and the SFRA Flood Action Plans will be monitored on an annual basis. A progress report on the delivery of actions will be published each year to monitor progress against the Local Strategy's objectives and measures.

The RCT and SFRA Flood Action Plans included in Appendix A will be updated every 2 years to reflect the LLFA's continued delivery against the Local Strategy's objectives and measures.

The Service Delivery Plan will be monitored quarterly by the RCTCBC Performance Team. Delivery of the LLFA's core activities will be an integral function of the Authority's delivery against the strategic objectives.

The Local Strategy will be updated in accordance with future updates to the National Strategy.

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APPENDIX A – FLOOD ACTION PLAN

See separate document titled 'Flood and Water Management Act 2010, Local Flood Risk Management Strategy and Action Plan, Appendix A: Flood Action Plan'.



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APPENDIX B – LEGISLATIVE CONTEXT

See separate document titled 'Flood and Water Management Act 2010, Local Flood Risk Management Strategy and Action Plan, Appendices B-D'.

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APPENDIX C – PUBLIC CONSULTATION OUTCOMES

See separate document titled 'Flood and Water Management Act 2010, Local Flood Risk Management Strategy and Action Plan, Appendices B-D'.



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APPENDIX D – GLOSSARY OF TERMS

See separate document titled 'Flood and Water Management Act 2010, Local Flood Risk Management Strategy and Action Plan, Appendices B-D'.

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Flood and Water Management Act 2010

Local Flood Risk Management Strategy and Action Plan

Appendix A

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INTRODUCTION

The Flood Action Plans sets out the actions that Rhondda Cynon Taf County Borough Council (RCTCBC) are in the process of undertaking, or plan to undertake, to help manage the risk of flooding from local sources and deliver against the strategic objectives and flood measures outlined in Section 6 and 7 of the Local Flood Risk Management Strategy (Local Strategy).

The Flood Action Plan provides information at two scales. The Rhondda Cynon Taf (RCT) Flood Action Plan sets out the flood actions to be delivered across RCT. A further 12 Flood Action Plans have been produced for each of the 12 Strategic Flood Risk Areas (SFRAs), where more detailed information and actions have been presented at the local catchment scale.

The actions presented within the RCT and SFRA Flood Action Plans have been categorised according to three action types which are shown below.

1. **Alleviate** the risk of flooding in specific locations by developing and delivering schemes and approaches to reduce the risk and likelihood against flooding. This includes efforts to make catchments more resilient, and efforts to reduce the risk of flooding to people and properties.
2. **Preparedness** of communities and emergency responders to act in the event that flooding should occur, which can reduce the impacts of flooding and make communities more resilient.
3. **Review** to make improvements in our understanding of flood risk to better inform and consider potential future action.

All of the above types of actions seek to reduce the likelihood of flooding or the impacts it has on people and properties.

Each flood action has also been provided with a timescale and cost for delivery. The timescales proposed are a factor of relative priority and the likely complexity of what might be required; they are also subject to funding and capacity. The timescales are shown below:

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- **Short Term:** Planned to be delivered in the short term (years 1 – 2)
- **Medium Term:** Planned to be delivered in the medium term (years 2 – 5)
- **Long Term:** Planned to be delivered in the long term (years 5+)

The indicative cost ranges are shown below:

- **Existing Resources (ER):** No cost implication. Within current budgets
- **Low Cost:** Additional cost of £1k- £10k
- **Medium Cost:** Additional cost of £11k - £200k
- **High Cost:** Additional cost of £201k - £999k
- **Very High Cost:** Additional cost of £1m and above

Each flood action has also been assigned an implementation status:

- **Not Started:** work has not yet begun
- **Ongoing:** work has begun

The RCT and SFRA Flood Action Plans will be reviewed and updated every 2 years to reflect the Lead Local Flood Authority's (LLFA) continued delivery against the Local Strategy's objectives and measures to manage the risk of flooding from local sources.

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RCT FLOOD ACTION PLAN

The following Flood Action Plan in Table 1 sets out on a RCT wide basis, the actions that RCTCBC are in the process of undertaking, or plan to undertake, to help manage the risk of flooding from local sources.

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Table 1: Council Flood

Ref	Action Name	Location	Action Type	Linked to MS Measure	Timescale	Cost	Funding Option(s)	Status
A1	Develop a Surface Water Policy that will be applied to all future planning applications	RCT	Alleviate		Short	ER	Revenue	Ongoing
A2	Produce an advisory document for the production of Drainage Statements which will be required for future planning applications subject to the requirement of SAB approval.	RCT	Review	M1, M2 & M23	Short	ER	Revenue	Ongoing
A3	Produce and maintain a Pluvial Areas Benefitting Layer which will identify areas benefitting from assets and FAS.	RCT	Review	M1 & M29	Short	ER	Revenue	Ongoing
A4	Review the pre-application services provided by the SAB on a 2 year cycle to ensure efficiency and effectiveness of the service is maintained.	RCT	Review	M2 & M23	Short	ER	Revenue	Ongoing
A5	Develop local guidance on how to submit an application for voluntary adoption to the SAB.	RCT	Alleviate	M2	Short	ER	Revenue	Ongoing
A6	Develop an effective communication strategy which will provide the framework for RCTCBC to deliver clear, consistent and coordinated communication on flood risk and flood risk management.	RCT	Preparedness	M3, M4, M6 & M8	Short	ER	Revenue	Ongoing
A7	Produce communication plans which will be delivered and maintained by the Council.	RCT	Preparedness	M3, M4, M6 & M8	Medium	ER	Revenue	Ongoing
A8	Establish and deliver public engagement events and campaigns to raise awareness of flooding and share best practice.	RCT	Preparedness	M3, M4, M5, M6 & M8	Medium	ER	Revenue	Not Started
A9	Improve and maintain the Council's dedicated online flood risk webpage	RCT	Preparedness	M3, M4, M5, M6 & M8	Short	ER	Revenue	Ongoing

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Ref	Action Name	Location	Action Type	Link to LMS Measure	Timescale	Cost	Funding Option(s)	Status
A10	Preparation of warning and information resources such as information on NRW's mapping, warning and informing services, personal flood plans and kit lists will be published on RCTCBC's online flood risk management webpage.	RCT	Preparedness	M3, M5, M8	Short	ER	Revenue	Ongoing
A11	Preparation of advisory resources and information in respect of measures to take before, during and after a flood event will be published on RCTCBC's online flood risk management webpage.	RCT	Preparedness	M3, M4, M5, M6 & M8	Short	ER	Revenue	Ongoing
A12	Preparation of advisory resources in respect of property-level flood resilience and resistance measures will be published on RCTCBC's online flood risk management webpage.	RCT	Preparedness	M3, M4, M5, M6 & M8	Short	ER	Revenue	Ongoing
A13	Review and enhance RCTCBC's emergency response plan and procedures to ensure lessons learnt are reflected.	RCT	Preparedness	M4, M5 & M6	Short	ER	Revenue	Ongoing
A14	RCTCBC will test the effectiveness of our emergency response plan by carrying out emergency exercises utilising the Council's CCTV Command Room, and ensuring that staff involved in the planning for or response to an emergency receive appropriate training.	RCT	Preparedness	M4 & M5	Short	ER	Revenue	Ongoing
A15	Establish and maintain a long-term capital pipeline of FAS in accordance with Welsh Government's FCERM Business Case Guidance.	RCT	Alleviate	M9, M10, M11, M12, M13, M14 & M24	Short	ER	Revenue	Ongoing

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Ref	Action Name	Location	Action Type	Link to LMS Measure	Timescale	Cost	Funding Option(s)	Status
A16	Establish a standard set of investment objectives for FAS business case development which will consider the use of NFM measures, the identification of wider environmental benefits and proper resilience and resistance.	RCT	Alleviate	M10, M14, M30 & M31	Short	ER	Revenue	Ongoing
A17	The LLFA will cooperate with NRW as the RMA for main river flooding who are leading on the development of an integrated catchment approach to flood risk management for the River Taf catchment and its tributaries, referred to as the River Taf Catchment Masterplan.	RCT	Alleviate	M7 & M11	Medium	ER	Revenue	Ongoing
A18	Review RCTCBC's Flood Investigation and Reporting procedures and provide appropriate training to staff involved in flood incident investigation and reporting functions.	RCT	Review	M9	Short	ER	Revenue	Ongoing
A19	Implement any best practice developed for the delivery of flood investigation reports and Section 19 reports.	RCT	Review	M9	Short	ER	Revenue	Ongoing
A20	RCTCBC as the LLFA and Highway Authority will assist the Council's Highway Infrastructure team by providing relevant information to feed into the production of Highway Asset Annual Status Reports	RCT	Review	M17, M18 & M19	Short	ER	Revenue	Ongoing
A21	Establish a procedure and policy for the identification, condition, and spatial mapping of assets to ensure consistency across the Authority.	RCT	Review	M17	Short	ER	Revenue	Ongoing
A22	Establish a fixed methodology for assessing flood risk and hazard, which will be used across a range of	RCT	Alleviate	M5, M10, M12, M18,	Short	ER	Revenue	Ongoing

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Ref	Action Name	Location	Action Type	Link to LMS Measure	Timescale	Cost	Funding Option(s)	Status
	flood risk management functions including the response and coordination of resources during extreme weather events, the development of a long term capital pipeline of FAS, the completion of RCTCBC's Asset Register and Record, and facilitating the coordination of the LDA's enforcement powers.			M12 & M19				
A23	Establish a policy for flood hazard thresholds to determine whether an asset is classified as 'significant' for the purpose of developing the Asset Register and Record as required under Section 21 of the FWMA 2010.	RCT	Alleviate	M12 & M19	Short	ER	Revenue	Ongoing
A24	Update RCTCBC's Culverting Policy to align with best practice.	RCT	Alleviate	M15 & M21	Short	ER	Revenue	Ongoing
A25	Update RCTCBC's Ordinary Watercourse Consent guidance to align with best practice and to consider and support the enactment of the Land Drainage Byelaws.	RCT	Alleviate	M15, M21 & M22	Short	ER	Revenue	Ongoing
A26	Establish an Enforcement Policy encompassing all of RCTCBC's statutory functions and permissive powers under the LDA, including the powers afforded by the Land Drainage Byelaws, and Schedule 3 of the FWMA.	RCT	Alleviate	M22, M23, M25, M26, M27 & M28	Short	ER	Revenue	Ongoing
A27	Enactment of the Land Drainage Byelaws	RCT	Alleviate	M21 & M22	Short	ER	Revenue	Ongoing
A28	Improve and maintain RCTCBC's network of telemetry stations across RCT to capture and monitor rainfall and water level information.	RCT	Review	M30	Short	ER Low	Revenue & Capital	Ongoing

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Ref	Action Name	Location	Action Type	Link to MS Measure	Timescale	Cost	Funding Option(s)	Status
A29	Review RCTCBC's network of telemetry systems and alerting procedures to provide early warning notifications for internal response actions	RCT	Preparation	M4, M5, M6, M30	Short	ER	Revenue & Capital	Ongoing
A30	Produce an annual hydrology report detailing hydrological conditions and extreme weather events over the 12-month period.	RCT	Review	M30	Short	ER	Revenue	Ongoing
A31	Review and update RCTCBC's Flood Action Plan and the 12 individual SFRA Flood Action Plans every 2 years.	RCT	Review	M13	Short	ER	Revenue	Ongoing

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STRATEGIC FLOOD RISK AREA (SFRA) FLOOD ACTION PLANS

The following Flood Action Plans are specific to each SFRA in RCT. They set out the actions that RCTCBC are in the process of undertaking, or plan to undertake, to help manage the risk of flooding from local sources within each SFRA.

Further details relating to the development of SFRA in RCT is included in Section 3 of the Local Strategy.

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1. UPPER RHONDDA FAWR SFRA FLOOD ACTION PLAN

The following Flood Action Plan sets out the actions that RCTCBC are in the process of undertaking, or plan to undertake, to help manage the risk of flooding from local sources within the Upper Rhondda Fawr SFRA. Figure 1 shows where in RCT the Upper Rhondda Fawr SFRA is located.

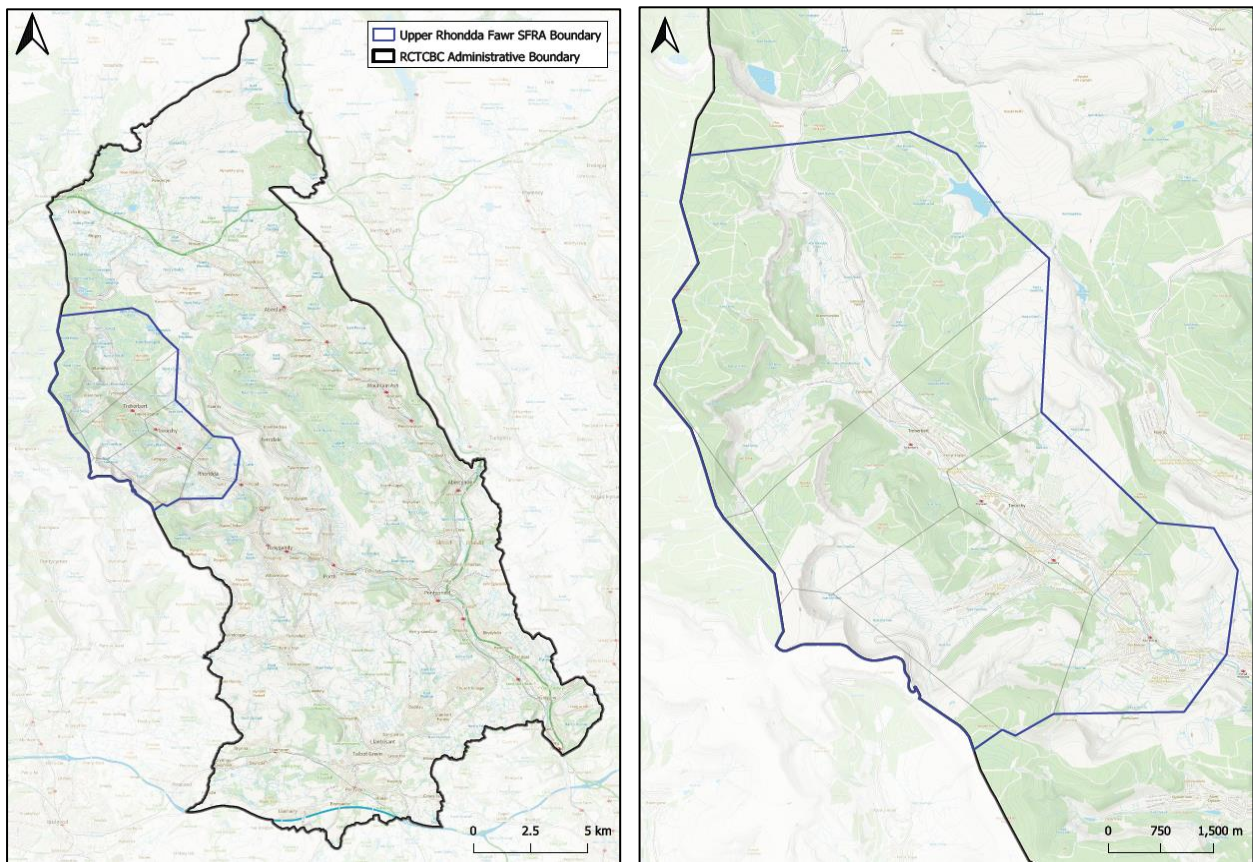


Figure 1: Upper Rhondda Fawr SFRA Location Plan

1.1 AREA DESCRIPTION

The Upper Rhondda Fawr SFRA is located in the western sector of RCTCBC and covers an area of approximately 4445.56Ha. The SFRA falls within the catchment of the Rhondda Fawr River which is sourced from the highlands in the north and west of Treherbert and drains through the settlements of Treorchy, Pentre and Gelli before merging with the Rhondda Fach River further downstream at Porth, located to the southeast of the SFRA.

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The Upper Rhondda Fawr SFRA comprises of 5 community areas located in the upper Rhondda Fawr valley: Blaenrhondda; Cwmparc; Rhondda; Treherbert and Treorchy. Table 2 depicts the ranking of those communities in terms of their surface water and ordinary watercourse flood risk (referred to as 'Pluvial Ranking' in the Communities at Risk Register (CaRR)) relative to the rest of Wales, according to the CaRR.

Table 2: Pluvial ranking for the communities within Upper Rhondda Fawr SFRA according to the CaRR (2019)

Community Name	Pluvial Ranking
Blaenrhondda	20
Cwmparc	89
Rhondda	1
Treherbert	6
Treorchy	3

As shown in Table 2, all 5 communities fall within the top 5% (top 111) of communities at greatest risk of pluvial flooding in Wales, with the Rhondda community ranked as the highest risk community in Wales, Treorchy 3rd and Treherbert 6th.

The Rhondda, Treorchy and Treherbert communities are designated Flood Risk Areas as identified in the Severn Preliminary Flood Risk Assessment¹, produced by NRW and the Environment Agency in 2018. Designated Flood Risk Areas require the production of a Flood Risk Management Plan (FRMP), as per the Flood Risk Regulations 2009 (FRR). This Flood Action Plan is intended to meet the requirements of the FRR.

The Upper Rhondda Fawr SFRA catchment is characterised by having steep-sided valleys above the urban areas located on the valley floor. These key settlements include the towns and villages of Blaenrhondda, Blaencwm, Treherbert, Treorchy, Pentre, Ton Pentre and Gelli, which are all heavily urbanised. The surrounding area land use is predominately forestry with some hill grazing.

The geology in the area is mostly comprised of Coal measures, Mudstone, siltstone, and sandstone, which forms part of the South Wales Coalfield basin. The Sedimentary bedrock likely formed between 315.2 and 308 million years ago during the Carboniferous period.

¹ [Severn preliminary flood risk assessment \(cyfoethnaturiol.cymru\)](https://www.cyfoethnaturiol.cymru/)

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1.2 OVERVIEW OF FLOOD RISK

The extent and degree of local flood risk in the Upper Rhondda Fawr SFRA is significant. Figure 2, extracted from NRW's FRAW map, illustrates the areas at risk of flooding from both surface water and ordinary watercourses, and main river sources across the Upper Rhondda Fawr SFRA.

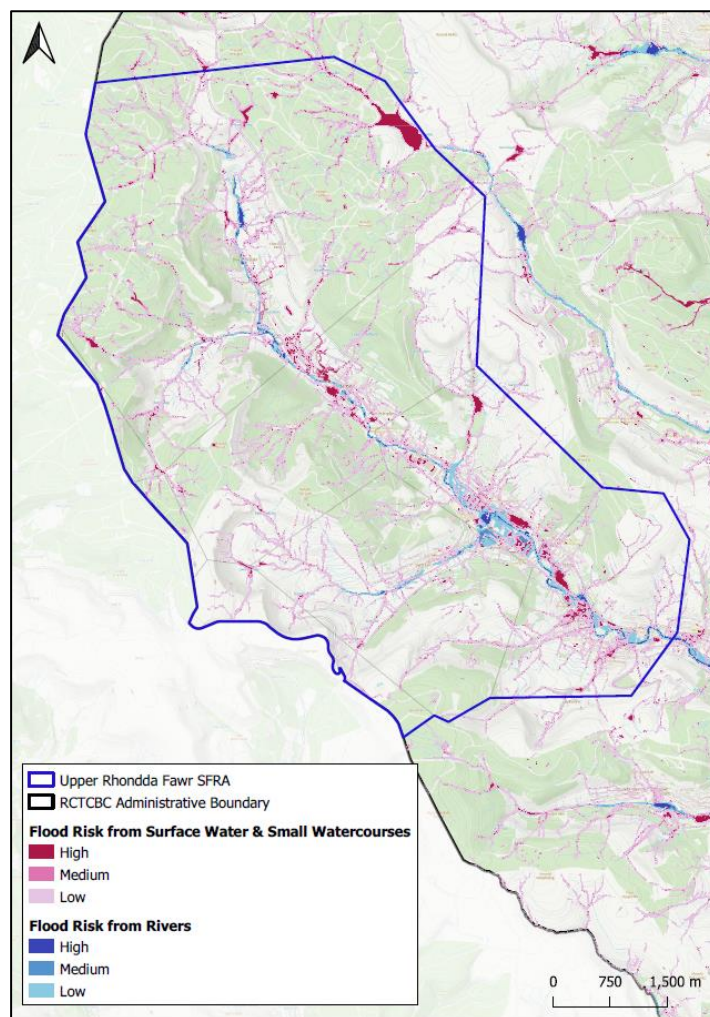


Figure 2: NRW FRAW map for rivers and ordinary watercourse and surface water flood risk within the Upper Rhondda Fawr SFRA

The highest risk posed to people and properties within the SFRA is broadly associated with the network of named and unnamed ordinary watercourses which drain from the steep hillsides in the north, east and west of the SFRA. Whilst the headwaters have

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generally remained in a 'natural' condition, the watercourses have been modified on the hillsides in relation to the industrial legacy such as coal spoil tips and in later decades for forestry activities. These watercourses have also been heavily modified and culverted beneath urban development on the valley floor before discharging into the Rhondda Fawr River which flows northwest to southeast through the SFRA. Flooding is primarily sourced from culvert inlets and bank breaches associated to the network of ordinary watercourses.

The primary ordinary watercourses flowing through the Upper Rhondda Fawr SFRA include:

- Nant Ystradffernol
- Nant Saebren
- Nant Lan
- Nant Pentre
- Nant Gelli

Figure 2 also notes a high to low risk of flooding along the length of the main rivers which flow through the SFRA; namely the Rhondda Fawr River but also associated to the Nant Orci, Nant Selsig and Nant Cwm Parc which are designated main rivers.

All ordinary watercourses and designated main river flowing through the Upper Rhondda Fawr SFRA have been depicted in Figure 3.

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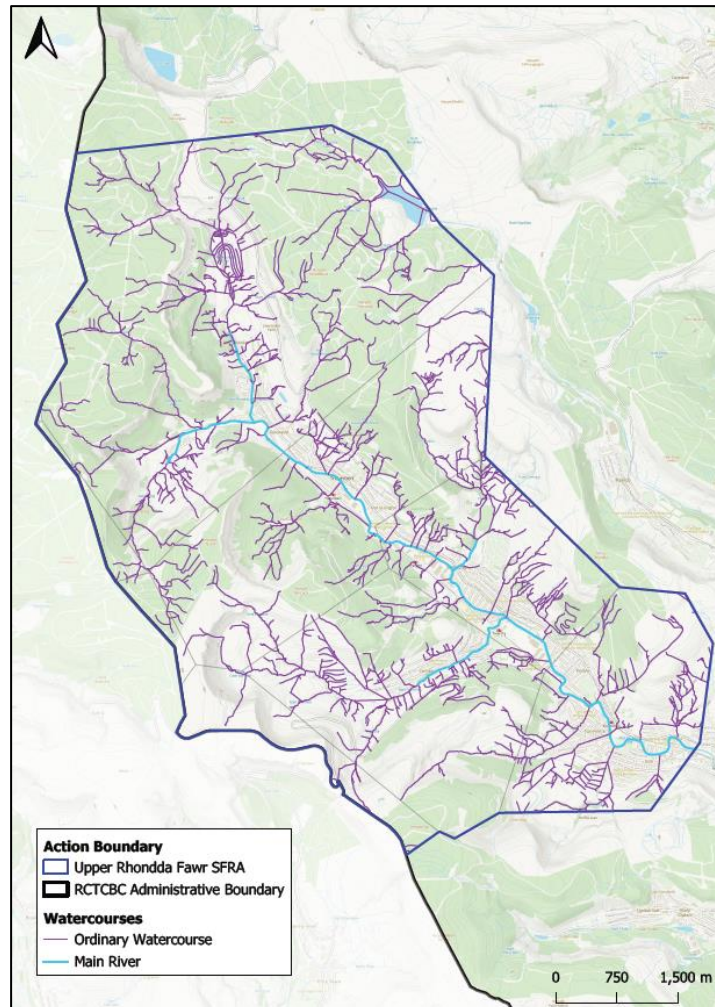


Figure 3: Ordinary watercourses and main rivers flowing through the Upper Rhondda Fawr SFRA

1.3 HISTORY OF FLOODING

The Upper Rhondda SFRA area has experienced several flood events over the past twenty years, often in relation to the network of ordinary watercourses and culverted infrastructure which convey a substantial volume of water through the urban settlements.

The most recent and significant flood event that occurred in the SFRA was the February 2020 flood events. Heavy rainfall as a result of Storms Dennis, Ciara and Jorge resulted in significant repeated flooding, with extensive flooding of residential and commercial properties occurring within the communities of Blaenrhondda, Pentre,

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Treherbert and Treorchy. Since Storm Dennis in February 2020, communities including Pentre has experienced flooding on a further four occasions.

Further records of historical flooding prior to Storm Dennis in the SFRA is limited however, notable flooding occurred in 2018 as a result of Storm Bronagh on 20-21st September and Storm Callum on 12-13th October 2018 which impacted Treorchy and Treherbert.

1.4 ASSESSMENT OF FLOOD RISK

To meet the requirements of the Flood Risk Regulations 2009 (FRR), RCTCBC have assessed the risk of flooding from local sources for different receptor types, the results of which is provided in Table 3. The data shows the number of receptors at high, medium and low local flood risk in the Upper Rhondda Fawr SFRA.

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Table 3: Receptors at high, medium and low risk of flooding from local sources in the Upper Rhondda Fawr SFRA

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 Properties (n)	3202	461	1099
Commercial Properties (n)	202	11	41
Essential Services (n)	31	2	7
Primary/Trunk Roads (km)	4.17	1.14	2.85
Main Line Railways (km)	1.55	0.19	0.37
Agricultural Land - Grades 1, 2 and 3 (ha)	0	0	0
SAC (ha)	0	0	0
SPA (ha)	0	0	0
Ramsar Sites (ha)	0	0	0
SSSI (ha)	6.55	2.07	7.02
SINC (Ha)	98.62	24.23	85.42
NNR (ha)	0	0	0
LNR (ha)	0	0	0
Ancient Woodland (ha)	4.33	0.74	2.66
Registered Parks and Gardens (ha)	0	0	0
Country Parks (ha)	0	0	0
Scheduled Ancient Monuments (ha)	0	0	0.16
Listed Buildings (n)	8	1	2

1.5 THE FLOOD ACTION PLAN

The actions presented within the Upper Rhondda Fawr SFRA Flood Action Plan are listed in Table 4 and illustrated in Figure 4.

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Table 1: Upper Floodplain Lower SFRA Action Plan

Ref	Action Name & Description	Location (Community)	Action	Link to MS Measure	Timescale	Cost	Funding Option(s)	Status
SFRA1 A1	Treorchy FAS Produce a Full Business Case carrying out detailed design and development of the preferred option for managing the risk of flooding from local sources	Treorchy	Alleviate	M8, M10, M11, M14 & M24	Short Term	High	WG FCERM Capital	Ongoing
SFRA1 A2	Treorchy FAS Construction phase of FAS	Treorchy	Alleviate	M24	Medium Term	Very High	WG FCERM Capital	Not Started
SFRA1 A3	Pentre FAS Produce a Full Business Case carrying out detailed design and development of the preferred option for managing the risk of flooding from local sources	Rhondda	Alleviate	M8, M11, M12, M14 & M24	Short Term	High	WG FCERM Capital	Ongoing
SFRA1 A4	Pentre FAS Construction phase of FAS	Rhondda	Alleviate	M24	Medium Term	Very High	WG FCERM Capital	Not Started
SFRA1 A5	Abertonllwyd Road FAS Produce a Full Business Case carrying out detailed design and development of the preferred option for managing the risk of flooding from local sources	Treherbert	Alleviate	M10, M11, M14 & M24	Short Term	Medium	WG FCERM Capital	Ongoing
SFRA1 A6	Abertonllwyd Road FAS Construction phase of FAS	Treherbert	Alleviate	M24	Medium Term	High	WG FCERM Capital	Not Started
SFRA1 A7	Brook Street – Culvert Repair Relining and rehabilitation of the ordinary watercourse culvert network to improve its	Blaenrhondda	Alleviate	M6, M10 & M24	Short Term	Medium	WG FCERM Small-scale Works	Ongoing

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Ref	Action Name & Description	Location (Community)	Action Type	Link to MS Measure	Timescale	Cost	Funding Option(s)	Status
	structural condition to reduce the risk of asset failure							
SFRA1 A8	Tynewydd – Culvert Rep Relining and rehabilitation of watercourse culvert network to improve its structural condition to reduce the risk of asset failure	Treherbert	Alleviate	M6, M10 & M24	Short Term	Medium	WG FCERM Small-scale Works	Ongoing
SFRA1 A9	Column Street – Inlet Upgrade Design and construction works to improve the resilience of the culvert inlet structure and ordinary watercourse channel	Treorchy	Alleviate	M6, M10 & M24	Short Term	Medium	WG FCERM Small-scale Works	Not Started

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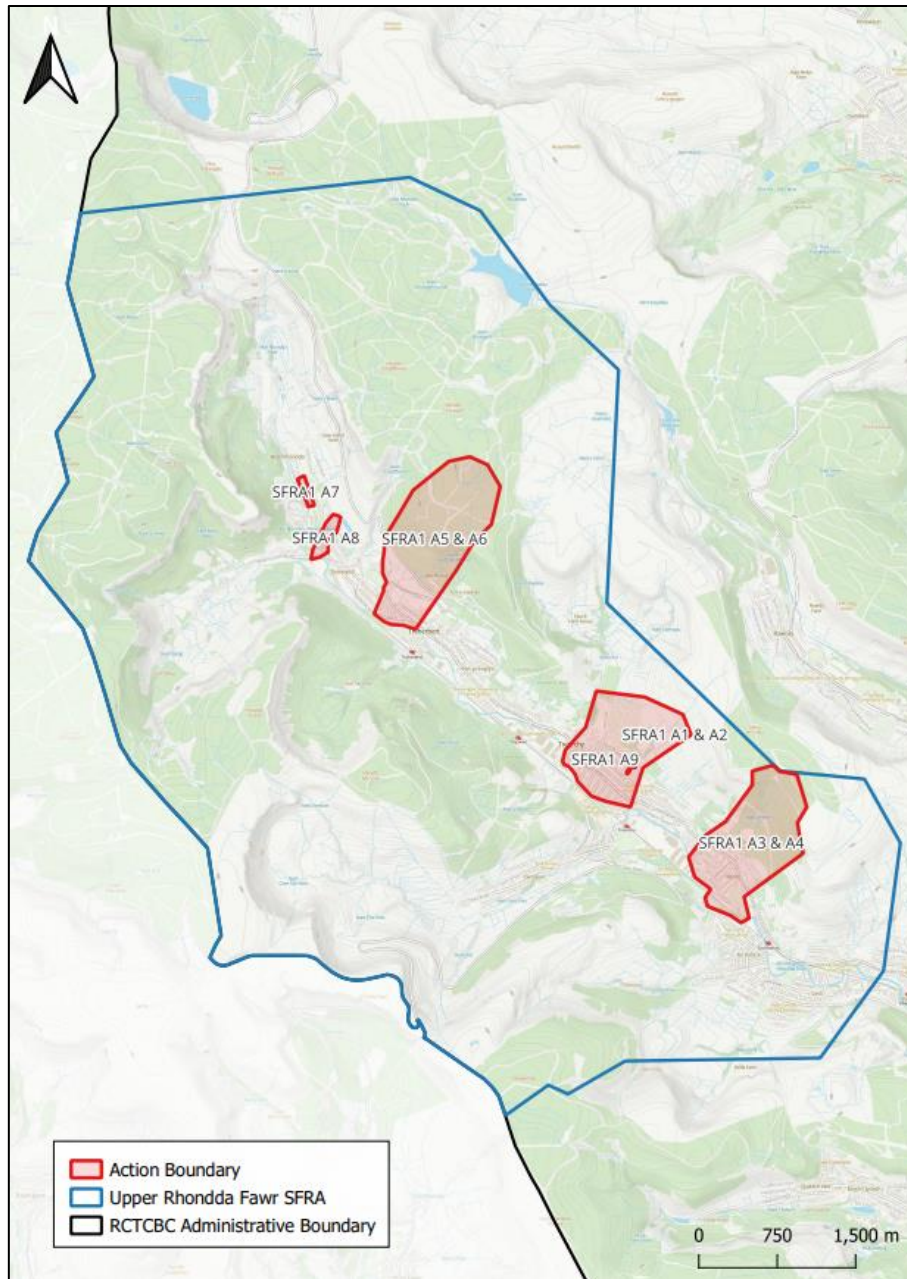


Figure 4: Location plan of the Upper Rhondda Fawr SFRA flood actions

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2. LOWER RHONDDA FAWR SFRA FLOOD ACTION PLAN

The following Flood Action Plan sets out the actions that RCTCBC are in the process of undertaking, or plan to undertake, to help manage the risk of flooding from local sources within the Lower Rhondda Fawr SFRA. Figure 5 shows where in RCT the Lower Rhondda Fawr SFRA is located.

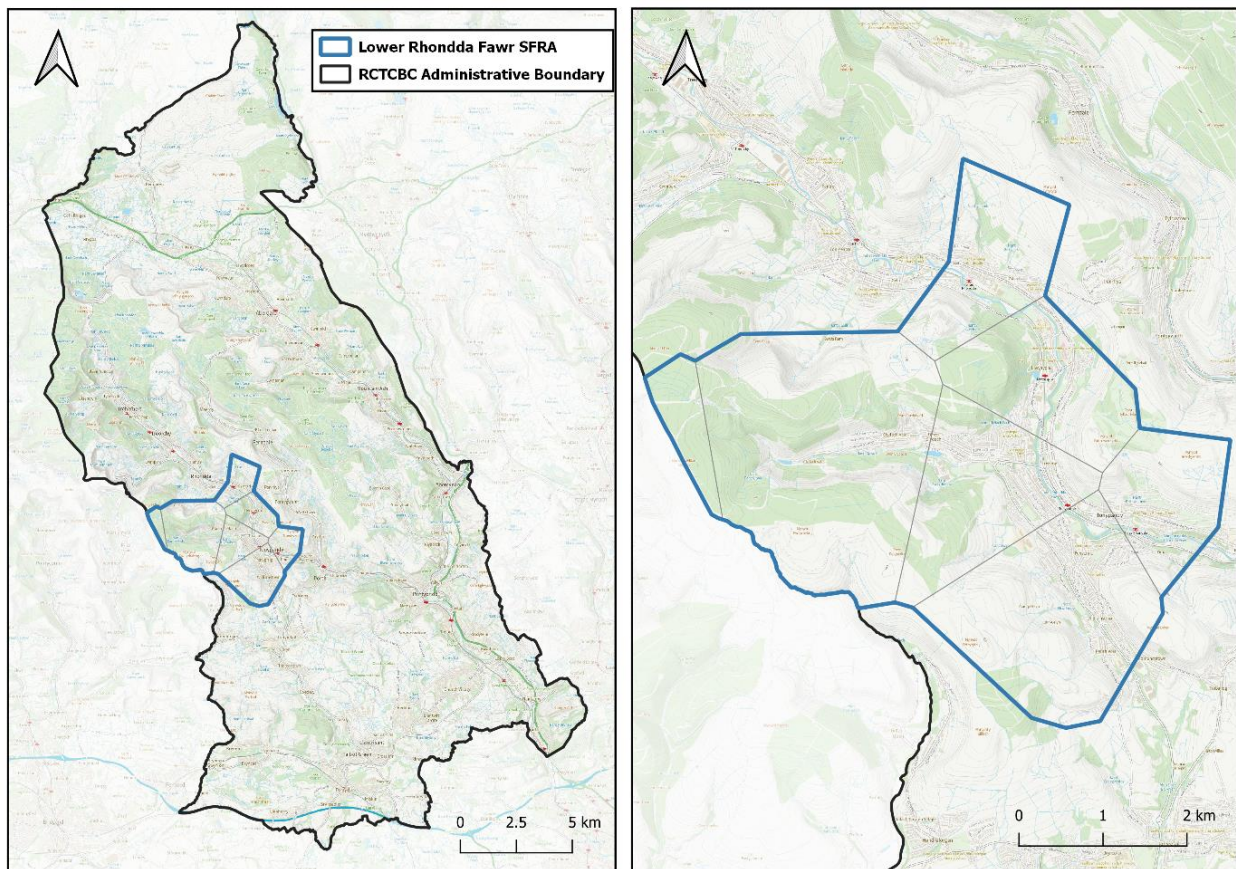


Figure 5: Lower Rhondda Fawr SFRA Location Plan

2.1 AREA DESCRIPTION

The Lower Rhondda Fawr SFRA is located in the western sector of RCTCBC and covers an area of approximately 2284.47 Ha. The SFRA falls within the catchment of the Rhondda Fawr River which is sourced from the highlands in the north and west of the Upper Rhondda Fawr SFRA and drains through the settlements Ystrad, Llwynypia, Trealow and Tonypany before merging with the Rhondda Fach River further downstream at Porth, located southeast of the SFRA.

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The Lower Rhondda Fawr SFRA comprises of 6 community areas located in the Lower Rhondda Fawr valley: Clydach Vale, Ystrad, Llwynypia, Tonypandy, Penygraig and Trealaw. Table 5 depicts the ranking of those communities in terms of their surface water and ordinary watercourse flood risk (referred to as 'Pluvial Ranking' in the CaRR) relative to the rest of Wales, according to the CaRR.

Table 5: Pluvial ranking for the communities within Lower Rhondda Fawr SFRA according to the CaRR 2019 data

Community Name	Pluvial Ranking
Clydach Vale	87
Ystrad	63
Llwynypia	57
Tonypandy	18
Penygraig	13
Trealaw	135

As shown in Table 5, 5 out of the 6 communities fall within the top 5% (top 111) of communities at greatest risk of pluvial flooding in Wales, with Penygraig and Tonypandy communities ranking as the highest in the SFRA at 13th and 18th in Wales, respectively.

The Lower Rhondda Fawr SFRA catchment is characterized by having steep-sided valleys above the urban areas located on the valley floor. These key settlements include the towns and villages of Blaen Clydach, Ystrad, Llwynypia, Trealaw, Tonypandy, Penygraig, Williamstown, Penrhiwfer and Dinas, which are all heavily urbanised. The surrounding area land use is predominantly forestry with some hill grazing.

The geology in the area is mostly comprised of Coal measures, Mudstone, siltstone, and sandstone, which forms part of the South Wales Coalfield basin. The Sedimentary bedrock likely formed between 315.2 and 308 million years ago during the Carboniferous period.

2.2 OVERVIEW OF FLOOD RISK

The extent and degree of local flood risk in the Lower Rhondda Fawr SFRA is significant. Figure 6, extracted from NRW's FRAW map, illustrates the areas at risk of

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flooding from both surface water and ordinary watercourses and main river sources across the Lower Rhondda Fawr SFRA.

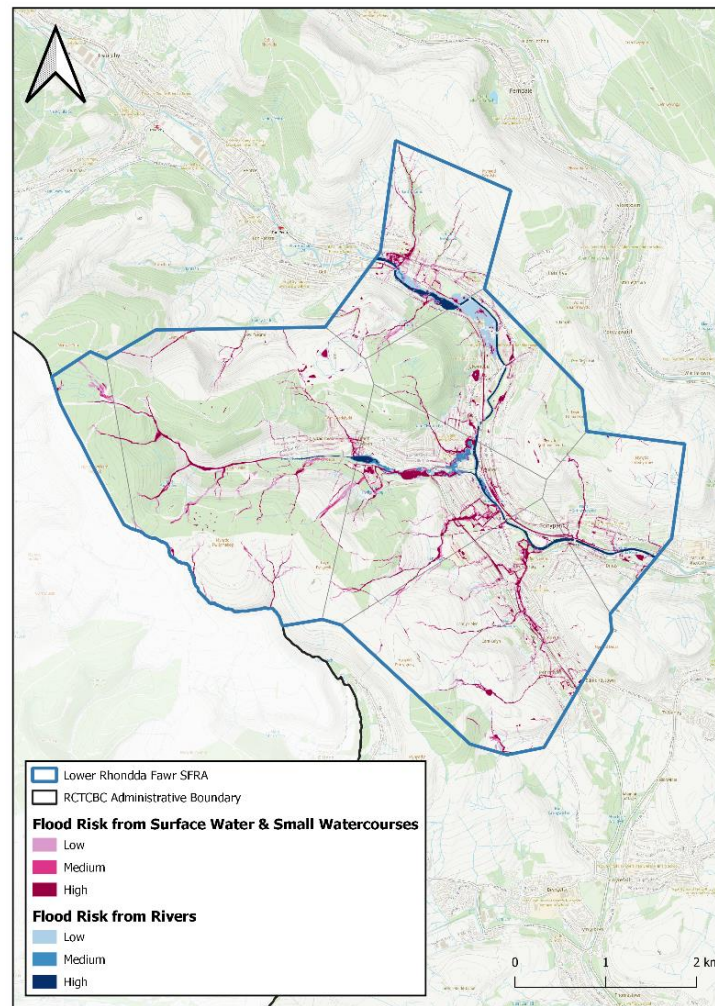


Figure 6: NRW's FRAW map for rivers and ordinary watercourses and surface water flood risk within the Lower Rhondda Fawr SFRA

The highest risk posed to people and properties within the SFRA is broadly associated with the network of named and unnamed ordinary watercourses which drain from the steep hillsides in the west and south of the SFRA. Whilst the headwaters have generally remained in a 'natural' condition, the watercourses have been modified on the hillsides in relation to the industrial legacy such as coal spoil tips and in later decades for forestry activities. These watercourses have also been heavily modified and culverted beneath urban development on the valley floor before discharging into

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the Rhondda Fawr River which flows northwest to southeast through the SFRA. Flooding is primarily sourced from culvert inlets and bank breaches associated to the network of ordinary watercourses.

The primary ordinary watercourses flowing through the Lower Rhondda Fawr SFRA include:

- Nant Y Lamb
- Nant Y Gwyddon
- Nant Clydach
- Nant Graig - Ddu
- Nant Gwyn
- Nant Ffrwdamws

Figure 6 also notes a high to low risk of flooding along the length of the main rivers which flow through the SFRA; namely the Rhondda Fawr River but also associated to the Nant Clydach which is a designated main river.

All ordinary watercourses and designated main rivers flowing through the Lower Rhondda Fawr SFRA have been depicted in Figure 7.

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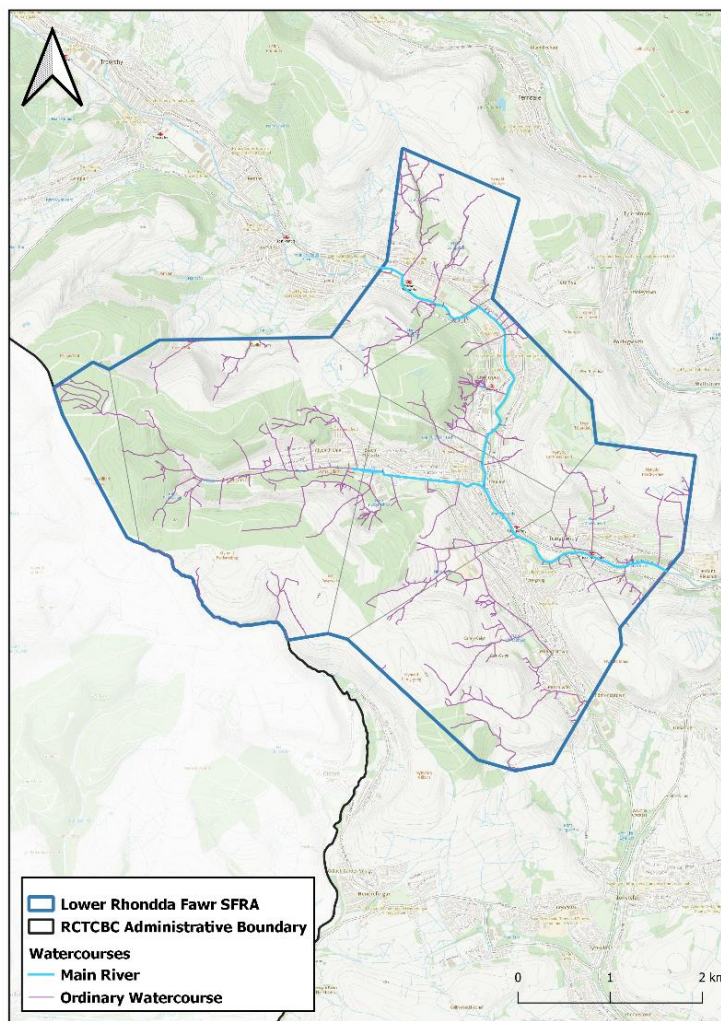


Figure 7: Ordinary watercourses and main rivers flowing through the Lower Rhondda Fawr SFRA

2.3 HISTORY OF FLOODING

The Lower Rhondda Fawr SFRA has experienced several flood events over the past twenty years, often in relation to the network of ordinary watercourses and culverted infrastructure which convey a substantial volume of water through the urban settlements.

The most recent and significant flood event that occurred in the SFRA was the February 2020 flood events. Heavy rainfall as a result of Storms Dennis, Ciara and

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Jorge resulted in significant repeated flooding, with extensive flooding of residential and commercial properties occurring within the communities of Tonypany, Llwynypia, Dinas, Penrhiwfer, Williamstown and Ystrad. Since Storm Dennis in February 2020, communities including Llwynypia has experienced flooding on a further four occasions.

Further records of historical flooding prior to Storm Dennis in the SFRA is limited however, notable flooding occurred in 2018 as a result of Storm Bronagh on 20-21st September which impacted Ystrad.

2.4 ASSESSMENT OF FLOOD RISK

To meet the requirements of the FRR, RCTCBC have assessed the risk of flooding from local sources for different receptor types, the results of which is provided in Table 6. The data shows the number of receptors at high, medium and low local flood risk in the Lower Rhondda Fawr SFRA.

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Table 6: Receptors at high, medium and low risk of flooding from local sources in the Lower Rhondda Fawr SFRA

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 Properties (n)	1345	407	917
Commercial Properties (n)	164	26	38
Essential Services (n)	19	1	9
Primary/Trunk Roads (km)	5.87	1.66	4.58
Main Line Railways (km)	2.67	0.42	0.83
Agricultural Land - Grades 1, 2 and 3 (ha)	0.70	0.15	0.30
SAC (ha)	0	0	0
SPA (ha)	0	0	0
Ramsar Sites (ha)	0	0	0
SSSI (ha)	0.21	0.04	0.20
SINC (Ha)	21.28	6.97	25.51
NNR (ha)	0	0	0
LNR (ha)	0.99	0.12	0.47
Ancient Woodland (ha)	3.75	0.68	2.22
Registered Parks and Gardens (ha)	0	0	0
Country Parks (ha)	0	0	0
Scheduled Ancient Monuments (ha)	0	0	0
Listed Buildings (n)	2	2	1

2.5 THE FLOOD ACTION PLAN

The actions presented within the Lower Rhondda Fawr SFRA Flood Action Plan are listed in Table 7 and illustrated in Figure 8.

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Table 10: Lower Rhondda and Llynypia SFRA Action Plan

Ref	Action Name & Description	Location (Community)	Action	Link to FRM Measure	Timescale	Cost	Funding Option(s)	Status
SFRA2 A1	Penrhys Road - Inlet Upgrade Construction work to improve the resilience of the culvert inlet structure	Ystrad	Alleviate	M4	Short Term	Medium	WG FCERM Capital	Ongoing
SFRA2 A2	B4223 - Nant y Gwyddion Road Repairs and improvements to the highway drainage and ordinary watercourse culvert network conveying along the B4223	Llwynypia	Alleviate	M6, M10, M17 & M18	Short Term	Medium	WG Resilient Road Fund	Ongoing
SFRA2 A3	Programme Business Case Develop a Programme Business Case, assessing the risk of local flooding utilising a catchment-based approach, considering a range of FRM measures inclusive of wider catchment and nature based solutions, and encouraging collaboration between RMAs, other organisations and the public	Lower Rhondda SFRA	Alleviate	M6, M7, M8, M10, M11, M14, M15, M29 & M31	Short Term	Medium	WG FCERM Capital	Not Started
SFRA2 A4	King George Field – Culvert Repair Rehabilitation of the ordinary watercourse culvert network to improve its structural condition to reduce the risk of asset failure	Tonypandy	Alleviate	M6, M10 & M24	Short Term	Medium	WG Small-scale Works	Not Started
SFRA2 A5	Rosedale Terrace – Inlet Upgrade Design and construction works to improve the resilience of the culvert inlet structure and ordinary watercourse channel	Llwynypia	Alleviate	M6, M10 & M24	Short Term	Medium	WG Small-scale Works	Not Started

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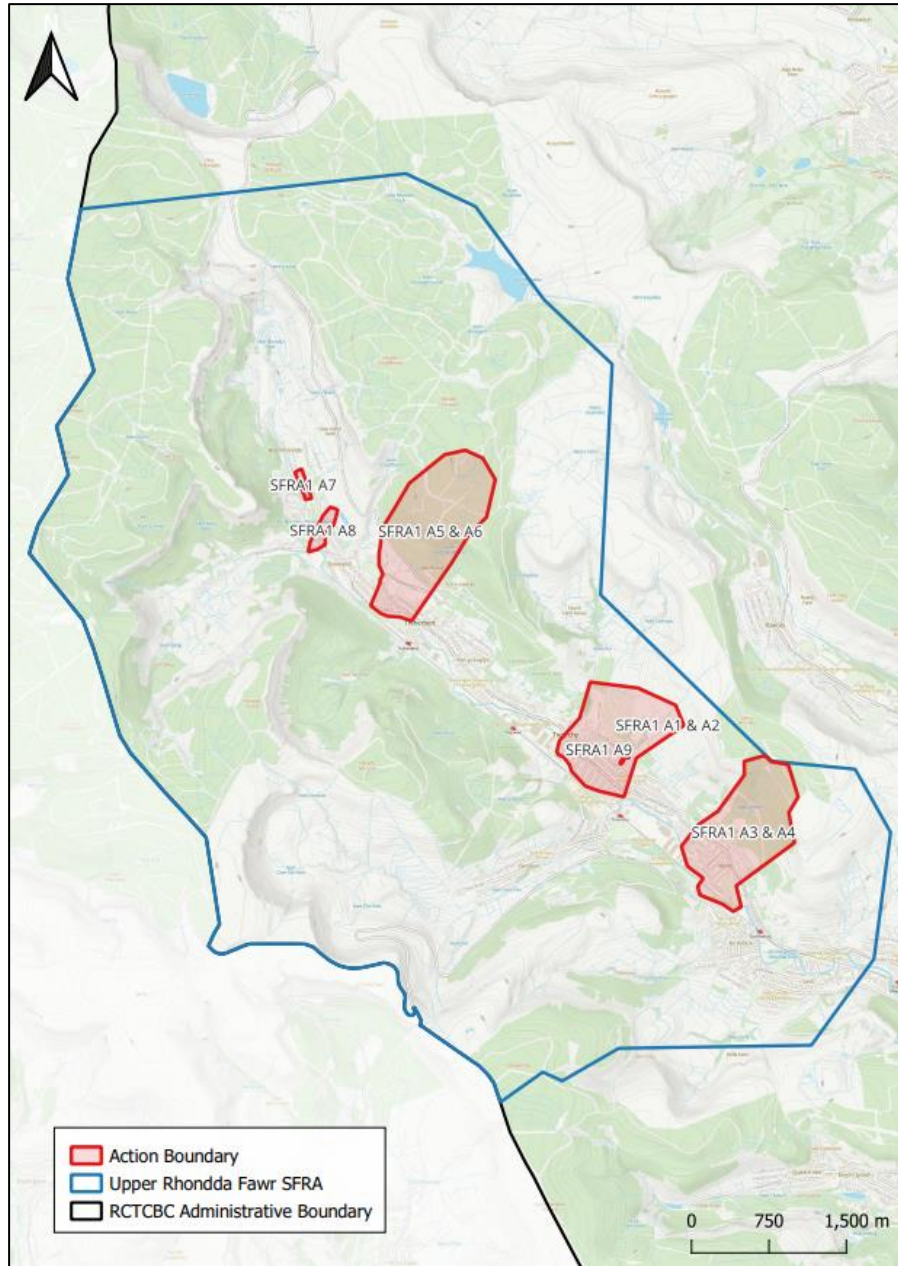


Figure 8: Location plan of the Lower Rhondda Fawr SFRA flood actions

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3. UPPER RHONDDA FACH SFRA FLOOD ACTION PLAN

The following Flood Action Plan sets out the actions that RCTCBC are in the process of undertaking, or plan to undertake, to help manage the risk of flooding from local sources within the Upper Rhondda Fach SFRA. Figure 9 shows where in RCT the Upper Rhondda Fach SFRA is located.

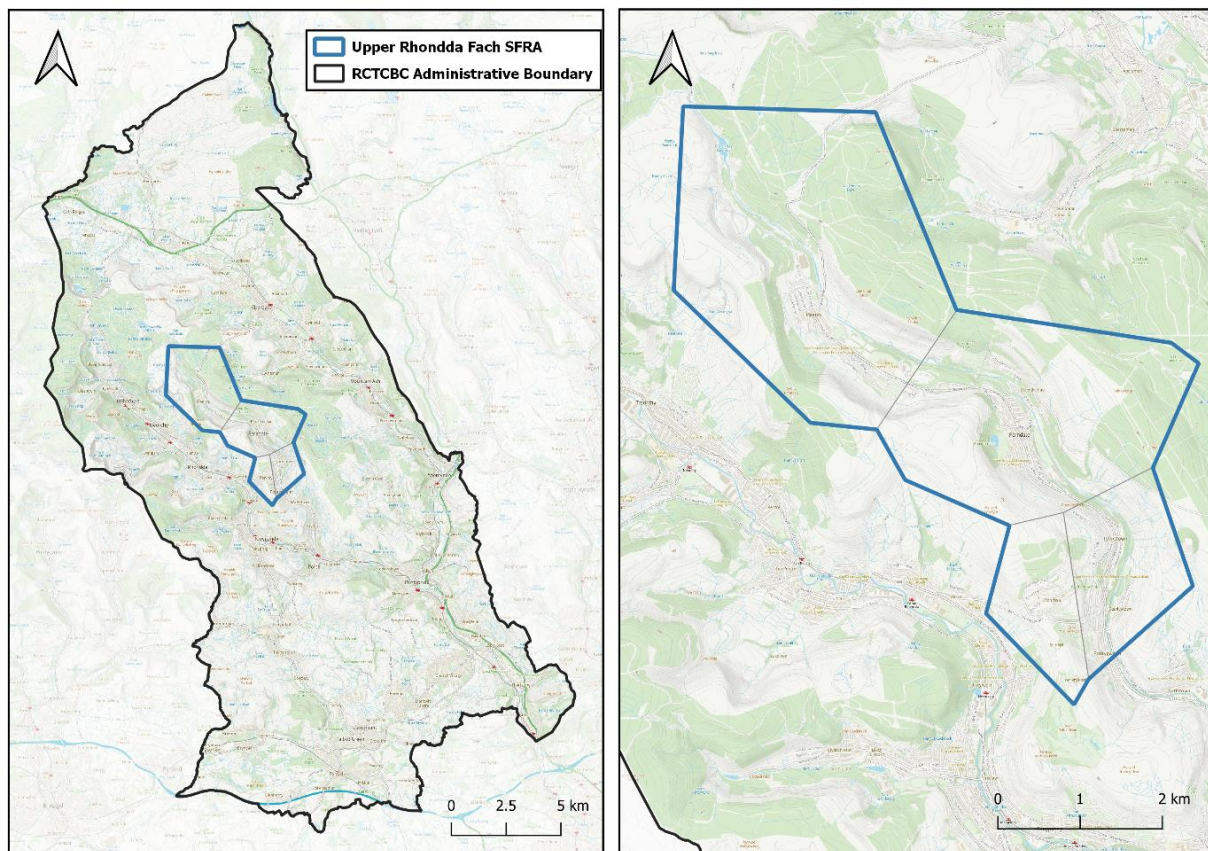


Figure 9: Upper Rhondda Fach SFRA Location Plan

3.1 AREA DESCRIPTION

The Upper Rhondda Fach SFRA is located in the northern-central sector of RCTCBC and covers an area of approximately 2110.328 Ha. The SFRA falls within the catchment of the Rhondda Fach River which is sourced from the highlands to the north and west of the SFRA and drains through the settlements of Maerdy, Ferndale, Tylorstown, Stanleytown and Pontygwaith before merging with the Rhondda Fawr River further downstream at Porth, located to the southeast of the SFRA.



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The Upper Rhondda Fawr SFRA comprises of 4 community areas located in the upper Rhondda Fach valley: Maerdy, Ferndale, Penrhys and Tylorstown. Table 8 depicts the ranking of those communities in terms of their surface water and ordinary watercourse flood risk (referred to as ‘Pluvial Ranking’ in the CaRR) relative to the rest of Wales, according to the CaRR.

Table 8: Pluvial ranking for the communities within Upper Rhondda Fawr SFRA according to the CaRR 2019 data

Community Name	Pluvial Ranking
Maerdy	50
Ferndale	56
Penrhys	302
Tylorstown	83

As shown in Table 8, 3 out of the 4 communities fall within the top 5% (top 111) of communities at greatest risk of pluvial flooding in Wales, with the Maerdy community ranked as the highest risk community in the SFRA at 50th, Ferndale 56th and Tylorstown 83rd.

The Upper Rhondda Fach SFRA catchment is characterised by having steep-sided valleys above the urban areas located on the valley floor. These key settlements include the towns and villages of Maerdy, Ferndale, Tylorstown, Penrhys, Blaenllechau, Stanleytown and Pontygwaith, which are all heavily urbanised. The surrounding area land use is predominately forestry with some hill grazing.

The geology in the area is mostly compromised of Coal measures, Mudstone, siltstone, and sandstone, which forms part of the South Wales Coalfield basin. The Sedimentary bedrock likely formed between 315.2 and 308 million years ago during the Carboniferous period.

3.2 OVERVIEW OF FLOOD RISK

The extent and degree of local flood risk in the Upper Rhondda Fach SFRA is significant. Figure 10, extracted from NRW’s FRAW map, illustrates the areas at risk of flooding from both surface water and ordinary watercourses, and main river sources across the Upper Rhondda Fach SFRA.

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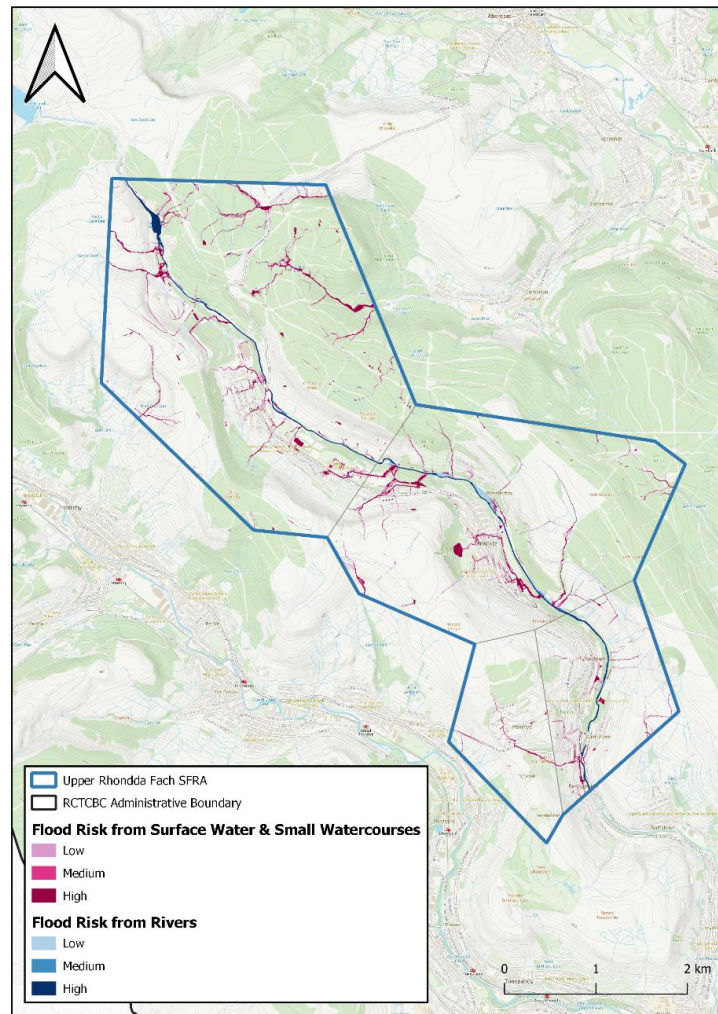


Figure 10: NRW's FRAW map for rivers and ordinary watercourses and surface water flood risk within the Upper Rhondda Fach SFRA

The highest risk posed to people and properties within the SFRA is broadly associated with the network of named and unnamed ordinary watercourses which drain from the steep hillsides in the northeast and west of the SFRA. Whilst the headwaters have generally remained in a 'natural' condition, Castell Nos Reservoir has been constructed north of Maerdy in the upper catchment and watercourses have been modified on the hillsides in relation to the industrial legacy such as coal spoil tips and in later decades for forestry activities. These watercourses have also been heavily modified and culverted beneath urban development on the valley floor before discharging into the Rhondda Fach River, which flows northwest to southeast through the SFRA. Flooding is primarily sourced from culvert inlets and bank breaches associated to the network of ordinary watercourses.

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The primary ordinary watercourses flowing through the Upper Rhondda Fach SFRA include:

- Nant Y Gawrnant
- Nant Y Calch
- Nant Aman Fawr

Several unnamed ordinary watercourses are also identified to the southeast of the SFRA, associated with the steep valley sides of Cefn Gwyngul to the east of Ferndale and Tylorstown.

Figure 10 also notes a high to low risk of flooding along the length of the main river which flows through the SFRA; namely the Rhondda Fach River.

All ordinary watercourses and designated main rivers flowing through the Upper Rhondda Fach SFRA have been depicted in Figure 11.

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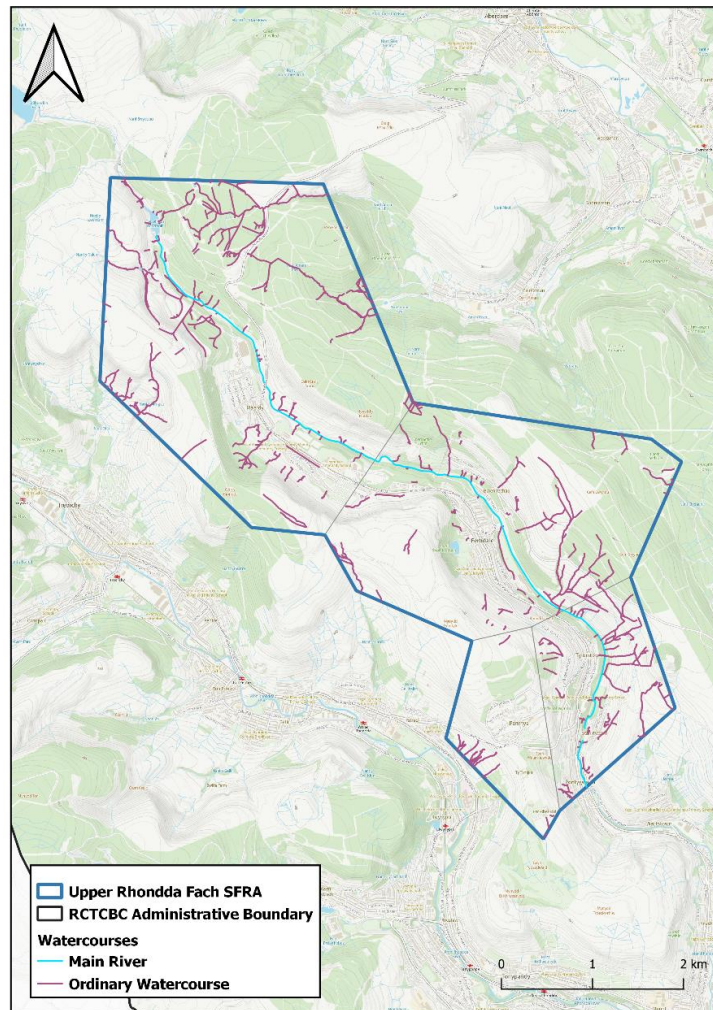


Figure 11: Ordinary watercourses and main rivers flowing through the Upper Rhondda Fach SFRA

3.3 HISTORY OF FLOODING

The Upper Rhondda Fach SFRA area has experienced several flood events over the past twenty years, often in relation to the network of ordinary watercourses and culverted infrastructure which convey a substantial volume of water through the urban settlements.

The most recent and significant flood event that occurred in the SFRA was the February 2020 flood events. Heavy rainfall as a result of Storms Dennis, Ciara and Jorge resulted in significant repeated flooding, with extensive flooding of residential and commercial properties occurring within the communities of Blaenllechau, Ferndale, and Tylorstown. Since Storm Dennis in February 2020, many communities have



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experienced flooding multiple times including a further five times in Tylorstown, and three times in Maerdy.

Further records of historical flooding prior to Storm Dennis in the SFRA is limited however, notable flooding occurred in 2018 as a result of Storm Bronagh on 20-21st September and Storm Callum on 12-13th October 2018 which impacted Ferndale and Maerdy. Three unnamed storm events in September and October 2019 also resulted in notable flooding on three separate occasions at Ferndale and Maerdy.

3.4 ASSESSMENT OF FLOOD RISK

To meet the requirements of the FRR, RCTCBC have assessed the risk of flooding from local sources for different receptor types, the results of which is provided in Table 9. The data shows the number of receptors at high, medium and low local flood risk in the Upper Rhondda Fach SFRA.

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Table 9: Receptors at high, medium and low risk of flooding from local sources in the Upper Rhondda Fach SFRA

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 Properties (n)	564	152	372
Commercial Properties (n)	55	25	17
Essential Services (n)	8	2	1
Primary/Trunk Roads (km)	0.9	0.38	1.63
Main Line Railways (km)	0	0	0
Agricultural Land - Grades 1, 2 and 3 (ha)	0	0	0
SAC (ha)	0	0	0
SPA (ha)	0	0	0
Ramsar Sites (ha)	0	0	0
SSSI (ha)	0	0	0
SINC (Ha)	16.84	6.85	17.33
NNR (ha)	0	0	0
LNR (ha)	0	0	0
Ancient Woodland (ha)	0.57	0.10	0.71
Registered Parks and Gardens (ha)	0	0	0
Country Parks (ha)	0	0	0
Scheduled Ancient Monuments (ha)	0	0	0
Listed Buildings (n)	2	0	0

3.5 THE FLOOD ACTION PLAN

The actions presented within the Upper Rhondda Fach SFRA Flood Action Plan are listed in Table 10 and illustrated in Figure 12.

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Table 1: Upper Tyne Catchment SFRA Action Plan

Ref	Action Name & Description	Location (Community)	Action Type	Link to MS Measure	Timescale	Cost	Funding Option(s)	Status
SFRA3 A1	Arfryn Terrace FAS Construction phase of FAS	Tylorston	Alleviate	M4	Short Term	High	WG FCERM Capital	Ongoing
SFRA3 A2	Blaenllechau SOC Develop a SOC to better understand the risk of flooding at Blaenllechau, using a whole catchment approach, to provide recommendations for suitable local flood risk management measures.	Ferndale	Alleviate	M6, M7, M8, M10, M11, M14, M15	Short Term	Medium	WG FCERM Capital	Not Started

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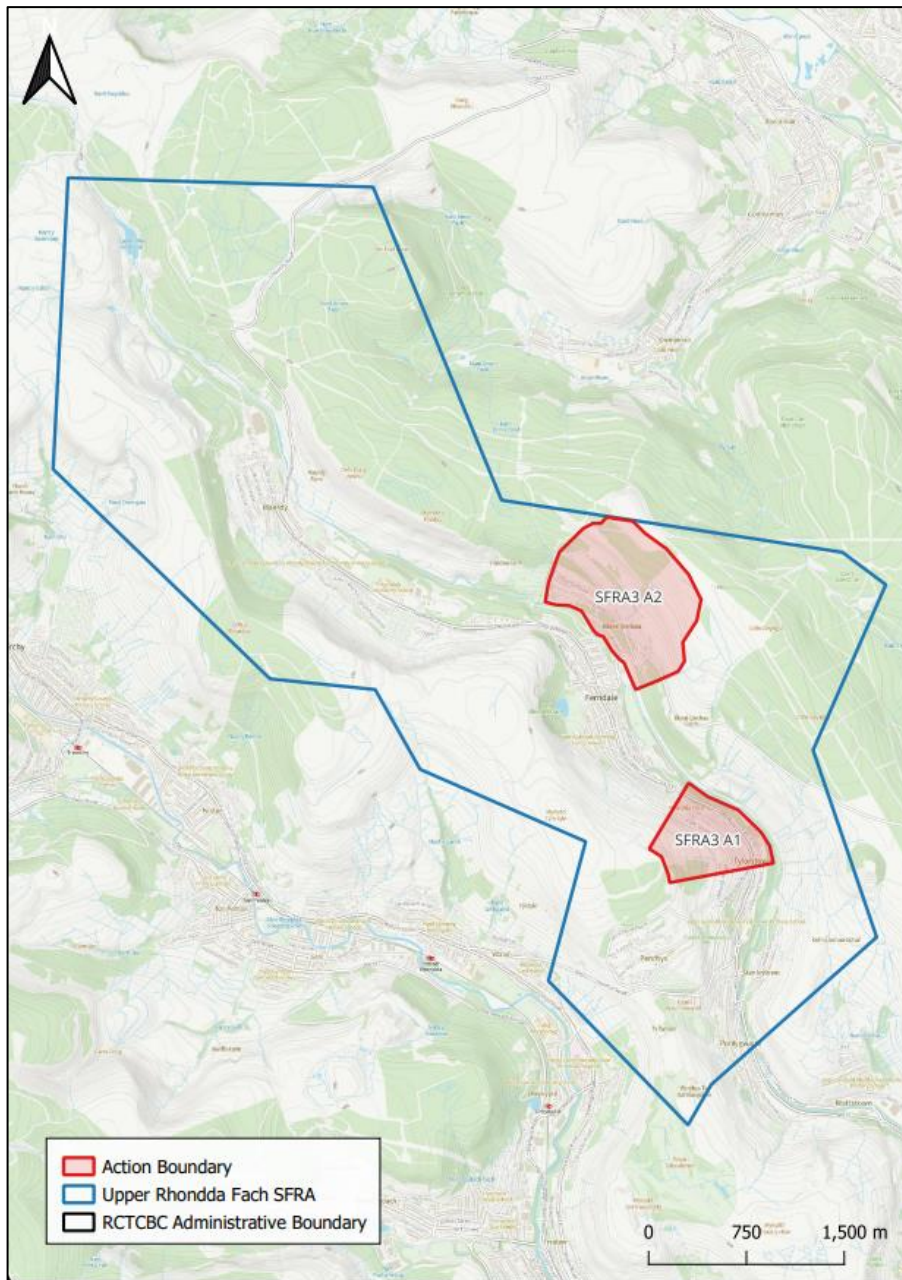


Figure 12: Location plan of the Upper Rhondda Fach SFRA flood actions

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4. LOWER RHONDDA FACH SFRA FLOOD ACTION PLAN

The following Flood Action Plan sets out the actions that RCTCBC are in the process of undertaking, or plan to undertake, to help manage the risk of flooding from local sources within the Lower Rhondda Fach SFRA. Figure 13 shows where in RCT the Lower Rhondda Fach SFRA is located.

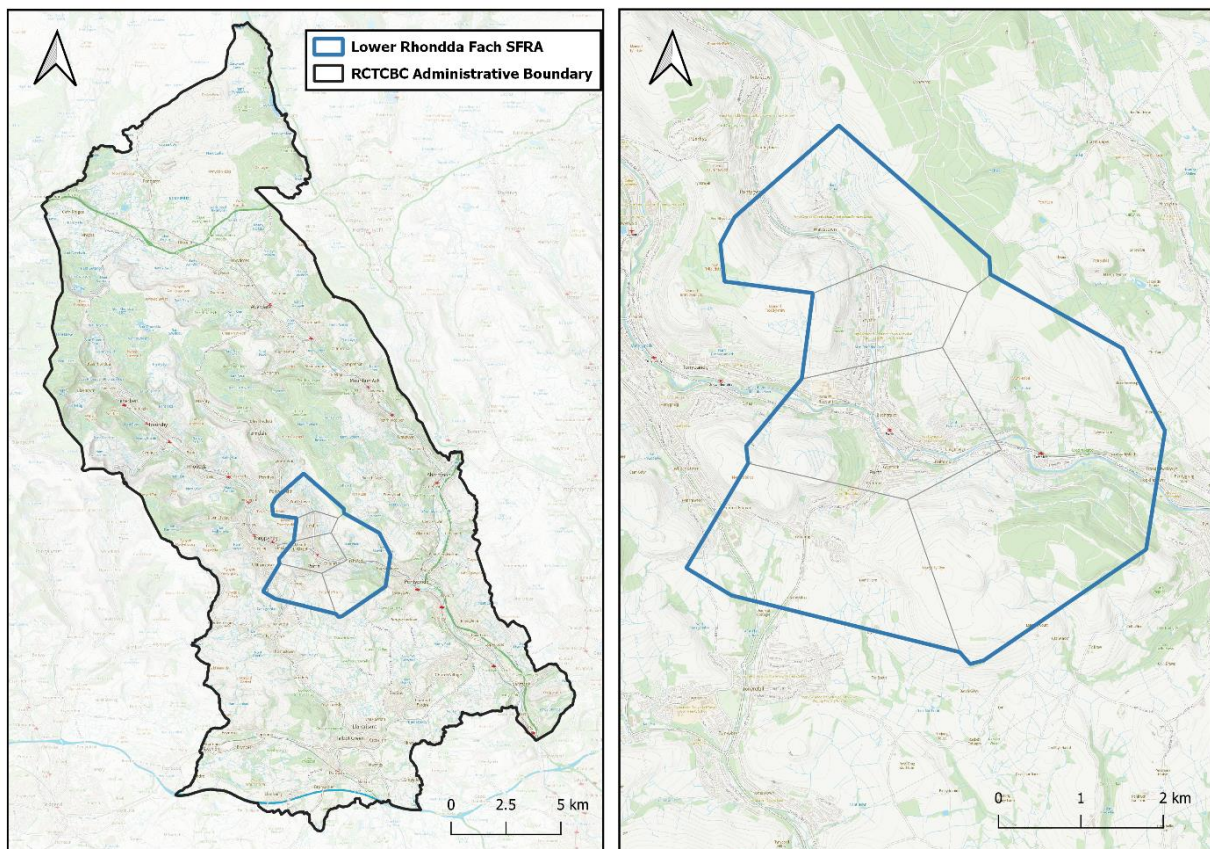


Figure 13: Lower Rhondda Fach SFRA Location Plan

4.1 AREA DESCRIPTION

The Lower Rhondda Fach SFRA is located in the southern-central sector of RCTCBC and covers an area of approximately 2245.70 Ha. The SFRA falls within the catchment of the Rhondda Fach River which is sourced from the highlands north of the Upper Rhondda Fach SFRA and drains southeasterly into the Lower Rhondda Fach SFRA. The Rhondda Fach River travels through the settlements of Wattstown and Ynyshir and merges with the Rhondda Fawr River at Porth before conveying in an easterly direction through Trehafod and Hopkinstown.

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The Lower Rhondda Fach SFRA comprises of 5 community areas located in the Lower Rhondda Fach valley: Wattstown, Ynyshir, Porth, Trebanog and Trehafod. Table 11 depicts the ranking of those communities in terms of their surface water and ordinary watercourse flood risk (referred to as 'Pluvial Ranking' in the CaRR) relative to the rest of Wales, according to the CaRR.

Table 11: Pluvial ranking for the communities within Lower Rhondda Fach SFRA according to the CaRR 2019 data

Community Name	Pluvial Ranking
Wattstown	137
Ynyshir	55
Porth	35
Trebanog	236
Trehafod	132

As shown in Table 11, 2 out of the 5 communities fall within the top 5% (top 111) of communities at greatest risk of pluvial flooding in Wales, with the communities of Porth and Ynyshir ranking the highest risk in the SFRA at 35th and 55th in Wales, respectively.

The Lower Rhondda Fach SFRA catchment is characterized by having steep-sided valleys above the urban areas located on the valley floor. These key settlements include the towns and villages of Wattstown, Ynyshir, Porth, Trehafod, Hopkinstown, Cymmer, Llwynycelyn and Trebanog, which are all heavily urbanised. The surrounding area land use is predominantly forestry with some hill grazing.

The geology in the area is mostly comprised of Coal measures, Mudstone, siltstone, and sandstone, which forms part of the South Wales Coalfield basin. The Sedimentary bedrock likely formed between 315.2 and 308 million years ago during the Carboniferous period.

4.2 OVERVIEW OF FLOOD RISK

The extent and degree of local flood risk in the Lower Rhondda Fach SFRA is significant. Figure 14, extracted from NRW's FRAW map, illustrates the areas at risk of flooding from both surface water and ordinary watercourses, and main river sources across the Lower Rhondda Fach SFRA.

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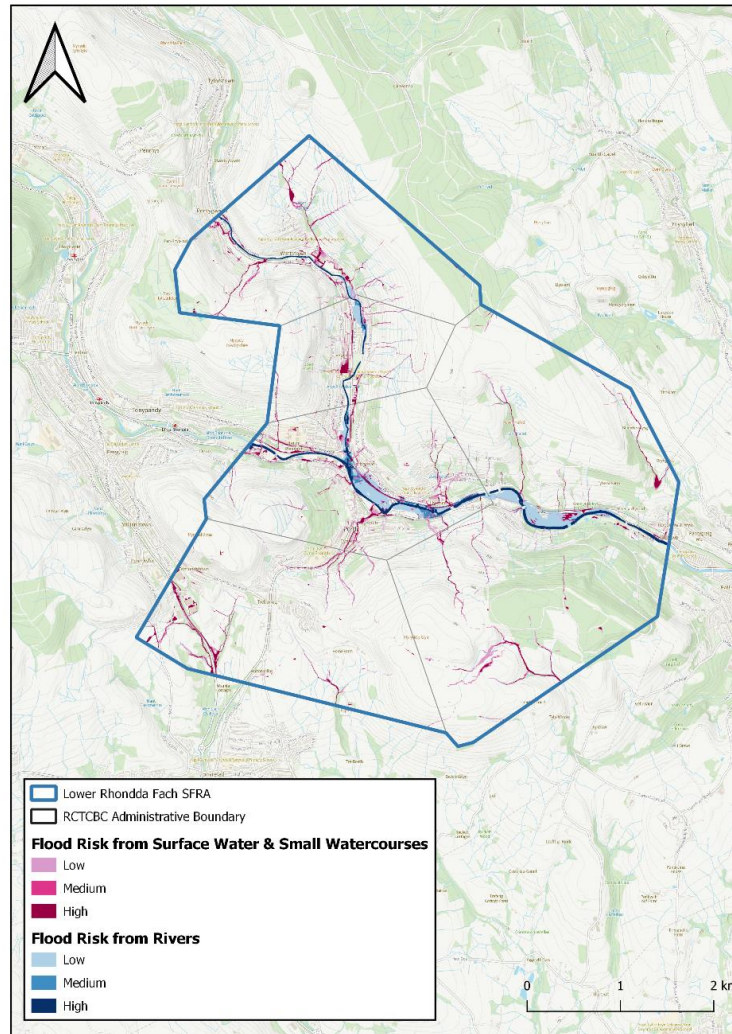


Figure 14: NRW's FRAW map for rivers and ordinary watercourses and surface water flood risk within the Lower Rhondda Fach SFRA

The highest risk posed to people and properties within the SFRA is broadly associated with the network of named and unnamed ordinary watercourses which drain from the steep hillsides in the north and south of the SFRA. Whilst the headwaters have generally remained in a 'natural' condition, the watercourses have been modified on the hillsides in relation to the industrial legacy such as coal spoil tips. These watercourses have also been heavily modified and culverted beneath urban development on the valley floor before discharging into both the Rhondda Fach (from the north) and Rhondda Fawr River (from the west) before merging and flowing east

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through the SFRA. Flooding is primarily sourced from culvert inlets and bank breaches associated to the network of ordinary watercourses.

The primary ordinary watercourses flowing through the Lower Rhondda Fawr SFRA include:

- Nant Llechau
- Nant Hafod
- Nant Llwyncelyn
- Nant Graig-Ddu
- Nant Blaenhenwysg
- Nant Gellwion
- Nant Muchudd

Figure 14 also notes a high to low risk of flooding along the length of the main rivers which flow through the SFRA; namely the Rhondda Fawr and Rhondda Fach Rivers.

All ordinary watercourses and designated main rivers flowing through the Lower Rhondda Fach SFRA have been depicted in Figure 15.

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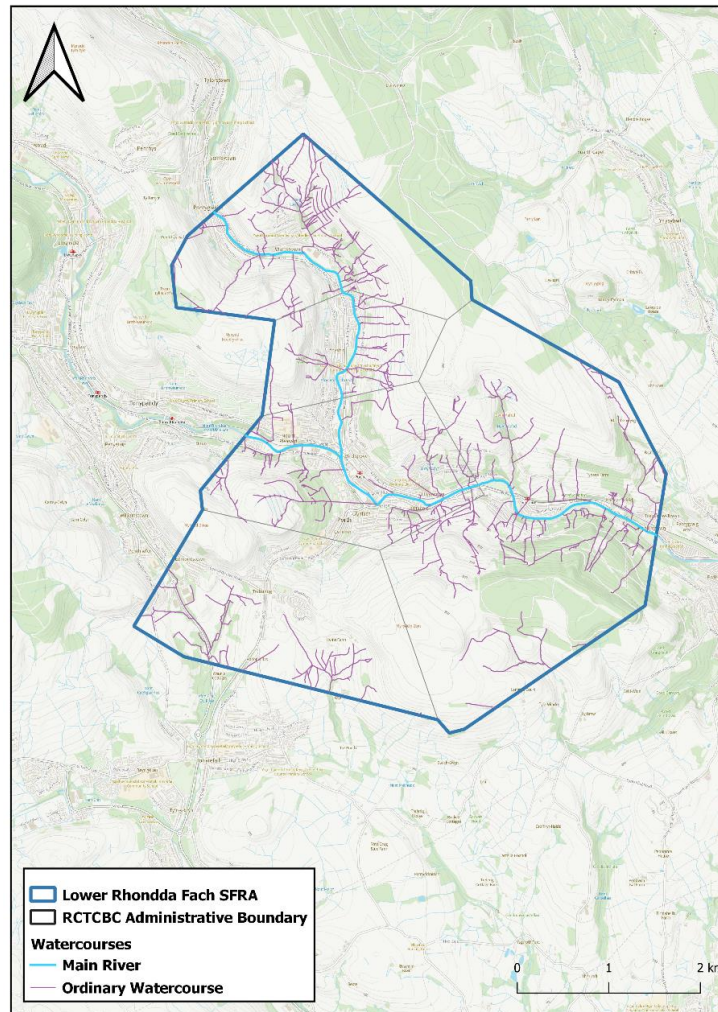


Figure 15: Ordinary watercourses and main rivers flowing through the Lower Rhondda Fach SFRA

4.3 HISTORY OF FLOODING

The Lower Rhondda Fach SFRA has experienced several flood events over the past twenty years, often in relation to the network of ordinary watercourses and culverted infrastructure which convey a substantial volume of water through the urban settlements.

The most recent and significant flood event that occurred in the SFRA was the February 2020 flood events. Heavy rainfall as a result of Storms Dennis, Ciara and Jorge resulted in significant repeated flooding, with extensive flooding of residential and commercial properties occurring within the communities of Porth, Trebanog and

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Ynyshir. Since Storm Dennis in February 2020, communities including Porth has experienced flooding on a further six occasions.

Further records of historical flooding prior to Storm Dennis in the SFRA is limited however, notable flooding occurred in 2018 as a result of Storm Bronagh on 20-21st September, Storm Callum on 12-13th October and an Unnamed Storm on 8-9th December 2018 which impacted Porth.

4.4 ASSESSMENT OF FLOOD RISK

To meet the requirements of the FRR, RCTCBC have assessed the risk of flooding from local sources for different receptor types, the results of which is provided in Table 12. The data shows the number of receptors at high, medium and low local flood risk in the Lower Rhondda Fach SFRA.

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Table 12: Receptors at high, medium and low risk of flooding from local sources in the Lower Rhondda Fach SFRA

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 Properties (n)	638	171	541
Commercial Properties (n)	73	13	20
Essential Services (n)	4	2	5
Primary/Trunk Roads (km)	2.83	1.02	2.97
Main Line Railways (km)	1.2	0.23	0.4
Agricultural Land - Grades 1, 2 and 3 (ha)	2.11	0.34	1.49
SAC (ha)	0	0	0
SPA (ha)	0	0	0
Ramsar Sites (ha)	0	0	0
SSSI (ha)	1.39	0.39	1.81
SINC (Ha)	7.32	2.02	9.28
NNR (ha)	0	0	0
LNR (ha)	0	0	0
Ancient Woodland (ha)	2.62	0.46	1.71
Registered Parks and Gardens (ha)	0	0	0
Country Parks (ha)	0	0	0
Scheduled Ancient Monuments (ha)	0	0	0
Listed Buildings (n)	5	2	1

4.5 THE FLOOD ACTION PLAN

The actions presented within the Lower Rhondda Fach SFRA Flood Action Plan are listed in Table 13 and illustrated in Figure 16.

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Table 1: Lower Rhondda Fach SFRA Action Plan

Ref	Action Name & Description	Location (Community)	Action Type	Link to FRM Measure	Timescale	Cost	Funding Option(s)	Status
SFRA4 A1	Turberville Road Construction phase of FAS	Porth	Alleviate	M24	Short Term	High	WG FCERM Capital	Ongoing
SFRA4 A2	Trehafod FAS Produce an OBC identifying the preferred option(s) for managing the risk of flooding from local sources	Trehafod	Alleviate	M8, M10, M11, M14, M24, M29 & M31	Short Term	Medium	WG FCERM Capital	Ongoing
SFRA4 A3	Trehafod FAS Produce a Full Business Case carrying out detailed design and development of the preferred option for managing the risk of flooding from local sources	Trehafod	Alleviate	M6, M7, M8, M10, M11, M14, M24, M29 & M31	Short Term	High	WG FCERM Capital	Not Started
SFRA4 A4	Trehafod FAS Construction phase of FAS	Trehafod	Alleviate	M24	Medium Term	Very High	WG FCERM Capital	Not Started
SFRA4 A5	Llwyncelyn, Porth SOC Develop a SOC to better understand the risk of flooding at Llwyncelyn, using a whole catchment approach, to provide recommendations for suitable local flood risk management measures.	Porth	Alleviate	M6, M7, M8, M10, M11, M14, M15	Short Term	Medium	WG FCERM Capital	Not Started
SFRA4 A6	Programme Business Case Develop a Programme Business Case, assessing the risk of local flooding utilising a catchment-based approach, considering a range of FRM measures inclusive of wider catchment and nature based	Lower Rhondda Fach SFRA	Alleviate	M6, M7, M8, M10, M11, M14, M15, M29 & M31	Medium Term	Medium	WG FCERM Capital	Not Started

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Ref	Action Name & Description	Location (Community)	Action Type	Link to MS Measure	Timescale	Cost	Funding Option(s)	Status
	solutions, and encouraging collaboration between RMAs, other organisations and the public.							
SFRA4 A7	Heath Terrace (Central Inlet) Upgrade Design and construction works to improve resilience of the culvert inlet structure	Ynyshir	Alleviate	M6 & M10	Short Term	Medium	WG FCERM Small-scale Works	Ongoing
SFRA4 A8	St Luke's Road, Llwyncelyn Improvements to upgrade the highway inlet structure	Porth	Alleviate	M6, M10, M17 & M18	Short Term	Medium	WG Resilient Road Fund	Ongoing
SFRA4 A9	Ynyshir Road Improvements to upgrade the highway drainage infrastructure	Ynyshir	Alleviate	M6, M10, M17 & M18	Short Term	Medium	WG Resilient Road Fund	Ongoing
SFRA4 A10	Cymmer Road Highway drainage improvements and ordinary watercourse rehabilitation to manage local flood risk affecting the highway	Porth	Alleviate	M6, M10, M17 & M18	Short Term	Medium	WG Resilient Road Fund	Ongoing

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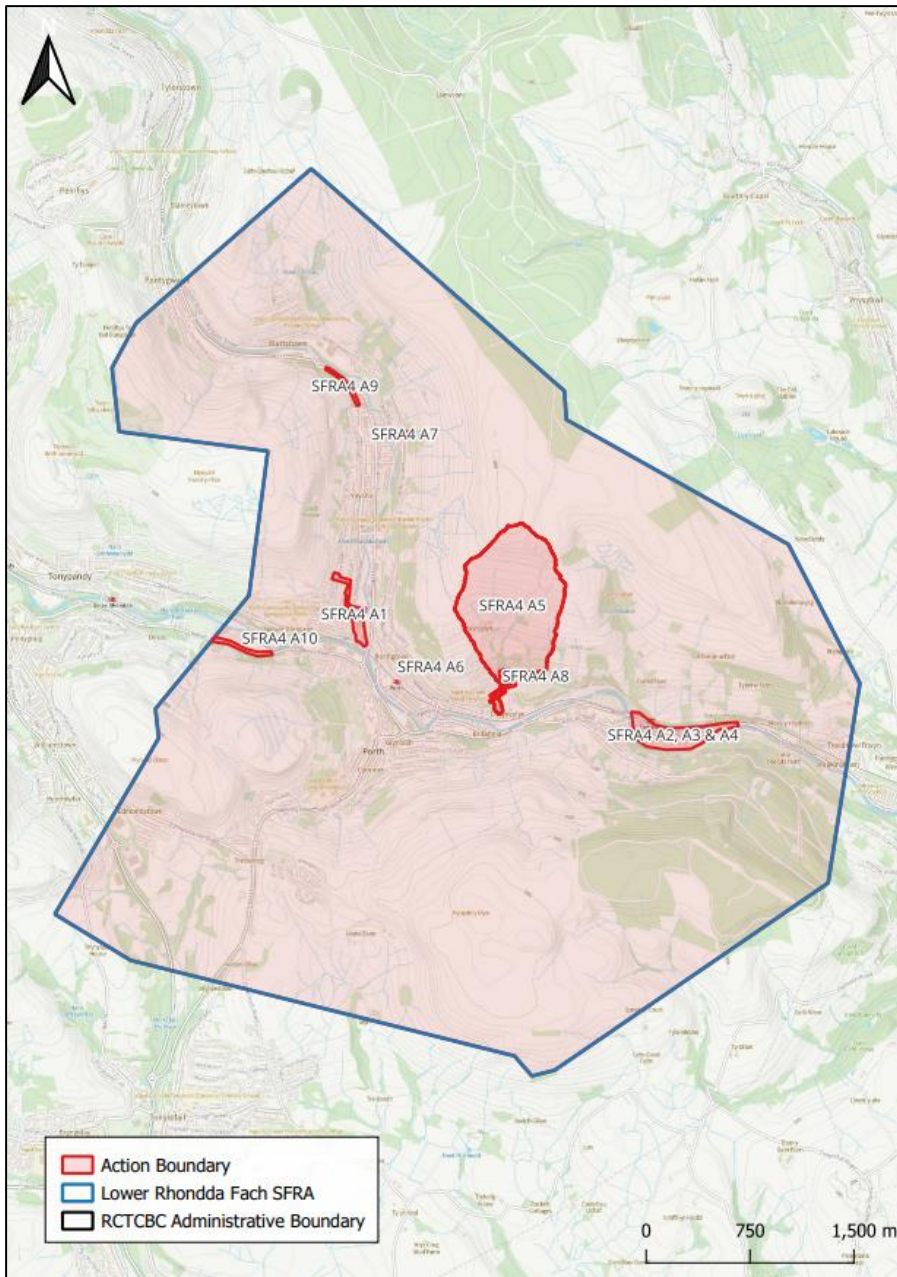


Figure 16: Location plan of the Lower Rhondda Fach SFRA flood actions

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5. UPPER CYNON SFRA FLOOD ACTION PLAN

The following Flood Action Plan sets out the actions that RCTCBC are in the process of undertaking, or plan to undertake, to help manage the risk of flooding from local sources within the Upper Cynon SFRA. Figure 17 shows where in RCT the Upper Cynon SFRA is located.

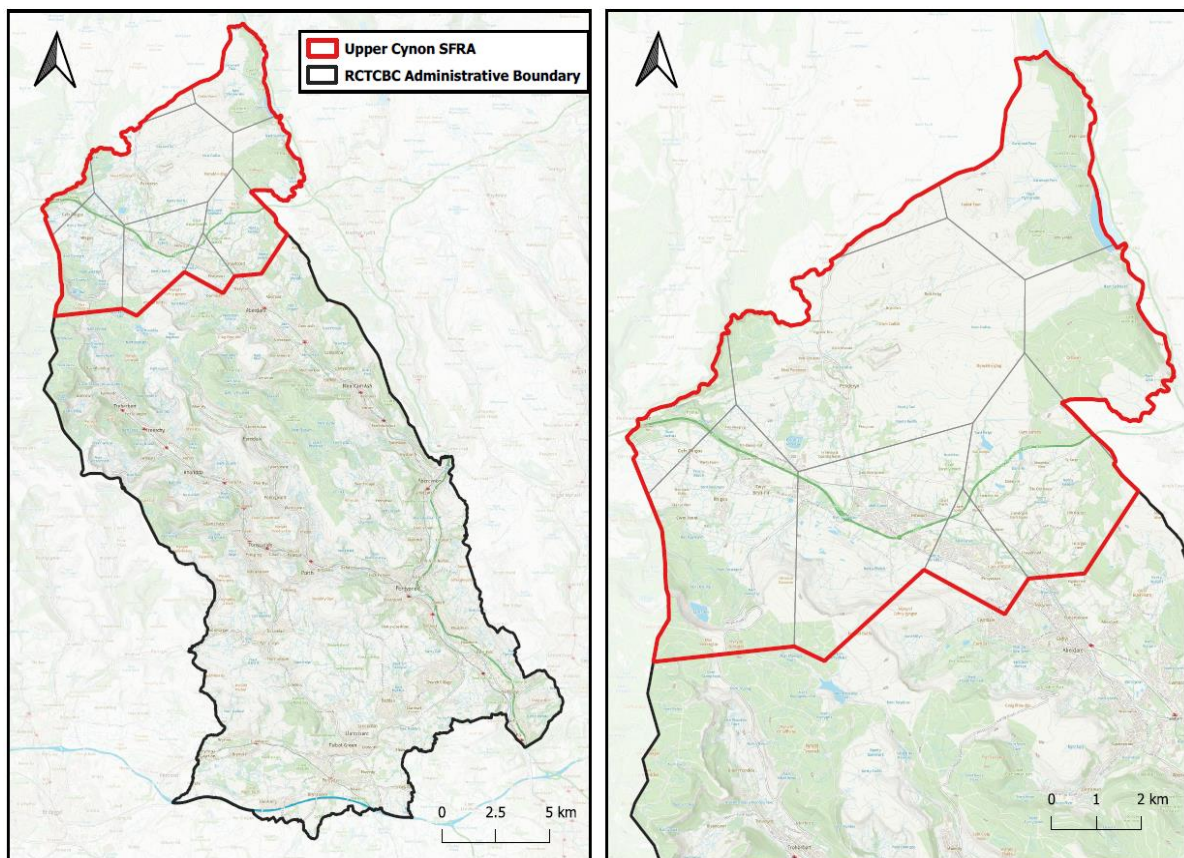


Figure 17: Upper Cynon SFRA Location Plan

5.1 AREA DESCRIPTION

The Upper Cynon SFRA is located in the northern sector of RCTCBC and covers an area of approximately 8845.374Ha. The Upper Cynon SFRA falls within two catchment areas, the River Cynon and the River Mellte, which are both sourced from the highlands of the Bannau Brycheiniog. Hydrologically, the area is characterised by several small streams and tributaries which form two separate catchment areas.

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The River Cynon is the primary main river and the main catchment in the Upper Cynon SFRA. The river is sourced in the highlands of the Bannau Brycheiniog at Ogof Fawr before flowing southeast along the east side of the village of Penderyn. The River Cynon continues to flow southwards towards the villages of Hirwaun and Penywaun where the waters of Nant y Bwllfa, Nant y Cnapiau and Nant Y Bwlch ordinary watercourses discharge into the Cynon along its length. Much of the waterways in this area have been significantly altered over time to facilitate the Hirwaun Ironworks, which operated during the industrial revolution. The River Cynon is further sourced by the combined flows of the Nant Hir and Nant Melyn, which enter the river north of Penywaun, and the Nant y Gwyddel which enters from the east of Penywaun.

The Upper Cynon SFRA is comprised of 10 community areas, with 5 communities within the RCTCBC Administrative Boundary (Hirwaun, Penderyn, Llwydcoed, Penywaun and Rhigos), and 5 located outside the RCTCBC Administrative Boundary (Cefn-coed-y-cymmer, Vaynor, Nant-ddu, Ystradfellte and Pontneddfechan). Table 14 depicts the ranking of those communities in terms of their surface water and ordinary watercourse flood risk (referred to as 'Pluvial Ranking' in the CaRR) relative to the rest of Wales, according to the CaRR.

Table 14: Pluvial ranking for the communities within Upper Cynon SFRA according to the CaRR 2019 data

Community Name	Pluvial Ranking
Hirwaun	61
Penderyn	419
Llwydcoed	232
Penywaun	118
Rhigos	357
Cefn Coed Y Cymmer	59
Vaynor	275
Nant Ddu	1061
Ystradfellte	949
Pontneddfechan	1124

As shown in Table 14, 2 communities in the Upper Cynon fall within the top 5% (top 111) of communities at greatest risk of pluvial flooding in Wales, with Cefn-Coed-y-Cymmer ranked as the highest risk in the Upper Cynon SFRA (59th), followed by Hirwaun (61st).

The topography of the Upper Cynon region is largely characterized by the highlands of the Bannau Brycheiniog in the north of the region, and the glaciated U-shaped valley formation of the Cynon Valley to the south. The land use in the area is predominantly

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agricultural, with some forestry and small pockets of urban development along the valley floors. These small pockets contain the largest settlements in the area, which include the villages of Hirwaun, Penywaun, Rhigos, Penderyn and Llwydcoed.

The geology in the area can be divided into two parts: North and South. Carboniferous sandstone and limestone form the majority of the Sedimentary bedrock in the North of the Upper Cynon, while the south consists mostly of coal measures, Mudstone, siltstone and sandstone, which forms part of the South Wales Coalfield basin.

5.2 OVERVIEW OF FLOOD RISK

The extent and degree of local flood risk in the Upper Cynon SFRA is significant. Figure 18, extracted from NRW's FRAW map, illustrates the areas at risk of flooding from both surface water and ordinary watercourses, and main river sources across the Upper Cynon SFRA.

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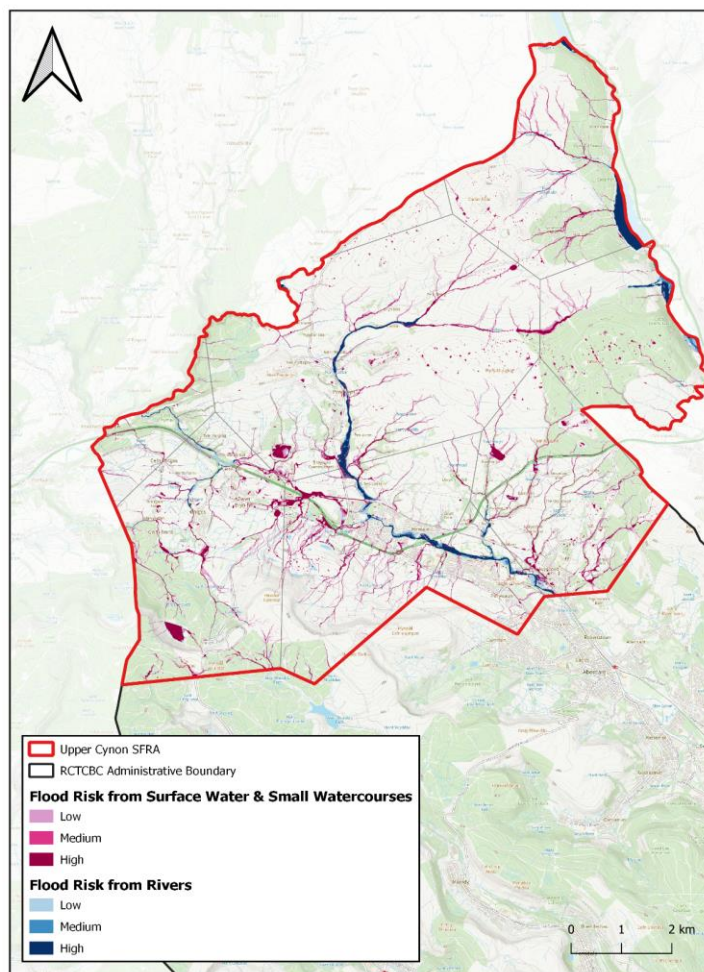


Figure 18: NRW's FRAW map for rivers and ordinary watercourse and surface water flood risk within the Upper Cynon SFRA

As observed in Figure 18, the highest risk posed to people and properties within the Upper Cynon SFRA is broadly associated with the network of named and unnamed ordinary watercourses which drain from the Bannau Brycheiniog in the north, and from the steep hillside of the Rhigos Mountain to the south of the SFRA.

There is also a significant risk to people and properties associated with the River Cynon. The risk from the main River and network of named and unnamed ordinary watercourse has likely been exacerbated by the alteration of much of the water networks in the area. Heavy modification of the main river and its tributaries occurred during the industrial period to facilitate the iron and coal extraction in the region. Additionally, much of the network has been culverted underneath the villages of Hirwaun and Penywaun. As a result, flood risk in the area is primarily sourced from

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culvert inlets and bank breaches associated to the main river and network of ordinary watercourses.

The primary ordinary watercourses flowing through the Upper Cynon SFRA include:

- Nant Cadlan
- Nant y Bwllfa
- Nant y Cnapiau
- Nant Y Bwlch
- Nant Hir
- Nant Melyn

All ordinary watercourses and designated main river flowing through the Upper Cynon SFRA have been depicted in Figure 19.

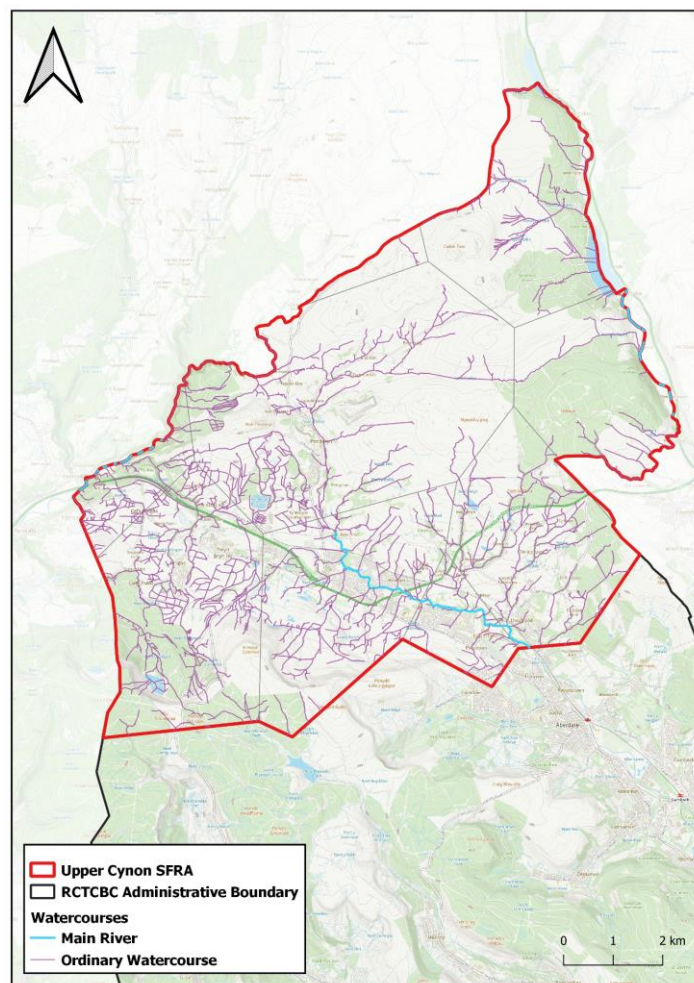


Figure 19: Ordinary watercourses and main rivers flowing through the Upper Cynon SFRA

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5.3 HISTORY OF FLOODING

There is little evidence to suggest that there has been a vast history of flooding in the Upper Cynon region, with the most common instances of flooding occurring to the highway networks including Rhigos Road and the A465.

The most recent and significant flood event that occurred in the SFRA was the February 2020 flood events. Heavy rainfall as a result of Storms Dennis, Ciara and Jorge resulted in significant repeated flooding, with extensive flooding of residential and commercial properties across RCT. The primary source of flooding to the Upper Cynon SFRA during Storm Dennis originated from the River Cynon overtopping its banks at Hirwaun. Main river flooding was exacerbated by excess surface run off as a result of drainage systems becoming overwhelmed due to the intense rainfall.

Further records of historical flooding prior to Storm Dennis in the SFRA is limited however, one incident of internal flooding was reported at Penywaun in May 2021.

5.4 ASSESSMENT OF FLOOD RISK

To meet the requirements of the FRR, RCTCBC have assessed the risk of flooding from local sources for different receptor types, the results of which is provided in Table 15. The data shows the number of receptors at high, medium and low local flood risk in the Upper Cynon SFRA.

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Table 15: Receptors at high, medium and low risk of flooding from local sources in the Upper Cynon SFRA

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 Properties (n)	337	91	341
Commercial Properties (n)	38	6	26
Essential Services (n)	8	1	3
Primary/Trunk Roads (km)	8.39	1.96	5.67
Main Line Railways (km)	0	0	0
Agricultural Land - Grades 1, 2 and 3 (ha)	0.26	0.12	0.15
SAC (ha)	9.77	2.04	6.41
SPA (ha)	0	0	0
Ramsar Sites (ha)	0	0	0
SSSI (ha)	22.94	3.42	10.85
SINC (Ha)	57.04	14.41	53.42
NNR (ha)	0.41	0.10	0.28
LNR (ha)	0	0	0
Ancient Woodland (ha)	14.66	2.86	8.91
Registered Parks and Gardens (ha)	0	0	0
Country Parks (ha)	8.33	1.92	6.87
Scheduled Ancient Monuments (ha)	0.54	0.21	1.60
Listed Buildings (n)	4	0	1

5.5 THE FLOOD ACTION PLAN

The actions presented within the Upper Cynon SFRA Flood Action Plan are listed in Table 16 and illustrated in Figure 20.

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Table 16: Upper Cynon SFRA Action Plan

Ref	Action Name & Description	Location (Community)	Action Type	Link to FRM Measure	Timescale	Cost	Funding Option(s)	Status
SFRA5 A1	Programme Business Case Develop a Programme Business Case, assessing the risk of local flooding utilising a catchment-based approach, considering a range of FRM measures inclusive of wider catchment and nature based solutions, and encouraging collaboration between RMAs, other organisations and the public.	Upper Cynon SFRA	Alleviate	M6, M7, M8, M10, M11, M14, M15, M29 & M31	Medium Term	Medium	WG FCERM Capital	Not Started

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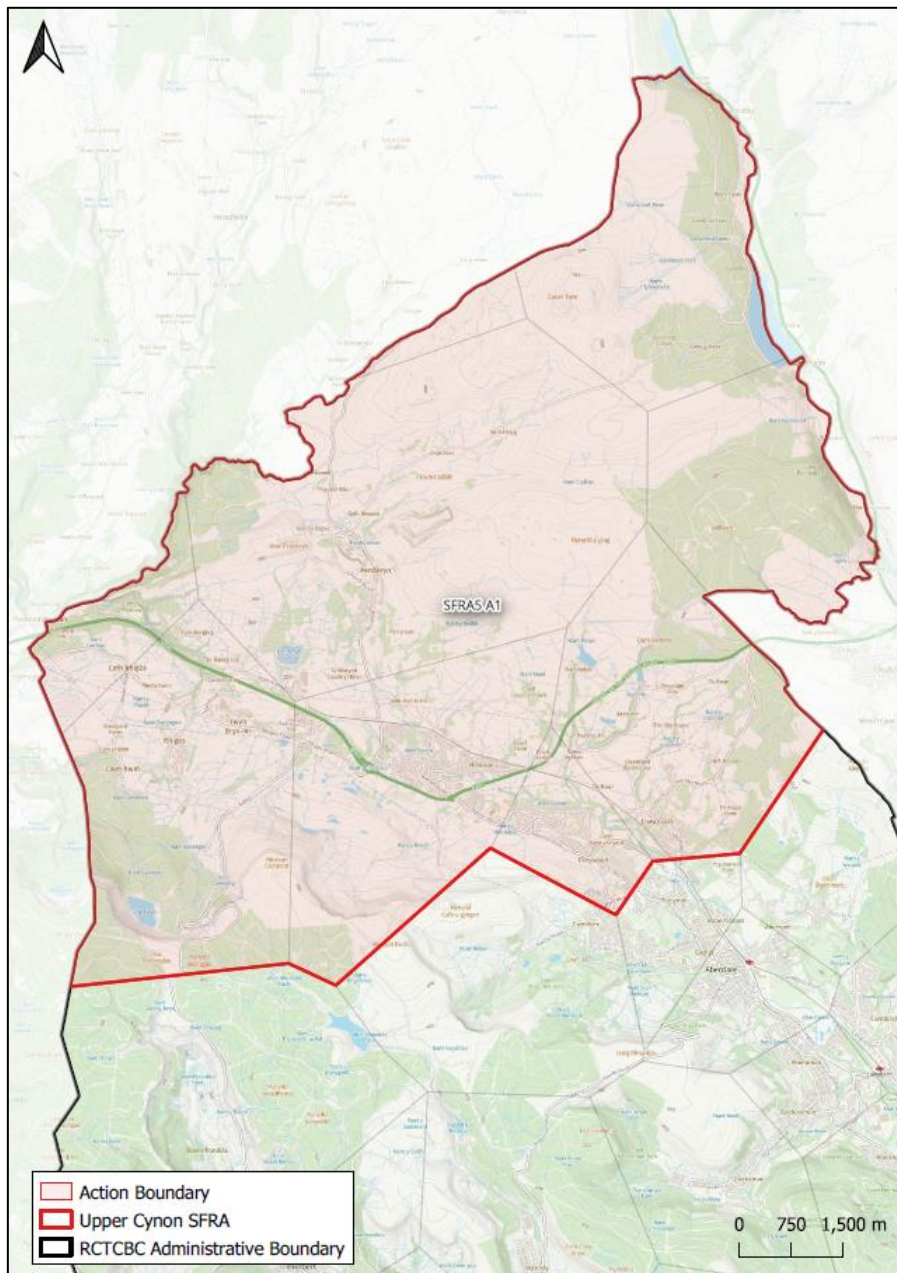


Figure 20: Location plan of the Upper Cynon SFRA flood actions



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6. MID CYNON 1 SFRA FLOOD ACTION PLAN

The following Flood Action Plan sets out the actions that RCTCBC are in the process of undertaking, or plan to undertake, to help manage the risk of flooding from local sources within the Mid Cynon 1 SFRA. Figure 21 shows where in RCT the Mid Cynon 1 SFRA is located.

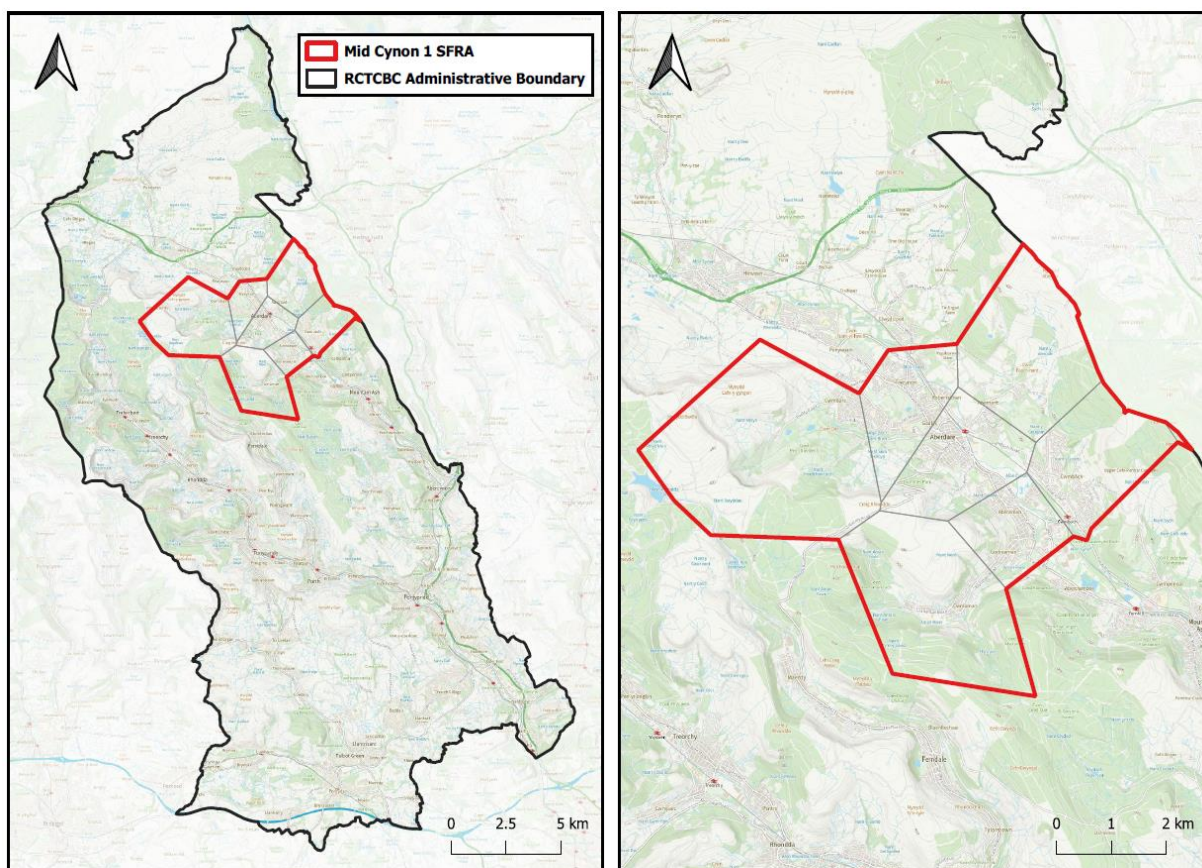


Figure 21: Mid Cynon 1 SFRA Location Plan

6.1 AREA DESCRIPTION

The Mid Cynon 1 SFRA is located in the northern sector of RCTCBC and covers an area of approximately 3614.026Ha. Hydrologically, the area falls within the River Cynon catchment and is characterized by several small streams and tributaries which discharge into the River Cynon. The Dare tributary enters the Cynon from the west of Aberdare, while the Nant Wenallt ordinary watercourse enters the Cynon from the northeast of Aberdare.

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The River Cynon conveys downstream where the large tributaries of the Nant Gwawr ordinary watercourse and the Aman River, enters to the west of Aberaman and the Nant Y Groes ordinary watercourse from the east at Cwmbach. The River Cynon continues to flow in a southeasterly direction towards the Mid Cynon 2 SFRA.

The Mid Cynon 1 SFRA is comprised of 7 community areas: Trecynon, Cwmdare, Aberdare, Aberaman, Abernant, Cwmaman and Cwmbach. Table 17 depicts the ranking of those communities in terms of their surface water and ordinary watercourse flood risk (referred to as ‘Pluvial Ranking’ in the CaRR) relative to the rest of Wales, according to the CaRR.

Table 17: Pluvial ranking for the communities within Mid Cynon 1 SFRA according to the CaRR 2019 data

Community Name	Pluvial Ranking
Aberaman	115
Aberdare	17
Abernant	240
Cwmdare	515
Cwmbach	122
Cwmaman	149
Trecynon	27

As shown in Table 17, 2 communities in the Mid Cynon 1 SFRA fall within the top 5% (top 111) of communities at greatest risk of pluvial flooding in Wales, with Aberdare ranked as the highest risk (17th), followed by Trecynon (27th) in the Mid Cynon 1 SFRA.

The topography of the Mid Cynon 1 SFRA is largely characterized by the glaciated U-shaped valley formation of the Cynon Valley, with steep-sided valleys surrounding the urban areas located on the valley floor. These key settlements include the towns and villages of Aberdare, Trecynon, Cwmbach, Aberaman and Cwmaman, which are all heavily urbanised. The surrounding area land use is predominantly forestry with some hill grazing.

The geology in the area is mostly compromised of Coal measures, Mudstone, siltstone and sandstone, which forms part of the South Wales Coalfield basin. The Sedimentary bedrock likely formed between 318 and 309.5 million years ago during the Carboniferous period.

6.2 OVERVIEW OF FLOOD RISK

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The extent and degree of local flood risk in the Mid Cynon 1 SFRA is significant. Figure 22, extracted from NRW's FRAW map, illustrates the areas at risk of flooding from both surface water and ordinary watercourses and main river sources across the Mid Cynon 1 SFRA.

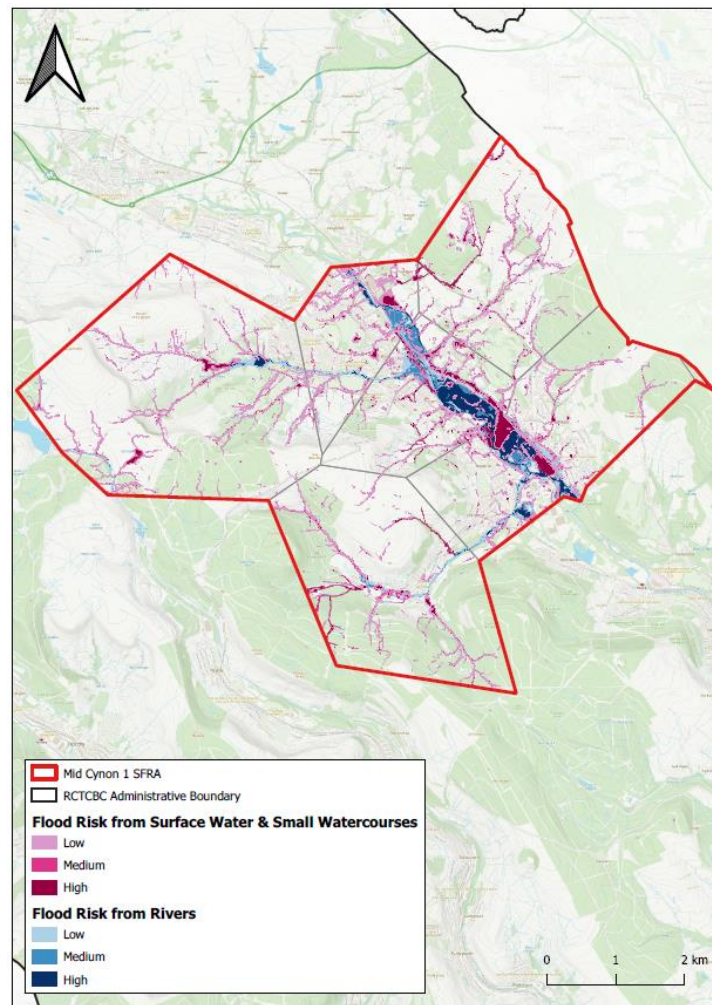


Figure 22: NRW's FRAW map for rivers and ordinary watercourse and surface water flood risk within the Mid Cynon 1 SFRA

As observed in Figure 22, the highest risk posed to people and properties within the Mid Cynon 1 SFRA is broadly associated with the network of named and unnamed ordinary watercourses which drain from the steep-hillsides to the east and west of the SFRA. Whilst these channels have generally remained in a 'natural' condition, the watercourses have been modified on the hillsides in relation to the industrial legacy such as coal spoil tips and in later decades for forestry activities. These watercourses

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have also been heavily modified beneath urban development on the valley floor. As a result, the primary source of flood risk in the Mid Cynon 1 SFRA is sources from culvert inlets and bank breaches associated to the network of ordinary watercourses.

The primary ordinary watercourses flowing through the Mid Cynon 1 SFRA include:

- Nant Wenallt
- Nant Melyn
- Nant Gwawr
- Nant Y Groes
- Nant Y Geugarn

Figure 22 also noted a high to low risk of flooding along the length of the River Cynon, particularly at Aberdare and Cwbmach communities.

All ordinary watercourses and designated main river flowing through the Mid Cynon 1 SFRA have been depicted in Figure 23.

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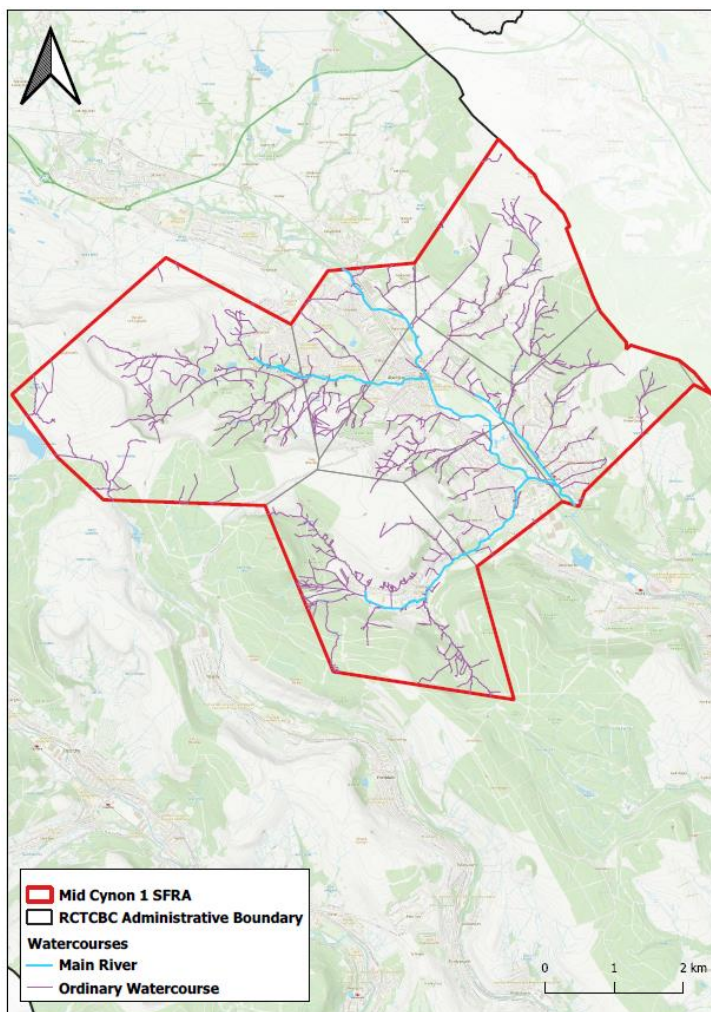


Figure 23: Ordinary watercourses and main rivers flowing through the Mid Cynon 1 SFRA

6.3 HISTORY OF FLOODING

The Mid Cynon 1 SFRA area has experienced several flood events over the past twenty years, often in relation to the network of ordinary watercourses and culverted infrastructure which convey a substantial volume of water through the urban settlements in the region.

The most recent and significant flood event that occurred in the SFRA was the February 2020 flood events. Heavy rainfall as a result of Storms Dennis, Ciara and Jorge resulted in significant repeated flooding, with extensive flooding of residential and commercial properties occurring throughout the SFRA. The primary source of

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flooding during Storm Dennis in the Mid Cynon 1 SFRA was a result of significant overland runoff being generated from the steep hillsides above Aberdare and Aberaman draining to the urban areas on the valley floor via a series of ordinary watercourses, many of which became overwhelmed with water and debris and eventually overtopped, impacting several properties on its course of flow.

The River Cynon also overtopped its banks during Storm Dennis, causing flooding to properties at Aberdare.

Further records of historical flooding prior to Storm Dennis in the SFRA is limited however, notable flooding occurred at Cwmbach in 2018 as a result of Storm Bronagh on 20-21st September and Storm Callum on 12-13th October. Further incidences of frequent minor flooding in the Mid Cynon 1 have also occurred during the successive storms in September and October 2019, a series of storm events in 2021 and again in February 2022 during Storm Franklin.

6.4 ASSESSMENT OF FLOOD RISK

To meet the requirements of the FRR, RCTCBC have assessed the risk of flooding from local sources for different receptor types, the results of which is provided in Table 18. The data shows the number of receptors at high, medium and low local flood risk in the Mid Cynon 1 SFRA.

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Table 18: Receptors at high, medium and low risk of flooding from local sources in the Mid Cynon 1 SFRA

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 Properties (n)	820	302	663
Commercial Properties (n)	69	32	47
Essential Services (n)	15	2	6
Primary/Trunk Roads (km)	1.54	1.14	2.62
Main Line Railways (km)	0	0	0.01
Agricultural Land - Grades 1, 2 and 3 (ha)	24.23	3.21	10.39
SAC (ha)	0	0	0
SPA (ha)	0	0	0
Ramsar Sites (ha)	0	0	0
SSSI (ha)	0	0	0
SINC (Ha)	57.61	13.10	42.92
NNR (ha)	0	0	0
LNR (ha)	0	0	0
Ancient Woodland (ha)	5.81	0.76	3.36
Registered Parks and Gardens (ha)	1.07	0.11	0.31
Country Parks (ha)	0	0	0
Scheduled Ancient Monuments (ha)	0.10	0.01	0.07
Listed Buildings (n)	7	2	11

6.5 THE FLOOD ACTION PLAN

The actions presented within the Mid Cynon 1 SFRA Flood Action Plan are listed in Table 19 and illustrated in Figure 24.

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Table 19: Mitigation SFRA Plan

Ref	Action Name & Description	Location (Community)	Action	Link to MS Measure	Timescale	Cost	Funding Option(s)	Status
SFRA6 A1	Maes y Ffynon FAS Construction phase of FAS	Aberdare	Alleviate	M24	Short Term	High	WG FCERM Capital	Ongoing
SFRA6 A2	Nant Gwawr (Phase 2) FAS Produce a Full Business Case carrying out detailed design and development of the preferred option for managing the risk of flooding from local sources	Aberaman	Alleviate	M8, M10, M11, M14, M24, M29 & M31	Short Term	High	WG FCERM Capital	Ongoing
SFRA6 A3	Nant Gwawr (Phase 2) FAS Construction phase of FAS	Aberaman	Alleviate	M24	Medium Term	High	WG FCERM Capital	Not Started
SFRA6 A4	Cwmbach Canal FAS Produce an OBC identifying the preferred option(s) for managing the risk of flooding from local sources	Cwmbach	Alleviate	M8, M10, M11, M14, M24, M29 & M31	Short Term	Medium	WG FCERM Capital	Ongoing
SFRA6 A5	Cwmbach Canal FAS Produce a Full Business Case carrying out detailed design and development of the preferred option for managing the risk of flooding from local sources	Cwmbach	Alleviate	M8, M10, M11, M14, M24, M29 & M31	Short Term	High	WG FCERM Capital	Not Started
SFRA6 A6	Cwmbach Canal FAS Construction phase of FAS	Cwmbach	Alleviate	M24	Medium Term	Very High	WG FCERM Capital	Not Started
SFRA6 A7	Afon Cynon/Wellington Street FAS/NFM Produce a Full Business Case carrying out detailed design and development of the preferred option for managing the risk of flooding from local sources.	Aberdare	Alleviate	M8, M10, M11, M14, M24, M29 & M31	Short Term	Medium	WG FCERM Capital	Ongoing

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Ref	Action Name & Description	Location (Community)	Action Type	Link to MS Measure	Timescale	Cost	Funding Option(s)	Status
SFRA6 A8	Afon Cynon/Wellington Street FAS/NFM Construction phase of FAS	Aberdare	Alleviate	M24	Short Term	High	WG FCERM Capital	Not Started
SFRA6 A9	Cefn Pennar Road FAS Produce a Full Business Case and detailed design and development of the preferred option for managing the risk of flooding from local sources	Cwmbach	Alleviate	M10, M11, M14, M24, M29 & M31	Short Term	Medium	WG FCERM Capital	Ongoing
SFRA6 A10	Cefn Pennar Road FAS Construction phase of FAS	Cwmbach	Alleviate	M24	Medium Term	High	WG FCERM Capital	Not Started
SFRA6 A11	Nant y Wenallt SOC Develop a SOC to better understand the risk of flooding from the Nant y Wenallt, using a whole catchment approach, to provide recommendations for suitable local flood risk management measures.	Aber-nant / Aberdare	Alleviate	M6, M7, M8, M10, M11, M14, M15	Medium Term	Medium	WG FCERM Capital	Not Started
SFRA6 A12	Tirfounder / Bro Deg Road – Phase 2 Construction phase of FAS	Cwmbach	Alleviate	M24	Short Term	Medium	WG FCERM Capital	Ongoing
SFRA6 A13	Brook Street – Culvert Repair Design and construction work for the rehabilitation of the ordinary watercourse culvert network to improve its structural condition to reduce the risk of asset failure	Aberaman	Alleviate	M6, M10 & M24	Short Term	Medium	WG FCERM Small-scale Works	Ongoing
SFRA6 A14	Brynmair Road – Inlet Upgrade Design and construction work to improve resilience of the culvert inlet structure and ordinary watercourse culvert network	Aberaman	Alleviate	M6, M10 & M24	Short Term	Medium	WG FCERM Small-scale Works	Not Started

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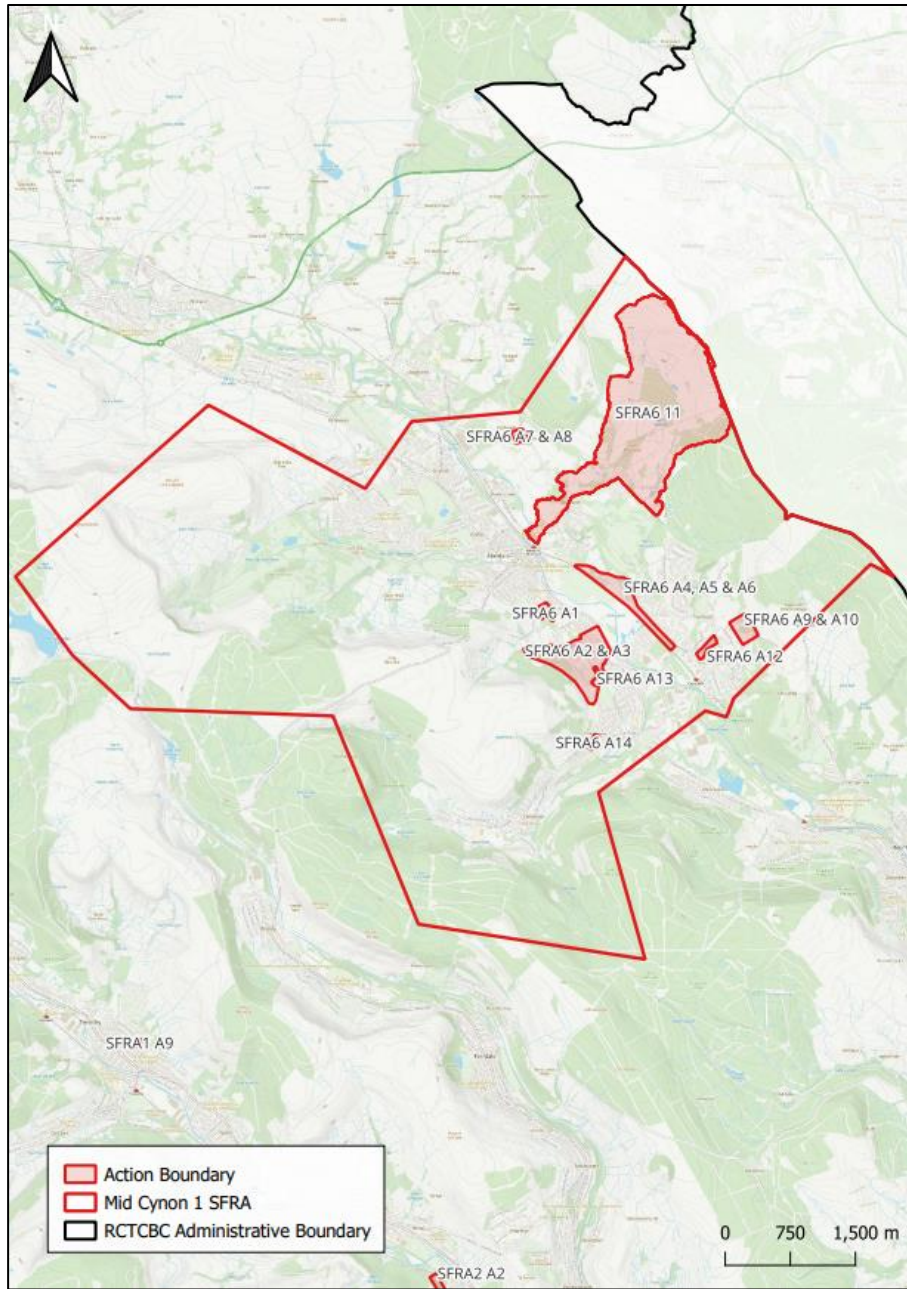


Figure 24: Location plan of the Mid Cynon 1 SFRA flood actions

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7. MID CYNON 2 SFRA FLOOD ACTION PLAN

The following Flood Action Plan sets out the actions that RCTCBC are in the process of undertaking, or plan to undertake, to help manage the risk of flooding from local sources within the Mid Cynon 2 SFRA. Figure 25 shows where in RCT the Mid Cynon 2 SFRA is located.

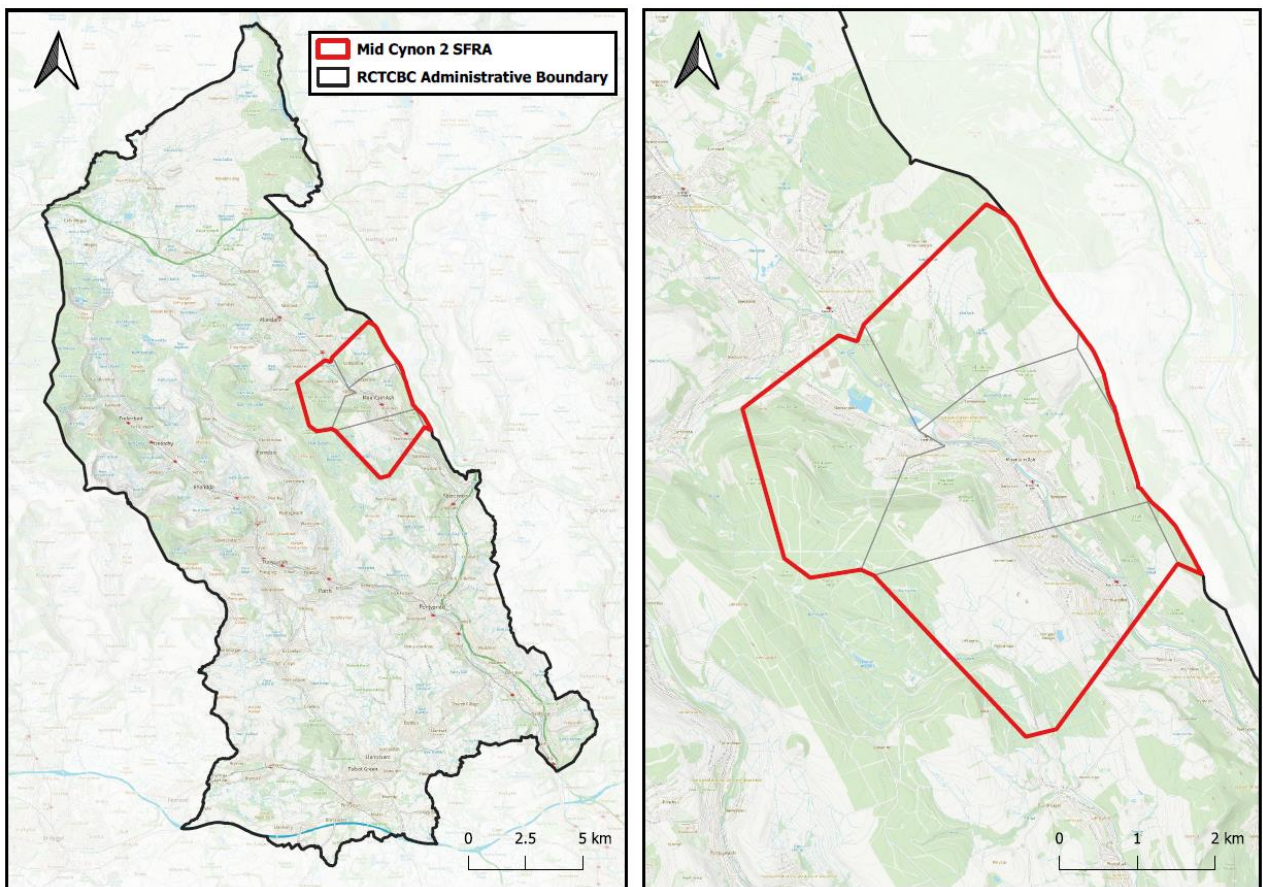


Figure 25: Mid Cynon 2 SFRA Location Plan

7.1 AREA DESCRIPTION

The Mid Cynon 2 SFRA is located in the northern sector of RCTCBC and covers an area of approximately 2077.908Ha. Hydrologically, the area falls within the River Cynon catchment and is characterised by several small streams and tributaries which feed into the River Cynon.



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The River Cynon conveys in a southeasterly direction through the Mid Cynon 2 SFRA towards the Lower Cynon SFRA, and is fed by a network of named and unnamed ordinary watercourses which drain the hillsides to the northeast and southwest of the SFRA.

The Mid Cynon 2 SFRA is comprised of 4 community areas: Abercwmboi, Cefnpennar, Mountain Ash and Abercwmboi. Table 20 depicts the ranking of those communities in terms of their surface water and ordinary watercourse flood risk (referred to as 'Pluvial Ranking' in the CaRR) relative to the rest of Wales, according to the CaRR.

Table 20: Pluvial ranking for the communities within Mid Cynon 2 SFRA according to the CaRR 2019 data

Community Name	Pluvial Ranking
Abercwmboi	130
Cefnpennar	1317
Mountain Ash	92
Penrhiwceiber	207

As shown in Table 20, 1 community within the Mid Cynon 2 SFRA falls within the top 5% (top 111) of communities at greatest risk of pluvial flooding in Wales, with the community of Mountain Ash being ranked 92nd.

The topography and land use of Mid Cynon 2 SFRA is characterized by the glaciated U-shaped valley formation of the Cynon Valley, with the upper elevations of the catchment predominantly a rural environment with the higher elevations in the southwest mostly forested. The valleys in the catchment are steep-sided with urban areas located on the valley floor. These key settlements include the towns and villages of Abercwmboi, Cefnpennar, Mountain Ash and Penrhiwceiber.

The geology in the area is comprised of a mixture between the South Wales Upper Coal Measures Formation in the North, and the Rhondda member in the south. Both are inclusive of Coal measures, Mudstone, siltstone, and sandstone. The Sedimentary bedrock in the area likely formed between 315 and 308 million years ago during the Carboniferous period.

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7.2 OVERVIEW OF FLOOD RISK

The extent and degree of local flood risk in the Mid Cynon 2 SFRA is significant. Figure 26, extracted from NRW's FRAW map, illustrates the areas at risk of flooding from both surface water and ordinary watercourses and main river sources across the Mid Cynon 2 SFRA.

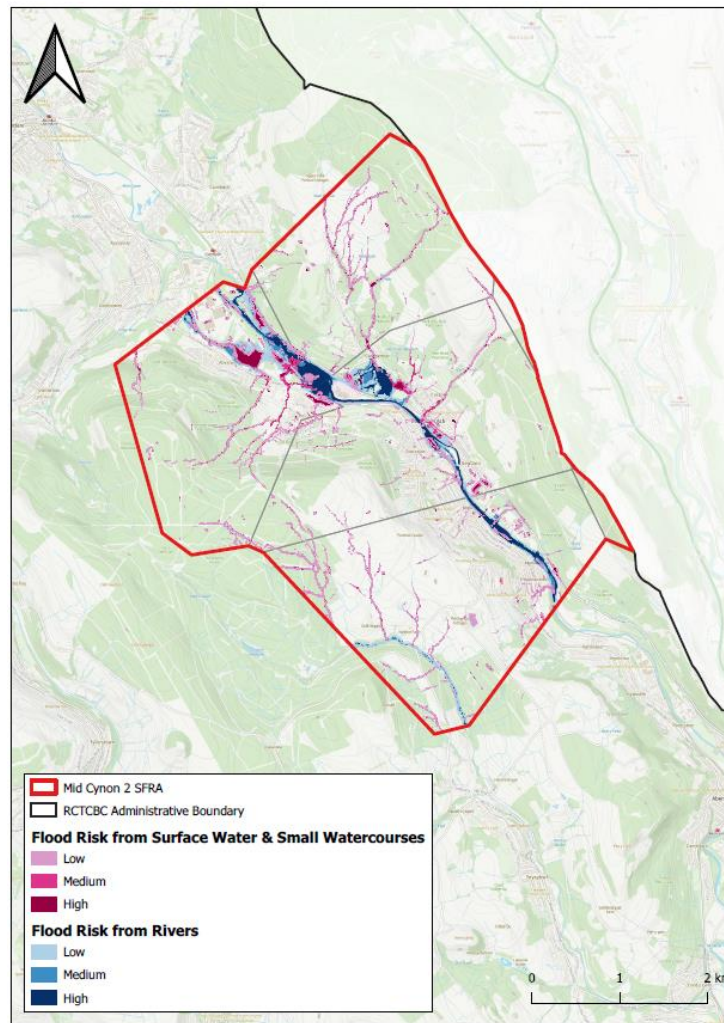
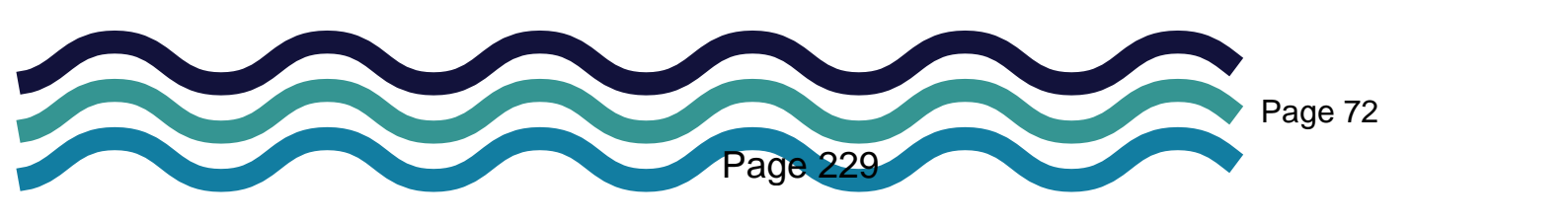


Figure 26: NRW's FRAW map for rivers and ordinary watercourse and surface water flood risk within the Mid Cynon 2 SFRA

As observed in Figure 26, the highest risk posed to people and properties within the Mid Cynon 2 SFRA is broadly associated with the network of named and unnamed ordinary watercourses which drain from the steep-hillsides to the northeast and southwest. Whilst the headwaters have generally remained in a 'natural' condition, the



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watercourses have been modified on the hillsides in relation to the industrial legacy such as coal spoil tips and in later decades for forestry activities. These watercourses have also been heavily modified and culverted beneath urban development on the valley floor before discharging into the River Cynon. As a result, the primary risk to people and properties within the Mid Cynon 2 SFRA is sourced from culvert inlets and bank breaches associated to the network of ordinary watercourses.

The primary ordinary watercourses flowing through the Mid Cynon 2 SFRA include:

- Nant Cwm Boi
- Nant Pennar
- Nant Sych
- Nant Gelli-Ddu,
- Nant Y-Ffrwd
- Nant Dafad

Figure 26 also notes a high to low risk of flooding along the length of the River Cynon, particularly within the lower reaches of Abercwmbוי and Mountain Ash.

All ordinary watercourses and designated main river flowing through the Mid Cynon 2 SFRA have been depicted in Figure 27.

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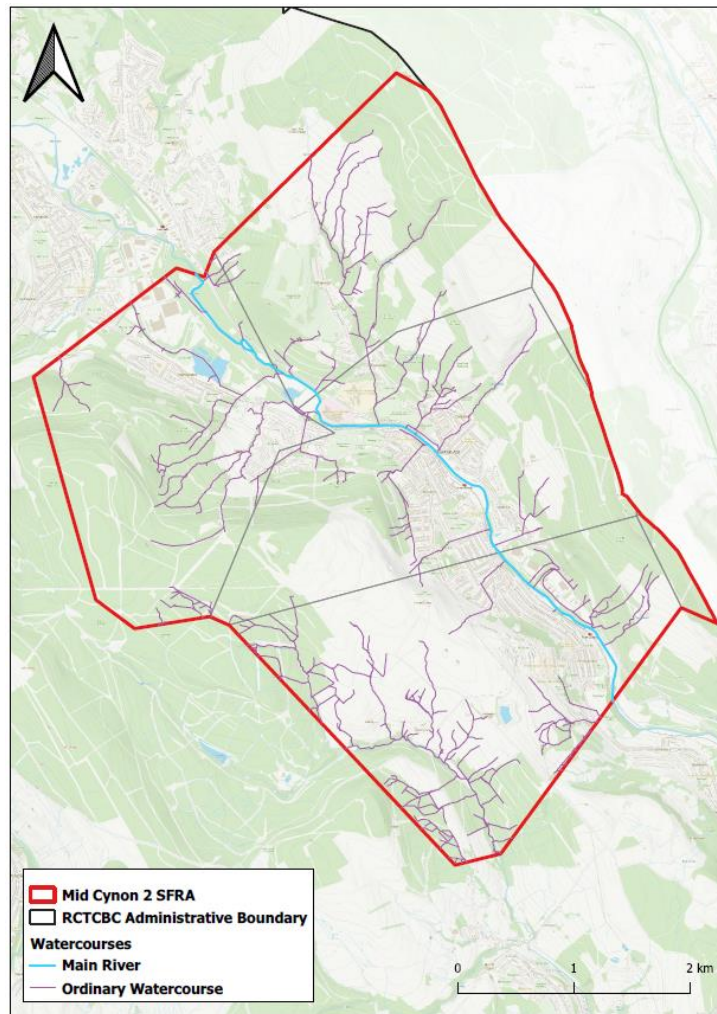


Figure 27: Ordinary watercourses and main rivers flowing through the Mid Cynon 2 SFRA

7.3 HISTORY OF FLOODING

The Mid Cynon 2 SFRA area has experienced several flood events over the past twenty years, often in relation to the network of ordinary watercourses and culverted infrastructure which convey a substantial volume of water through the urban settlements in the region.

The most recent and significant flood event that occurred in the SFRA was the February 2020 flood events. Heavy rainfall as a result of Storms Dennis, Ciara and Jorge resulted in significant repeated flooding, with extensive flooding of residential and commercial properties occurring throughout the SFRA. The primary source of flooding during Storm Dennis in the Mid Cynon 2 SFRA was a result of significant

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overland runoff being generated from the steep hillsides above Abercwmboui and Mountain Ash draining to the urban areas on the valley floor via a series of ordinary watercourses, many of which became overwhelmed with water and debris and eventually overtopped, impacting several properties on its course of flow.

The River Cynon also overtopped its banks during Storm Dennis, causing flooding to properties at Mountain Ash.

Further records of historical flooding prior to Storm Dennis in the SFRA is limited however, notable flooding occurred at Abercwmboui, Fernhill and Mountain Ash in 2018 as a result of Storm Bronagh on 20-21st September and Storm Callum on 12-13th October.

7.4 ASSESSMENT OF FLOOD RISK

To meet the requirements of the FRR, RCTCBC have assessed the risk of flooding from local sources for different receptor types, the results of which is provided in Table 21. The data shows the number of receptors at high, medium and low local flood risk in the Mid Cynon 2 SFRA.

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Table 21: Receptors at high, medium and low risk of flooding from local sources in the Mid Cynon 2 SFRA

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 Properties (n)	182	94	448
Commercial Properties (n)	9	5	31
Essential Services (n)	3	0	2
Primary/Trunk Roads (km)	0.84	0.33	1.64
Main Line Railways (km)	0.32	0.19	0.49
Agricultural Land - Grades 1, 2 and 3 (ha)	3.85	1.08	4.50
SAC (ha)	0	0	0
SPA (ha)	0	0	0
Ramsar Sites (ha)	0	0	0
SSSI (ha)	0.02	0	0.02
SINC (Ha)	15.95	3.21	14.50
NNR (ha)	0	0	0
LNR (ha)	0	0	0
Ancient Woodland (ha)	3.91	0.84	3.53
Registered Parks and Gardens (ha)	0	0	0
Country Parks (ha)	0	0	0
Scheduled Ancient Monuments (ha)	0	0	0
Listed Buildings (n)	1	0	6

7.5 THE FLOOD ACTION PLAN

The actions presented within the Mid Cynon 2 SFRA Flood Action Plan are listed in Table 22 and illustrated in Figure 28.

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Table 22: Mitigation SFRA7 Plan

Ref	Action Name & Description	Location (Community)	Action Type	Link to LHMIS Measure	Timescale	Cost	Funding Option(s)	Status
SFRA7 A1	Victor Street – Culvert Repair Relining and rehabilitation of the ordinary watercourse culvert network to improve its structural condition to reduce the risk of asset failure	Mountain Ash	Alleviate	M6, M10 & M24	Short Term	High	WG FCERM Capital	Ongoing
SFRA7 A2	Llanwonno Road - Culvert Repair Design and construction works for the relining and rehabilitation of the ordinary watercourse culvert network to improve its structural condition to reduce the risk of asset failure	Penrhiwceiber / Mountain Ash	Alleviate	M6, M10 & M24	Short Term	Medium	WG FCERM Small-scale Works	Ongoing

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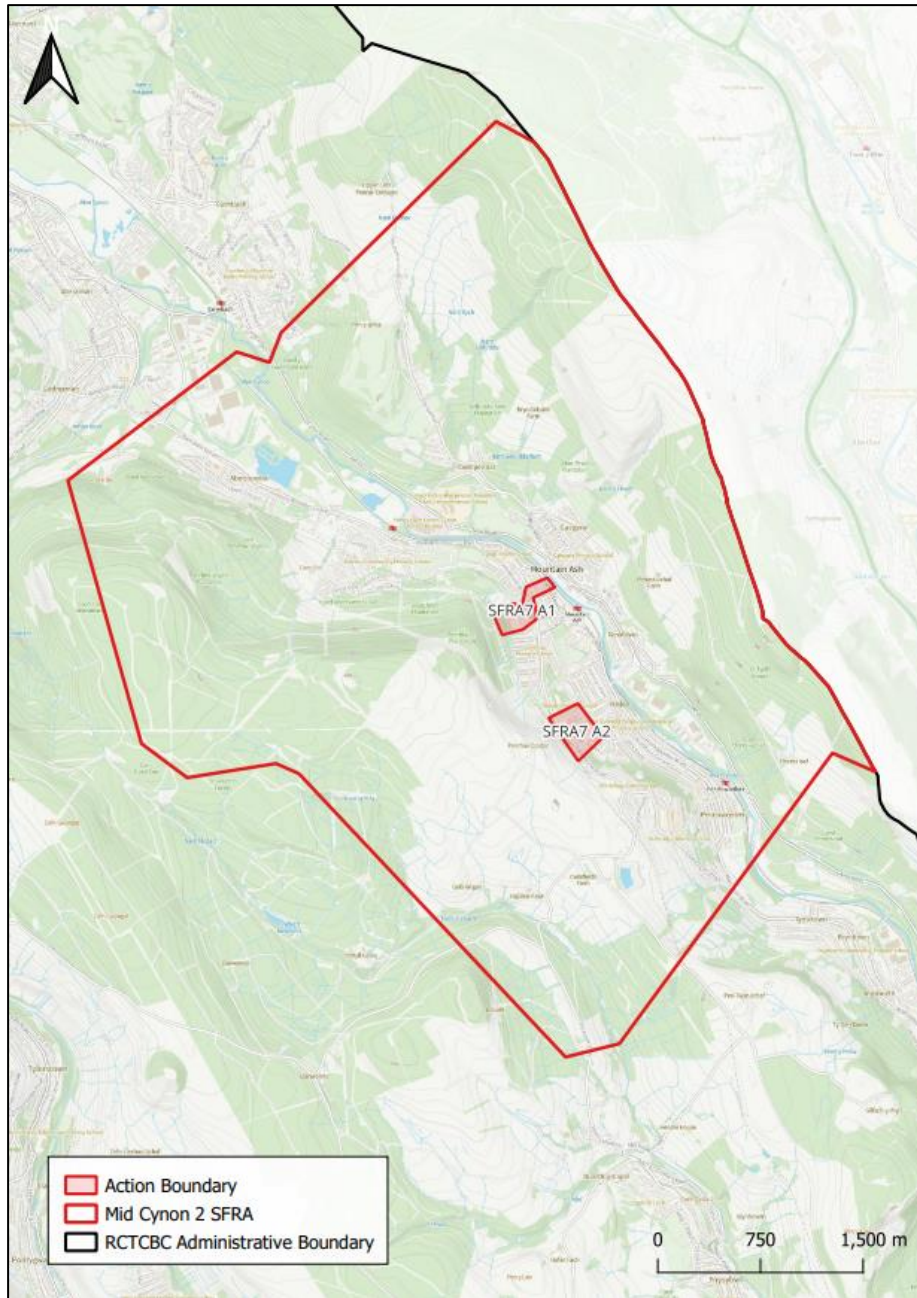


Figure 28: Location plan of the Mid Cynon 2 SFRA flood actions



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8. LOWER CYNON SFRA FLOOD ACTION PLAN

The following Flood Action Plan sets out the actions that RCTCBC are in the process of undertaking, or plan to undertake, to help manage the risk of flooding from local sources within the Lower Cynon SFRA. Figure 29 shows where in RCT the Lower Cynon SFRA is located.

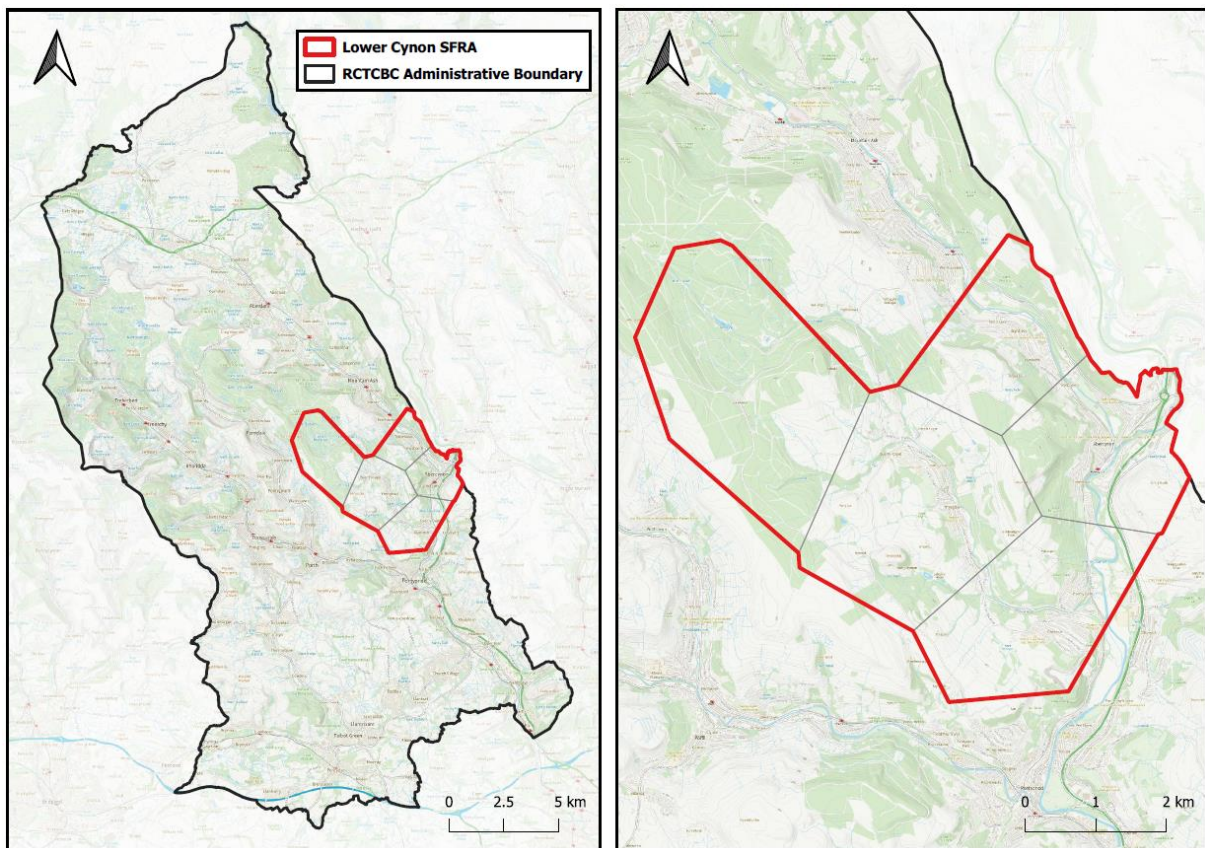


Figure 29: Lower Cynon SFRA Location Plan

8.1 AREA DESCRIPTION

The Lower Cynon SFRA is located in the northeastern sector of RCTCBC and covers an area of approximately 2896.443Ha. Hydrologically, the area falls within the River Cynon and River Taf catchment areas.

The River Cynon flows in a southeasterly direction through the village of Ynysboeth and is fed by the Nant Y Fedw and other unnamed ordinary watercourses before

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merging with the River Taf at Abercynon. The River Taf conveys in a southwesterly direction towards the Lower Taf SFRA.

Further south in the Lower Cynon SFRA, in the Taf catchment area, the Nant Clydach (a designated main river) flows down the Clydach valley, with several tributaries including the Nant Yr Ysfa and Y Ffrwd merging with the Nant Clydach just north of Ynysbwl, before discharging into the River Taf north Glyncoch.

The Lower Cynon SFRA is comprised of 6 community areas: Abercynon, Llanwonno, Glyncoch, Ynysboeth, Ynysbwl and Treharris. Table 23 depicts the ranking of those communities in terms of their surface water and ordinary watercourse flood risk (referred to as 'Pluvial Ranking' in the CaRR) relative to the rest of Wales, according to the CaRR.

Table 23: Pluvial ranking for the communities within Lower Cynon SFRA according to the CaRR 2019 data

Community Name	Pluvial Ranking
Abercynon	330
Llanwonno	1722
Glyncoch	437
Ynysboeth	277
Ynysbwl	177
Treharris	180

As shown in Table 23, there are no communities in the Lower Cynon that fall within the top 5% (top 111) of communities at greatest risk of pluvial flooding in Wales. The highest pluvial risk is identified within the Ynysbwl community, ranked 177 followed by the Treharris community, ranked 180.

The topography of the Lower Cynon region is largely characterized by the steep sided hillsides in the area, with the Cynon, Taff and Clydach Valley all located within the SFRA. The land use in the area is predominantly agricultural, with some forestry and only small pockets of urban development along the valley floors. These small pockets contain the largest settlements in the area, which include the towns and villages of Abercynon, Glyncoch and Ynysbwl. The geology in the area mostly consists of carboniferous sandstone which was formed between 309.5 and 308 Mya.

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8.2 OVERVIEW OF FLOOD RISK

The extent and degree of local flood risk in the Lower Cynon SFRA is significant. Figure 30, extracted from NRW's FRAW map, illustrates the areas at risk of flooding from both surface water and ordinary watercourses, and main river sources across the Lower Cynon SFRA.

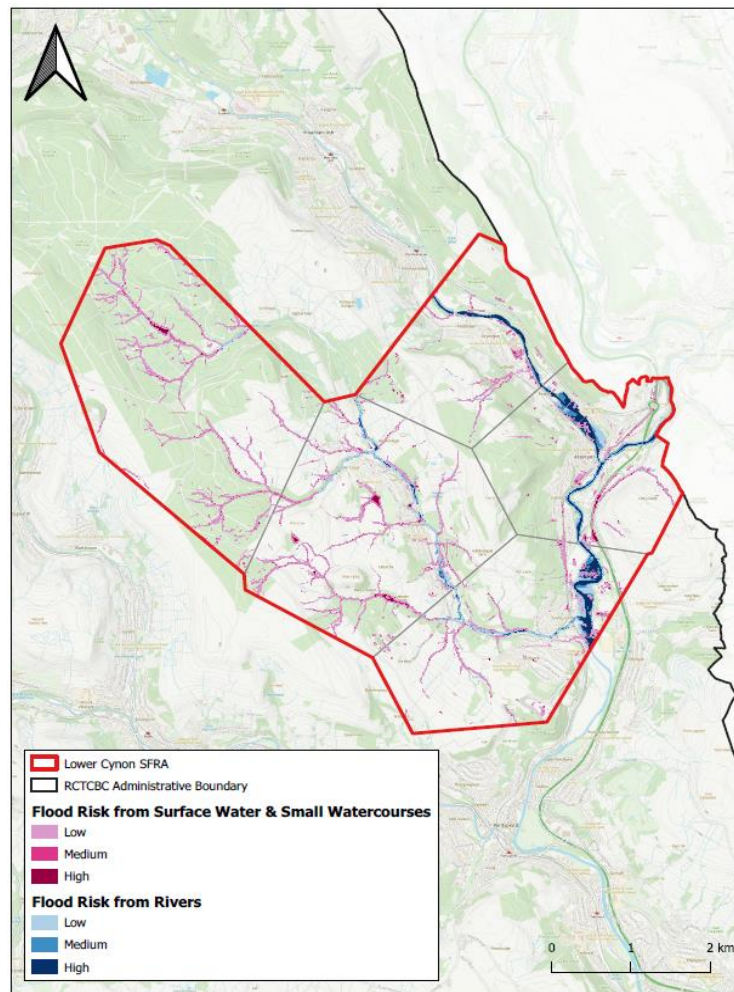


Figure 30: NRW's FRAW map for rivers and ordinary watercourse and surface water flood risk within the Lower Cynon SFRA

As observed in Figure 30, the highest risk posed to people and properties within the Lower Cynon SFRA is broadly associated with the network of named and unnamed ordinary watercourses which drain from the steep-hillsides of the Cynon and Clydach Valley. Whilst these channels have generally remained in a 'natural' condition, the watercourses have been modified on the hillsides in relation to the industrial legacy

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such as coal spoil tips and in later decades for forestry activities. These watercourses have also been heavily modified to accommodate urban development. As a result, the primary risk to people and properties within the Lower Cynon SFRA is sourced from culvert inlets and bank breaches associated to the network of ordinary watercourses.

The primary ordinary watercourses flowing through the Lower Cynon SFRA include:

- Nant Y Fedw
- Nant Clydach
- Nant yr Isfa
- Yr Ffrwd

Figure 30 also notes a high to low risk of flooding along the length of the main rivers which flow through the SFRA; namely the River Cynon, River Taf and the nant Clydach.

All ordinary watercourses and designated main rivers flowing through the Lower Cynon SFRA have been depicted in Figure 31.

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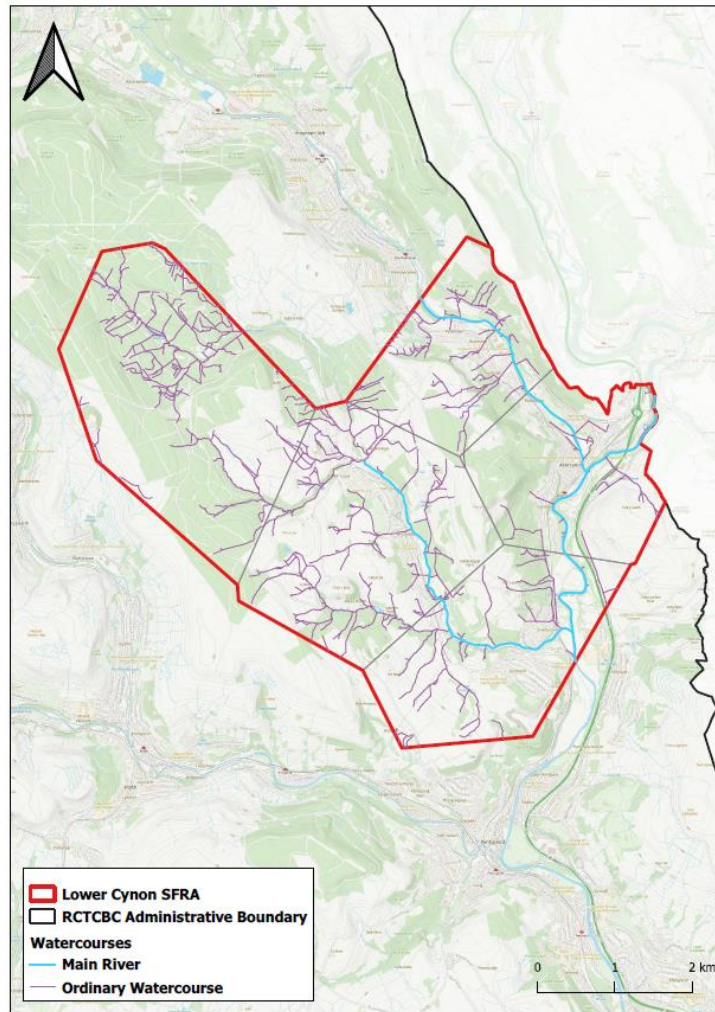


Figure 31: Ordinary watercourses and main rivers flowing through the Lower Cynon SFRA

8.3 HISTORY OF FLOODING

The Lower Cynon SFRA area has experienced several flood events over the past twenty years, often in relation to the network of ordinary watercourses and culverted infrastructure which convey a substantial volume of water through the urban settlements in the region.

The most recent and significant flood event that impacted the SFRA occurred during the February 2020 flood events. Heavy rainfall as a result of Storms Dennis, Ciara and Jorje resulted in significant flooding to the communities of Abercynon, Ynysboeth and

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Ynysbwl. Repeat flooding to properties at Ynysboeth was also recorded during Storm Christoph in January 2021.

Further records of historical flooding prior to 2020 in the SFRA are limited however, there are records of flooding occurring in 2018 as a result of Storm Bronagh on 20-21st September and Storm Callum on 12-13th October, which impacted areas including Abercynon.

8.4 ASSESSMENT OF FLOOD RISK

To meet the requirements of the FRR, RCTCBC have assessed the risk of flooding from local sources for different receptor types, the results of which is provided in Table 24. The data shows the number of receptors at high, medium and low local flood risk in the Lower Cynon SFRA.

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Table 24: Receptors at high, medium and low risk of flooding from local sources in the Lower Cynon SFRA

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 Properties (n)	337	53	235
Commercial Properties (n)	5	1	1
Essential Services (n)	3	2	1
Primary/Trunk Roads (km)	1.39	0.28	1.44
Main Line Railways (km)	0.13	0.3	0.69
Agricultural Land - Grades 1, 2 and 3 (ha)	2.92	1.14	3.78
SAC (ha)	0	0	0
SPA (ha)	0	0	0
Ramsar Sites (ha)	0	0	0
SSSI (ha)	0	0	0
SINC (Ha)	25.01	5.32	20.65
NNR (ha)	0	0	0
LNR (ha)	0.02	0.01	0.03
Ancient Woodland (ha)	7.95	1.31	4.44
Registered Parks and Gardens (ha)	0	0	0
Country Parks (ha)	0	0	0
Scheduled Ancient Monuments (ha)	0	0	0
Listed Buildings (n)	0	0	0

8.5 THE FLOOD ACTION PLAN

The actions presented within the Lower Cynon SFRA Flood Action Plan are listed in Table 25 and illustrated in Figure 32.

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Table 25: Local Council SFRA Action Plan

Ref	Action Name & Description	Location (Community)	Action	Link to LMS Measure	Timescale	Cost	Funding Option(s)	Status
SFRA8 A1	Dan-y-Cribyn - Culvert Rehabilitation Design and construction work to improve the relining and rehabilitation of the ordinary watercourse culvert network to improve its structural condition to reduce the risk of asset failure	Ynysybwl	Alleviate	M6, M10 & M24	Short Term	Medium	WG FCERM Small-scale Works	Ongoing
SFRA8 A2	High Street (Ynysybwl) – Inlet Upgrade Design and construction work to improve the resilience of the culvert inlet structure and ordinary watercourse culvert network	Ynysybwl	Alleviate	M10 & M24	Short Term	Medium	WG FCERM Small-scale Works	Not Started
SFRA8 A3	Plantation Road – Inlet Upgrade Design and construction work to improve the resilience of the culvert inlet structure and ordinary watercourse channel	Abercynon	Alleviate	M10 & M24	Short Term	Medium	WG FCERM Small-scale Works	Not Started
SFRA8 A4	Clydach Terrace FAS (Main River Flooding) The LLFA will cooperate with NRW as the RMA for main river flooding who are leading on the development of a business case to manage the risk of main river flooding.	Ynysybwl	Alleviate	M6, M7, M8 & M16	Medium Term	ER	Revenue	Ongoing

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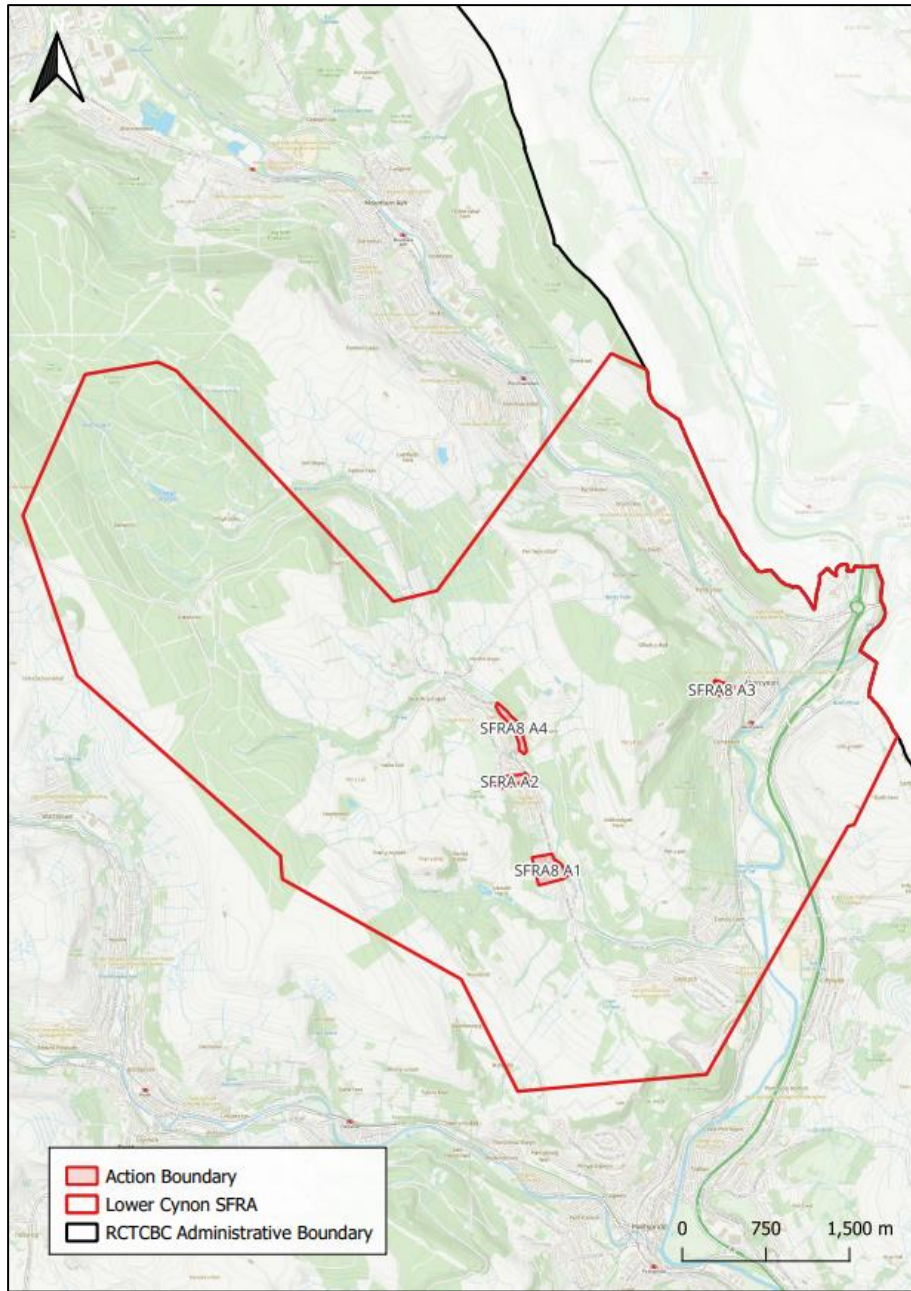


Figure 32: Location plan of the Lower Cynon SFRA flood actions

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9. LOWER TAF SFRA FLOOD ACTION PLAN

The following Flood Action Plan sets out the actions that RCTCBC are in the process of undertaking, or plan to undertake, to help manage the risk of flooding from local sources within the Lower Taf SFRA. Figure 33 shows where in RCT the Lower Taf SFRA is located.

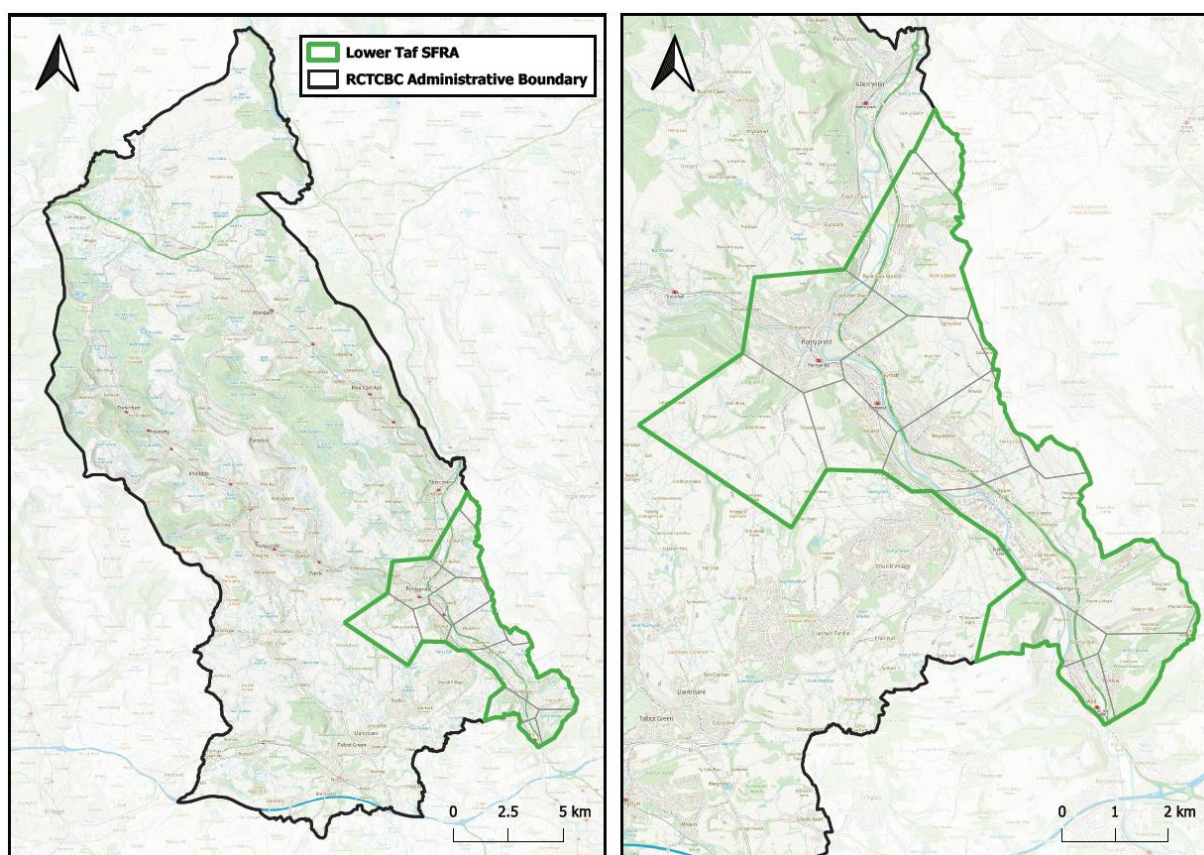


Figure 33: Lower Taf SFRA Location Plan

9.1 AREA DESCRIPTION

The Lower Taf SFRA is located in the southeastern sector of RCTCBC and covers an area of approximately 3803.95 Ha. The SFRA falls within the River Taf catchment which is sourced from the highlands to the north of Merthyr Tydfil, before merging with the River Cynon as it enters RCTCBC.

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The River Taf conveys in a southwesterly direction through the Lower Taf SFRA before merging with the Rhondda River at its confluence in Pontypridd. The River Taf continues to flow in a southeasterly direction through the towns and villages of Pontypridd, Glyntaff, Treforest, Rhydyfelin, Hawthorn, Nantgarw and Taff's Well.

The Lower Taf SFRA comprises of 9 community areas in RCTCBC: Cilfynydd, Pontypridd, Pen-Y-Coedcae, Glyntaff, Treforest, Rhydyfelin, Nantgarw, Taff's Well and Ty Rhiw; and 3 community areas classified as outside of RCTCBC Administrative Boundary: Abertridwr, Llanfabon, Senghenydd and Gwaelod-Y-Garth. Table 26 depicts the ranking of those communities in terms of their surface water and ordinary watercourse flood risk (referred to as 'Pluvial Ranking' in the CaRR) relative to the rest of Wales, according to the CaRR.

Table 26: Pluvial ranking for the communities within Lower Taf SFRA according to the CaRR 2019 data

Community Name	Pluvial Ranking
Cilfynydd	128
Pontypridd	49
Pen-Y-Coedcae	1541
Treforest	330
Glyntaff	91
Rhydyfelin	8
Nantgarw	101
Taff's Well	151
Ty Rhiw	815
Gwaelod-Y-Garth	646
Abertridwr	242
Senghenydd	275
Llanfabon	497

As shown in Table 26, 4 out of the 9 RCT Unitary Authority communities fall within the top 5% (top 111) of communities at greatest risk of pluvial flooding in Wales, with Rhydyfelin ranking 8th highest risk in Wales, followed by Pontypridd at 49th, Glyntaff 91st and Nantgarw 102nd.

The Lower Taf SFRA catchment is characterised by having a 'U'-shaped valley as the steep-sided hillsides start to disperse as the valley floor becomes flatter and wider towards the south of the SFRA. These floodplains house some of RCT's largest urban

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settlements. The key settlements in the Lower Taf SFRA include Pontypridd, Cilfynydd, Treforest, Glyntaf, Rhydyfelin, Hawthorn, Upper Boat, Nantgarw, and Taff's Well.

The geology in the SFRA predominantly consists of coal measures, mudstone, siltstone, and sandstone, which forms part of the South Wales Coalfield basin which was likely to have formed between 309.5 and 308 million years ago. Towards the southern tip of the SFRA the geology changes, with carboniferous limestone and ooidal sedimentary bedrock likely to have formed between 344.5 and 337 million years ago.

9.2 OVERVIEW OF FLOOD RISK

The extent and degree of local flood risk in the Lower Taf SFRA is significant. Figure 34, extracted from NRW's FRAW map, illustrates the areas at risk of flooding from both surface water and ordinary watercourses and main river sources across the Lower Taf SFRA.

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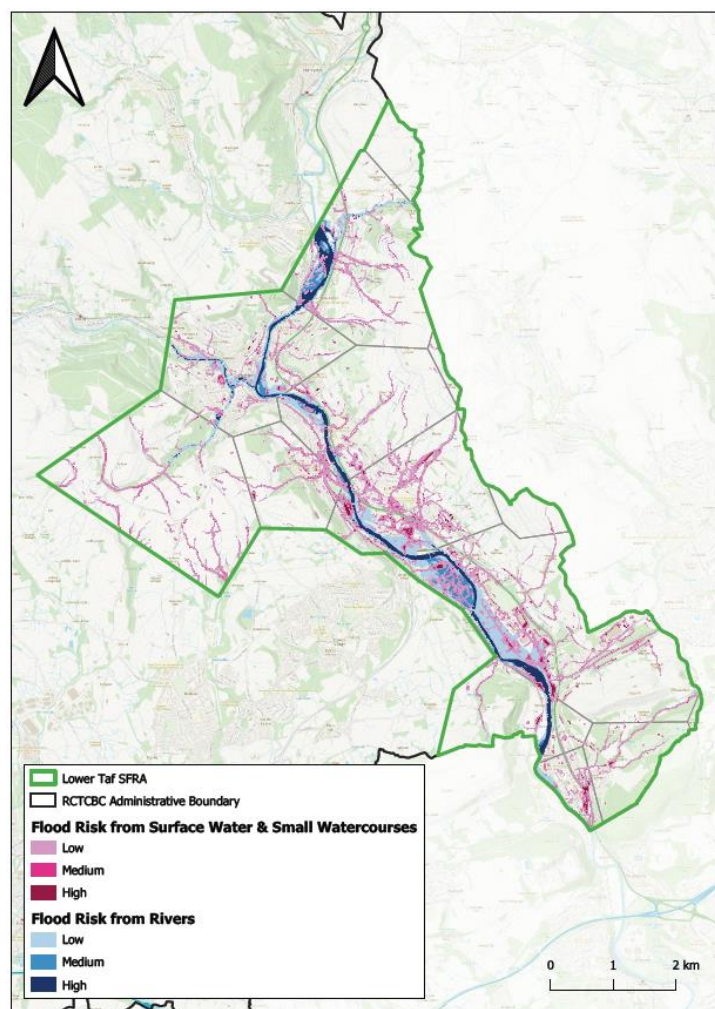


Figure 34: NRW's FRAW map for rivers and ordinary watercourse and surface water flood risk within the Lower Taf SFRA

The highest risk posed to people and properties within the SFRA is broadly associated with the River Taf and River Rhondda breaching their banks, with significant main river flood risk noted at the confluence. This is largely due to the degree of development along the floodplains of the River Taf, particularly at Pontypridd, Treforest and Nantgarw.

Significant ordinary watercourse and surface water flood risk is also identified across the Lower Taf SFRA, broadly associated to the network of named and unnamed ordinary watercourse which drain the hillsides to the east and west of the SFRA.

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The primary ordinary watercourses flowing through the Ely SFRA include:

- Nant Corwg
- Nant Ffynnonwen
- Nant Felen
- Nant Y Brynau

All ordinary watercourses and designated main rivers flowing through the Lower Taf SFRA have been depicted in Figure 35.

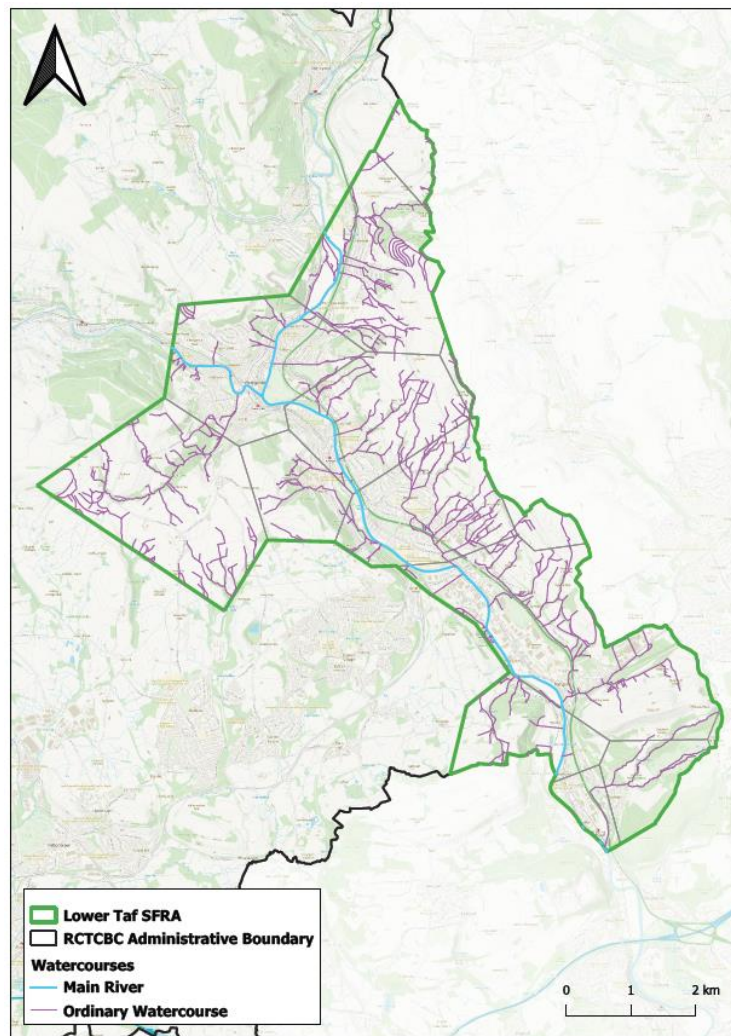


Figure 35: Ordinary watercourses and main rivers flowing through the Lower Taf SFRA

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9.3 HISTORY OF FLOODING

The Lower Taf SFRA area has experienced several flood events over the past twenty years, often in relation to the network of ordinary watercourses and culverted infrastructure which convey a substantial volume of water through the urban settlements.

The most recent and significant flood event that occurred in the SFRA was the February 2020 flood events. Heavy rainfall as a result of Storms Dennis, Ciara and Jorge resulted in significant repeated flooding, with extensive flooding of residential and commercial properties occurring within the communities of Cilfynydd, Pontypridd, Rhydyfelin, Glyntaff, Hawthorn, Nantgarw, Taff's Well, Treforest, Upper Boat and Church Village.

During Storm Dennis in February 2020, the River Taf overtopped its banks at several locations, causing significant flooding to low-lying areas.

Since Storm Dennis in February 2020, communities including Pontypridd has experienced flooding on a further six occasions, whilst Taff's Well has experienced flooding a further five times, Rhydyfelin three times and Cilfynydd three times.

Further records of historical flooding prior to Storm Dennis in the SFRA is limited however, notable flooding occurred in 2018 as a result of Storm Bronagh on 20-21st September 2018 which impacted Rhydyfelin and Pontypridd.

9.4 ASSESSMENT OF FLOOD RISK

To meet the requirements of the FRR, RCTCBC have assessed the risk of flooding from local sources for different receptor types, the results of which is provided in Table 27. The data shows the number of receptors at high, medium and low local flood risk in the Lower Taf SFRA.

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Table 27: Receptors at high, medium and low risk of flooding from local sources in the Lower Taf SFRA

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 Properties (n)	964	328	1218
Commercial Properties (n)	156	29	81
Essential Services (n)	17	3	10
Primary/Trunk Roads (km)	6.49	2.28	7.43
Main Line Railways (km)	0.39	0.25	0.75
Agricultural Land - Grades 1, 2 and 3 (ha)	9.62	3.48	10.03
SAC (ha)	0	0	0
SPA (ha)	0	0	0
Ramsar Sites (ha)	0	0	0
SSSI (ha)	0.73	0.09	0.40
SINC (Ha)	18.31	4.74	18.83
NNR (ha)	0	0	0
LNR (ha)	0.05	0.01	0.04
Ancient Woodland (ha)	9.72	2.07	8.69
Registered Parks and Gardens (ha)	0.63	0.27	0.73
Country Parks (ha)	0	0	0
Scheduled Ancient Monuments (ha)	0.06	0.01	0.15
Listed Buildings (n)	18	1	3

9.5 THE FLOOD ACTION PLAN

The actions presented within the Lower Taf SFRA Flood Action Plan are listed in Table 28 and illustrated in Figure 36.

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Table 28: List of SFRA Flood Action Plan

Ref	Action Name & Description	Location (Community)	Action	Link to FAS MS Measure	Timescale	Cost	Funding Option(s)	Status
SFRA9 A1	Oakland Terrace Produce a Full Business Case carrying out detailed design and development of the preferred option for managing the risk of flooding from local sources	Cilfynydd	Alleviate	M10, M11, M14, M24, M29 & M31	Medium Term	High	WG FCERM Capital	Ongoing
SFRA9 A2	Oakland Terrace Construction phase of FAS	Cilfynydd	Alleviate	M24	Medium Term	Very High	WG FCERM Capital	Not Started
SFRA9 A3	Park Street, Treforest Produce a Full Business Case carrying out detailed design and development of the preferred option for managing the risk of flooding from local sources	Treforest	Alleviate	M8, M10, M11, M14, M24, M29 & M31	Medium Term	Medium	WG FCERM Capital	Not Started
SFRA9 A4	Park Street, Treforest Construction phase of FAS	Treforest	Alleviate	M24	Medium Term	High	WG FCERM Capital	Not Started
SFRA9 A5	Glyntaff - SOC Develop a SOC to better understand the risk of flooding at Glyntaff, using a whole catchment approach, to provide recommendations for suitable local flood risk management measures.	Glyntaff	Alleviate	M6, M7, M8, M10, M11, M14, M15	Medium Term	Medium	WG FCERM Capital	Not Started
SFRA9 A6	Nant Garw Ordinary Watercourse - SOC Develop a SOC to better understand the risk of flooding from the Nant Garw, using a whole catchment approach, to provide	Nant Garw	Alleviate	M6, M7, M8, M10, M11, M14, M15	Medium Term	Medium	WG FCERM Capital	Not Started

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Ref	Action Name & Description	Location (Community)	Action Type	Link to MS Measure	Timescale	Cost	Funding Option(s)	Status
	recommendations for suitable local flood risk management measures							
SFRA9 A7	Ely Brook – Inlet Upgrade Design and construction works to improve the resilience of the culvert inlet structure and ordinary watercourse channel	Cilfynydd	Alleviate	M6, M10 & M24	Short Term	Medium	WG FCERM Small-scale Works	Not Started
SFRA9 A8	Establish and deliver a pilot Personal Flood Plan scheme for the community of Rhydyfelin	Rhydyfelin	Preparedness	M3, M4, M5, M6, M7 & M8	Short Term	ER	Revenue	Ongoing
SFRA9 A9	Establish and deliver a pilot Community Flood Plan for the community of Rhydyfelin	Rhydyfelin	Preparedness	M3, M4, M5, M6, M7 & M8	Medium Term	ER	Revenue	Not Started

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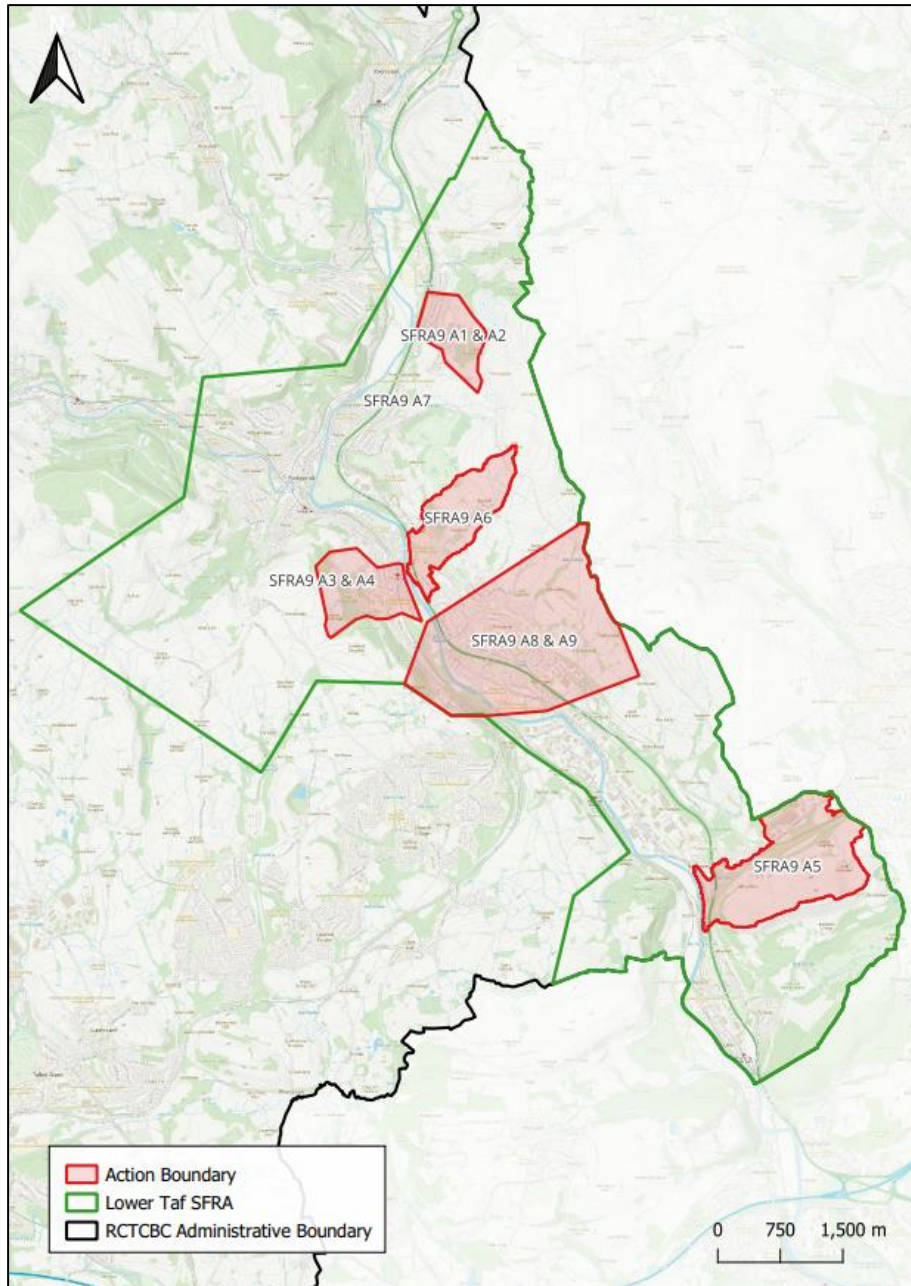


Figure 36: Location plan of the Lower Taf SFRA flood actions

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10. ELY SFRA FLOOD ACTION PLAN

The following Flood Action Plan sets out the actions that RCTCBC are in the process of undertaking, or plan to undertake, to help manage the risk of flooding from local sources within the Ely SFRA. Figure 37 shows where in RCT the Ely SFRA is located.

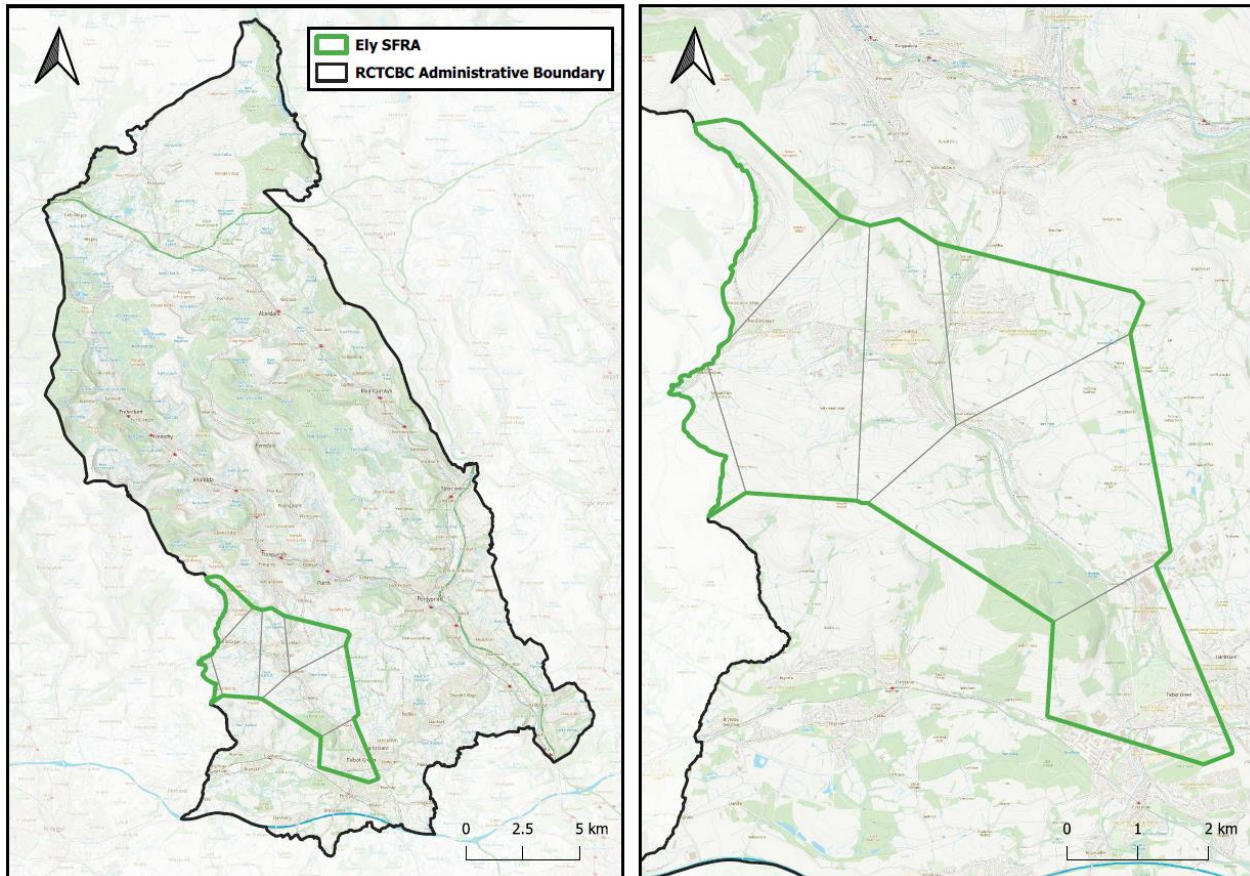


Figure 37: Ely SFRA Location Plan

10.1 AREA DESCRIPTION

The Ely SFRA is located in the western sector of RCTCBC and curves towards the south following the Ely River. The SFRA covers an area of approximately 3127.68 Ha.

The SFRA falls within the Ely River catchment which is sourced by the highlands in the north of the SFRA; Mynydd Pen-y-Graig and Mynydd Dinas. The Ely River conveys southeast through the settlements of Tonyrefail, Ty'n-Y-Bryn, Thomastown, Coedely,

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Ynysmaerdy and Talbot Green before reaching the Taf West SFRA and continuing towards Cardiff.

The Ely SFRA comprises of 6 community areas located within the RCTCBC Administrative Boundary: Hendreforgan, Bryn Golau, Tonyrefail, Coedely, Gilfach-Goch, and Talbot Green; and 1 community area located outside of the RCTCBC Administrative Boundary: Glynogwr. Table 29 depicts the ranking of those communities in terms of their surface water and ordinary watercourse flood risk (referred to as ‘Pluvial Ranking’ in the CaRR) relative to the rest of Wales, according to the CaRR.

Table 29: Pluvial ranking for the communities within Ely SFRA according to the CaRR 2019 data

Community Name	Pluvial Ranking
Hendreforgan	133
Bryn Golau	71
Tonyrefail	193
Coedely	322
Talbot Green	236
Gilfach-Goch	173
Glynogwr	1007

As shown in Table 29, 1 community falls within the top 5% (top 111) of communities at greatest risk of pluvial flooding in Wales, with the Bryn Golau community ranked as 71st in Wales.

The Ely SFRA catchment is characterised by having steep-sided valleys above the urban areas located on the valley floor. These key settlements include the towns and villages of Gilfach Goch, Hendreforgan, Bryn Golau, Ty’n-Y-Bryn, Tonyrefail, Thomastown, Coedely, Ynysmaerdy and Talbot Green. The surrounding area land use is predominately forestry with some hill grazing.

The geology in the area is mostly comprised of Coal measures, Mudstone, siltstone, and sandstone, which forms part of the South Wales Coalfield basin. The Sedimentary bedrock likely formed between 315.2 and 308 million years ago during the Carboniferous period.

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10.2 OVERVIEW OF FLOOD RISK

The extent and degree of local flood risk in the Ely SFRA is significant. Figure 38, extracted from NRW's FRAW map, illustrates the areas at risk of flooding from both surface water and ordinary watercourses and main river sources across the Ely SFRA.

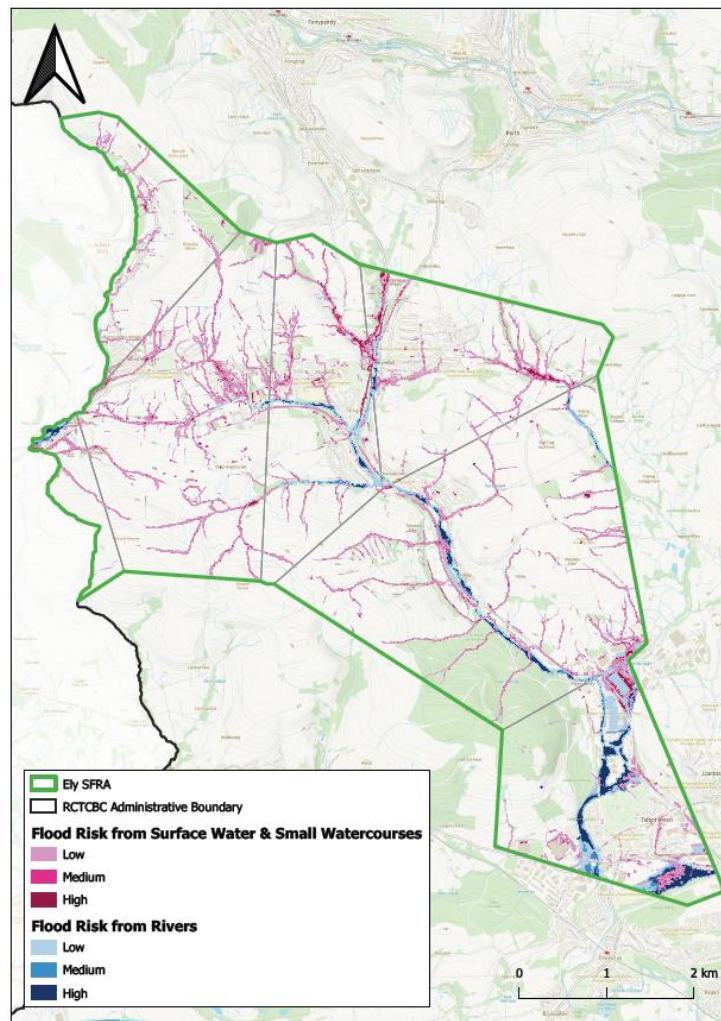


Figure 38: NRW's FRAW map for rivers and ordinary watercourse and surface water flood risk within the Ely SFRA

The highest risk posed to people and properties within the north of the SFRA is broadly associated with the network of named and unnamed ordinary watercourses which drain from the steep hillsides in the north, east and west of the SFRA. Whilst the headwaters have generally remained in a 'natural' condition, the watercourses have been heavily modified and culverted beneath urban development on the valley floor before discharging into the Ely River, which flows southeast through the SFRA.

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Flooding is primarily sourced from culvert inlets and bank breaches associated to the network of ordinary watercourses.

The primary ordinary watercourses flowing through the Ely SFRA include:

- Ogwr Fach
- Nant Cae'rgwerlas
- Nant Melyn
- Nant Cwm-Du

Figure 38 also notes a high to low risk of flooding along the length of the main rivers which flow through the SFRA; namely the River Ely, Clun River, Nant Muchudd, Nant Llanilid, and Nant Erin which are designated main rivers.

All ordinary watercourses and designated main rivers flowing through the Ely SFRA have been depicted in Figure 39.

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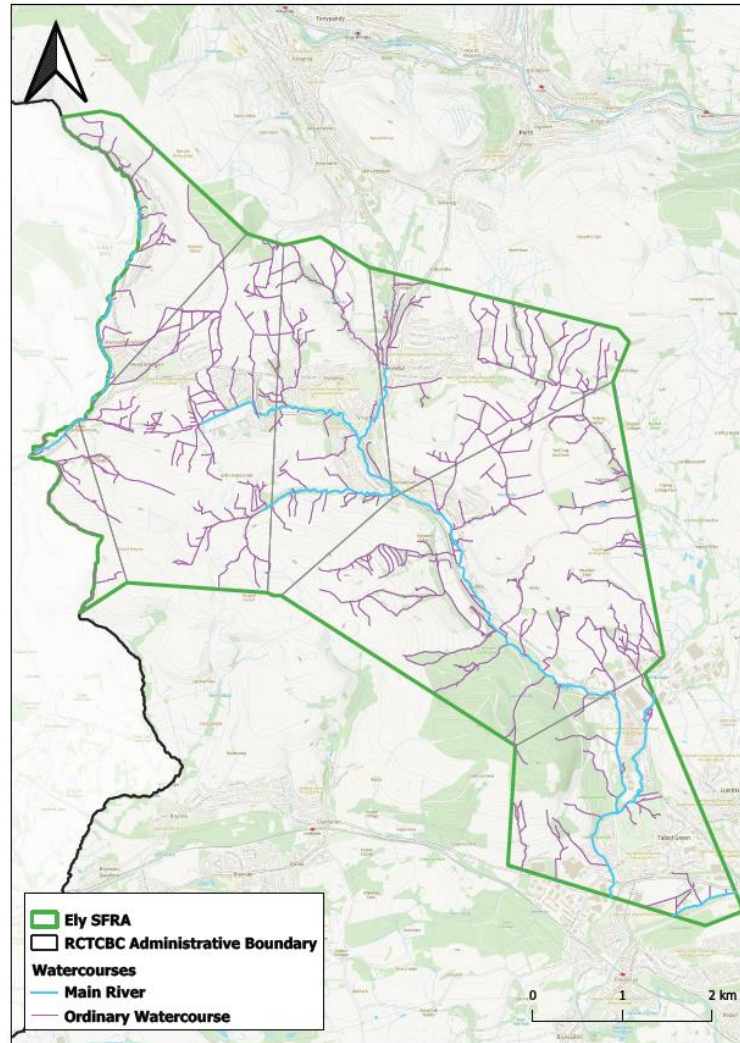


Figure 39: Ordinary watercourses and main rivers flowing through the Ely SFRA

10.3 HISTORY OF FLOODING

The Ely SFRA area has experienced several flood events over the past twenty years, often in relation to the network of ordinary watercourses and culverted infrastructure which convey a substantial volume of water through the urban settlements.

The most recent and significant flood event that occurred in the SFRA was the February 2020 flood events. Heavy rainfall as a result of Storms Dennis, Ciara and Jorge resulted in significant repeated flooding, with extensive flooding of residential and commercial properties occurring within the communities of Tonyrefail and Gilfach-

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Goch. Since Storm Dennis in February 2020, communities in the Ely SFRA have experienced further minor flooding to properties, including three occasions at Tonyrefail and Gilfach-Goch.

Further records of historical flooding prior to Storm Dennis in the SFRA is limited however, notable flooding occurred in 2018 as a result of Storm Callum on 12-13th October 2018 which impacted Thomastown and an Unnamed Storm on 8-9th December 2018 which impacted Tonyrefail.

10.4 ASSESSMENT OF FLOOD RISK

To meet the requirements of the FRR, RCTCBC have assessed the risk of flooding from local sources for different receptor types, the results of which is provided in Table 30. The data shows the number of receptors at high, medium and low local flood risk in the Ely SFRA.

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Table 30: Receptors at high, medium and low risk of flooding from local sources in the Ely SFRA

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 Properties (n)	380	162	467
Commercial Properties (n)	33	7	33
Essential Services (n)	5	0	4
Primary/Trunk Roads (km)	3.66	1.32	3.58
Main Line Railways (km)	0.03	0.01	0.12
Agricultural Land - Grades 1, 2 and 3 (ha)	5.48	1.98	6.66
SAC (ha)	0	0	0
SPA (ha)	0	0	0
Ramsar Sites (ha)	0	0	0
SSSI (ha)	4.58	1.26	3.73
SINC (Ha)	15.27	4.13	14.18
NNR (ha)	0	0	0
LNR (ha)	0	0	0
Ancient Woodland (ha)	5.74	0.91	2.52
Registered Parks and Gardens (ha)	0	0	0
Country Parks (ha)	0	0	0
Scheduled Ancient Monuments (ha)	0	0	0
Listed Buildings (n)	0	0	2

10.5 THE FLOOD ACTION PLAN

The actions presented within the Ely SFRA Flood Action Plan are listed in Table 31 and illustrated in Figure 40.

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Table 3: Flood Risk Management Actions

Ref	Action Name & Description	Location (Community)	Action Type	Link to MS Measure	Timescale	Cost	Funding Option(s)	Status
SFRA10 A1	Mill Street Highway drainage improvements and ordinary watercourse rehabilitation to manage local flood risk affecting the highway	Tonyrefail East	Alleviate	M6, M10, M17 & M18	Short Term	Medium	WG Resilient Road Fund	Ongoing

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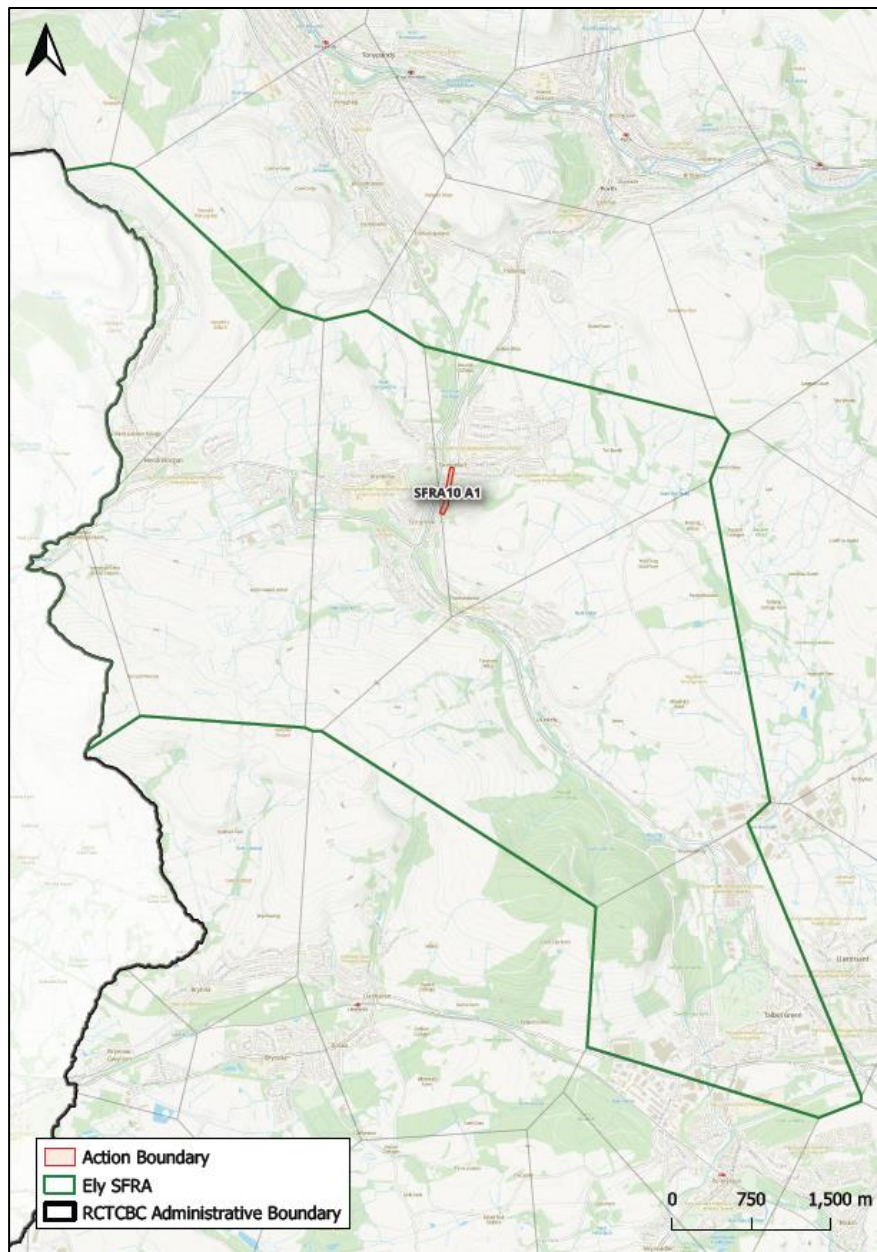


Figure 40: Location plan of the Ely SFRA flood actions

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11. TAF WEST SFRA FLOOD ACTION PLAN

The following Flood Action Plan sets out the actions that RCTCBC are in the process of undertaking, or plan to undertake, to help manage the risk of flooding from local sources within the Taf West SFRA. Figure 41 shows where in RCT the Taf West SFRA is located.

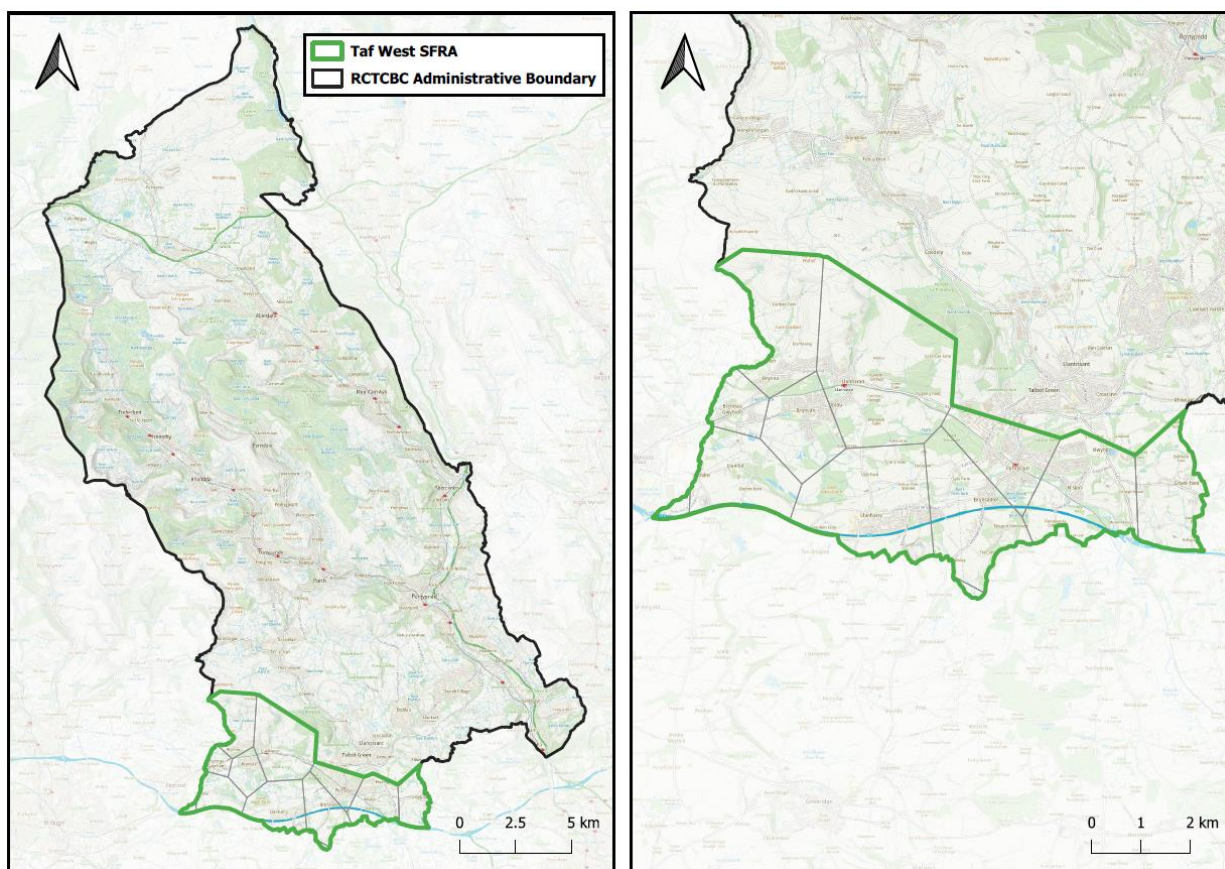


Figure 41: Taf West SFRA Location Plan

11.1 AREA DESCRIPTION

The Taf West SFRA is located in the southwest of RCTCBC and covers an area of approximately 3637.18 Ha. The SFRA falls within two catchment areas; the Ewenni Fach to the west and the River Ely catchment to the east.

The Ewenni Fach catchment is sourced by the headwaters of Mynydd Meiros and flows southwest through the key settlements of Llanharan, Bryncae, Brynna and

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Brynnau Gwynion before entering Bridgend County Borough Council area, outfalling to Swansea Bay at Ogmere by Sea.

The River Ely, which is sourced by the highlands close to the town of Tonyrefail in the Ely SFRA, drains southwards through Talbot Green before entering Taf West SFRA and merging with the River Clun, Nant Melyn and Nant Felin-fach at Pontyclun and flowing in south-easterly direction through Miskin before existing the RCT administrative Boundary towards Cardiff.

The Taf West SFRA comprises of 10 community areas: Brynna, Brynnau Gwynion, Llanilid, Bryncae, Llanharan, Llanharry, Pontyclun, Brynsadler, Miskin and Groes – Faen. Table 32 depicts the ranking of those communities in terms of their surface water and ordinary watercourse flood risk (referred to as ‘Pluvial Ranking’ in the CaRR) relative to the rest of Wales, according to the CaRR.

Table 32: Pluvial ranking for the communities within Taf West SFRA according to the CaRR 2019 data

Community Name	Pluvial Ranking
Brynna	646
Brynnau Gwynion	949
Llanilid	1722
Bryncae	314
Llanharan	191
Llanharry	515
Pontyclun	686
Brynsadler	1007
Miskin	705
Groes - Faen	1722

As shown in Table 32, all 10 communities fall outside the top 5% (top 111) of communities at greatest risk of pluvial flooding in Wales. Llanharan falls within the top 10% (top 222) of communities ranking 191st.

In comparison with other SFRAs in RCT, the Taf West SFRA ranks lowest in terms of pluvial risk, based on the CaRR. This is largely due to the topography of the Taf West SFRA being predominately low-lying agricultural land. Residential development is located primarily adjacent to major watercourses in the area. Key settlements in the Taf West SFRA include Brynnau Gwynion, Brynna, Felindre, Bryncae, Llanharan, Llanharry, Brynsadler, Pontyclun, Miskin, Mwyndy and Groes – Faen.

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The geology in the area is mostly comprised of Coal measures to the north of the SFRA, with mudstone, siltstone, and sandstone, forming part of the South Wales Coalfield basin. The Sedimentary bedrock likely formed between 315.2 and 308 million years ago during the Carboniferous period. The geology to the south around Brynsadler and Miskin is part of the Cornelly Oolite Formation which comprises of limestone, ooidal sedimentary bedrock, which was likely to have formed between 344.5 and 337 million years ago during the Carboniferous period.

11.2 OVERVIEW OF FLOOD RISK

The extent and degree of local flood risk in the Taf West SFRA is moderate. Figure 42, extracted from NRW's FRAW map, illustrates the areas at risk of flooding from both surface water and ordinary watercourses and main river sources across the Taf West SFRA.

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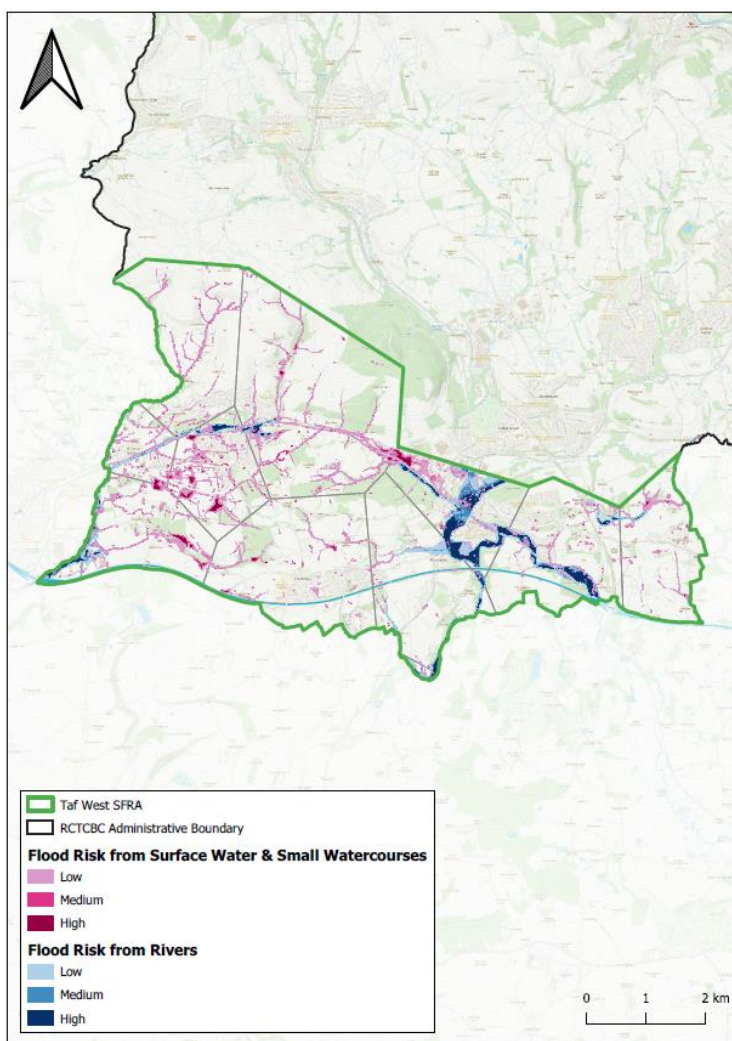


Figure 42: NRW FRAW map for rivers and ordinary watercourse and surface water flood risk within the Taf West SFRA

The highest risk posed to people and properties within the west of the SFRA is broadly associated with the network of named and unnamed ordinary watercourses which drain towards the Ewenni Fach River in the west and the River Ely in the east. These watercourses have largely been modified and culverted beneath the key settlements. As a result, flooding is primarily sourced from culvert inlets and bank breaches associated to the network of ordinary watercourses. Large areas of land towards the south of the SFRA has remained largely undeveloped and therefore identified at lower risk of flooding to people and properties.

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The primary ordinary watercourses flowing through the Taf West SFRA include:

- Nant Graean
- Nant Llanbad
- Otters Brook Trout Pools

Figure 42 also notes a high to low risk of flooding along the length of the main rivers which flow through the SFRA, which includes the Nant Felin – Fach, Nant Dyfrgi, Nant Rhydhalog and Nant Melyn, which are all designated main rivers in addition to the Clun River, Ely River and the Ewenni Fach River. There is a high risk of main river flooding identified at the confluence of the River Clun and Ely, at Pontyclun.

All ordinary watercourses and designated main rivers flowing through the Taf West SFRA have been depicted in Figure 43.

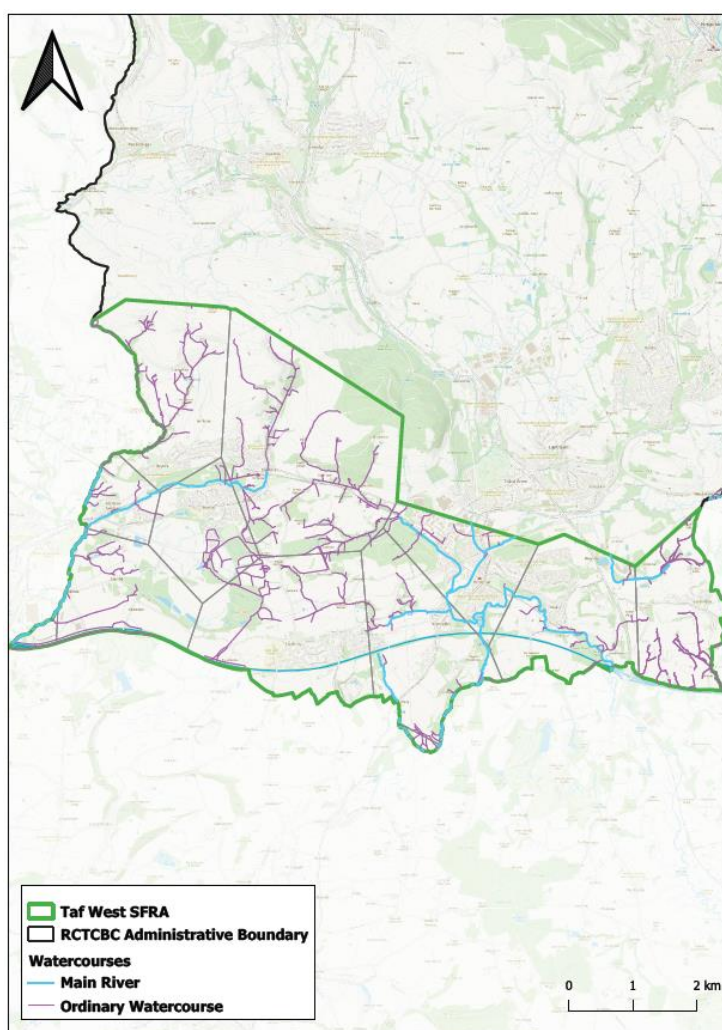


Figure 43: Ordinary watercourses and main rivers flowing through the Taf West SFRA

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11.3 HISTORY OF FLOODING

The Taf West SFRA area has experienced several flood events over the past twenty years, often in relation to the network of ordinary watercourses and culverted infrastructure which convey a substantial volume of water through the urban settlements.

The most recent and significant flood event that occurred in the SFRA was in August 2022. Heavy rainfall as a result of an unnamed storm event on the 16th of August 2022 resulted in internal flooding of residential and commercial properties within the communities of Brynna and Llanharan.

Further records of historical flooding prior to August 2022 in the SFRA is limited however, notable flooding occurred during the floods of February 2020 as a result of Storm Dennis and Storm Jorje which impacted Pontyclun, Llanharan and Llanharry, in addition to four unnamed storm events between September and November in 2019 which impacted Llanharry, Brynna and Pontyclun. The impacts experienced during the floods of February 2020 was less severe in the Taf West SFRA compared with other communities in RCT.

11.4 ASSESSMENT OF FLOOD RISK

To meet the requirements of the FRR, RCTCBC have assessed the risk of flooding from local sources for different receptor types, the results of which is provided in Table 33. The data shows the number of receptors at high, medium and low local flood risk in the Taf West SFRA.

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Table 33: Receptors at high, medium and low risk of flooding from local sources in the Taf West SFRA

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 Properties (n)	118	59	166
Commercial Properties (n)	21	17	25
Essential Services (n)	0	0	4
Primary/Trunk Roads (km)	1.98	0.38	1.56
Main Line Railways (km)	0.70	0.08	0.5
Agricultural Land - Grades 1, 2 and 3 (ha)	18.83	6.37	21.64
SAC (ha)	0	0	0
SPA (ha)	0	0	0
Ramsar Sites (ha)	0	0	0
SSSI (ha)	0.55	0.37	1.06
SINC (Ha)	26.03	6.46	21.96
NNR (ha)	0	0	0
LNR (ha)	0	0	0
Ancient Woodland (ha)	6.95	1.60	4.97
Registered Parks and Gardens (ha)	0.75	0.45	1.21
Country Parks (ha)	0	0	0
Scheduled Ancient Monuments (ha)	0.03	0.05	0.05
Listed Buildings (n)	2	2	2

11.5 THE FLOOD ACTION PLAN

The actions presented within the Taf West SFRA Flood Action Plan are listed in Table 34 and illustrated in Figure 44.

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Ref	Action Name & Description	Location (Community)	Action Type	Link to FRM Measure	Timescale	Cost	Funding Option(s)	Status
SFRA11 A1	Programme Business Case Develop a Programme Business Case, assessing the risk of local flooding utilising a catchment-based approach, considering a range of FRM measures inclusive of wider catchment and nature based solutions, and encouraging collaboration between RMAs, other organisations and the public.	Taf West SFRA	Alleviate	M6, M7, M8, M10, M11, M14, M15, M29 & M31	Medium Term	Medium	WG FCERM Capital	Not Started

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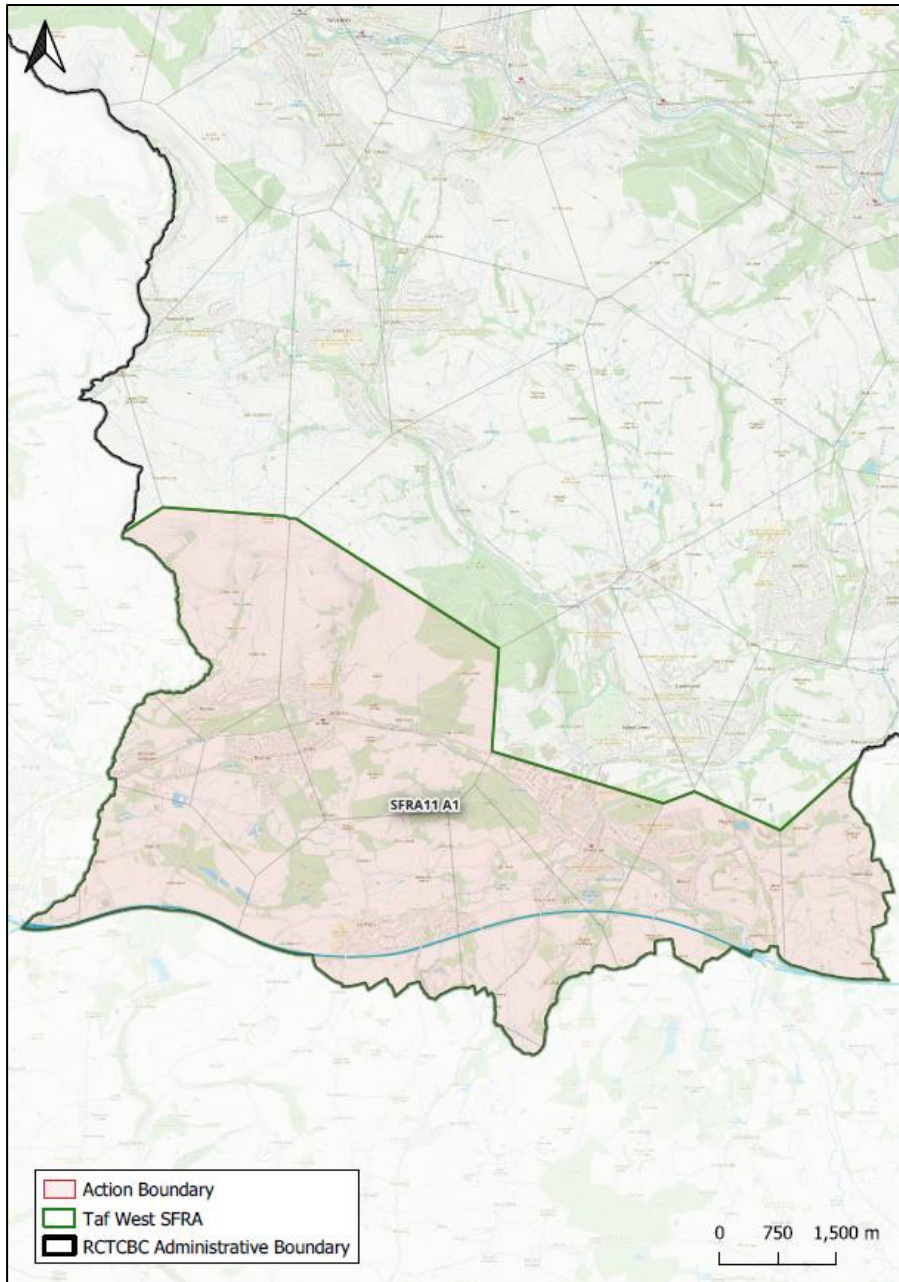


Figure 44: Location plan of the Taf West SFRA flood actions

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12. TAF EAST SFRA FLOOD ACTION PLAN

The following Flood Action Plan sets out the actions that RCTCBC are in the process of undertaking, or plan to undertake, to help manage the risk of flooding from local sources within the Taf East SFRA. Figure 45 shows where in RCT the Taf East SFRA is located.

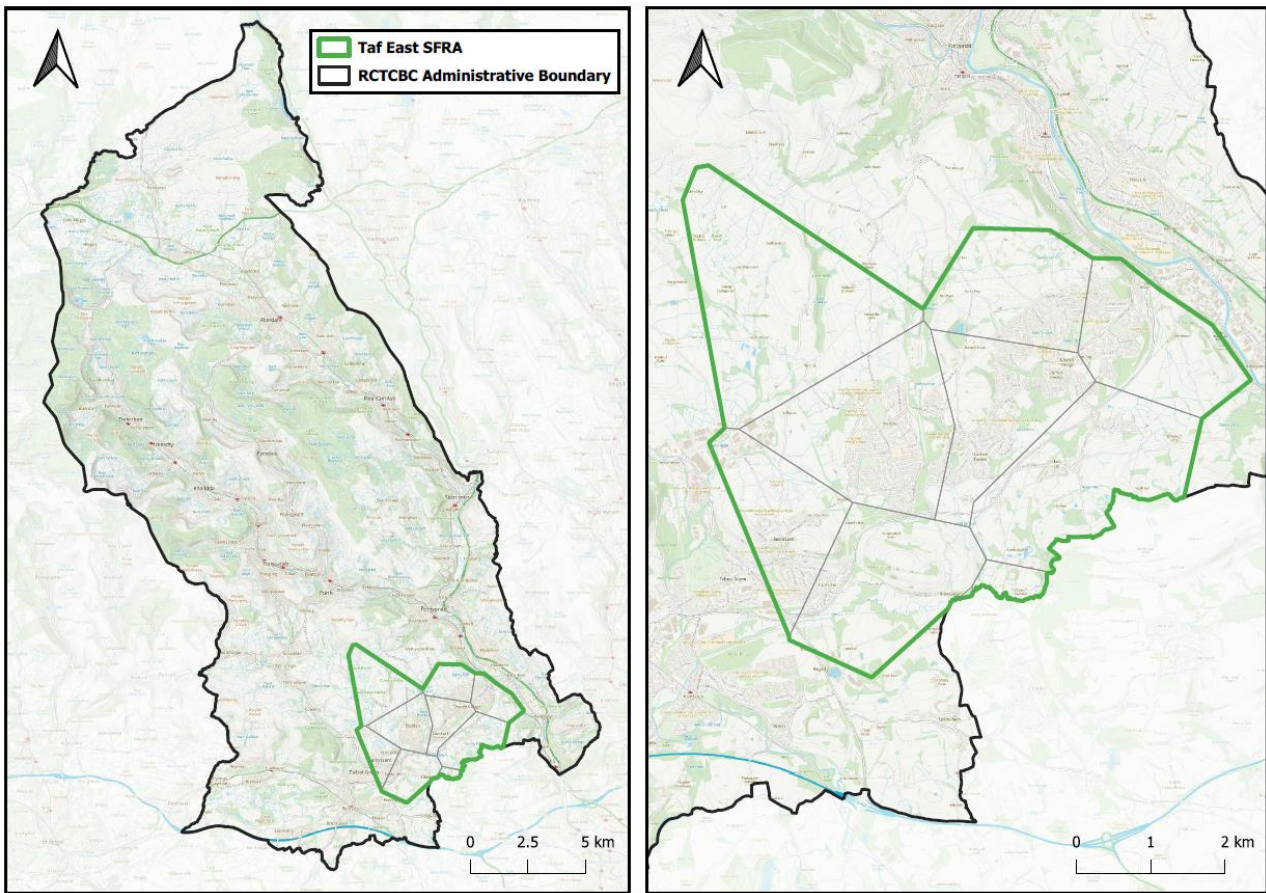


Figure 45: Taf East SFRA Location Plan

12.1 AREA DESCRIPTION

The Taf East SFRA is located in the south-central sector of RCTCBC and covers an area of approximately 3014.77 Ha. The SFRA falls within the Ely River catchment which is sourced from the highlands to the west of the SFRA. The River Clun is a major tributary of the Ely River and is sourced from the headwaters of the Garth Mountain, situated in the southeast of the Taf East SFRA. The River Clun drains through the

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settlements of Efail Isaf, Llantwit Fardre, Rhiwsaeson, Cross Inn and Llantrisant before merging with the Ely River further downstream at Pontyclun, located to the southwest of the SFRA.

The Taf East SFRA comprises of 8 community areas located within the RCTCBC Administrative Boundary: Church Village, Ton-teg, Llantwit Fardre, Castellau, Beddau, Llantrisant, Cross Inna and Efail Isaf; and 1 community area located outside of the RCTCBC Administrative Boundar: Creigiau. Table 35 depicts the ranking of those communities in terms of their surface water and ordinary watercourse flood risk (referred to as ‘Pluvial Ranking’ in the CaRR) relative to the rest of Wales, according to the CaRR.

Table 35: Pluvial ranking for the communities within Taf East SFRA according to the CaRR 2019 data

Community Name	Pluvial Ranking
Church Village	344
Ton-teg	168
Llantwit Fardre	197
Castellau	449
Beddau	76
Llantrisant	170
Cross Inn	374
Efail Isaf	372
Creigiau	705

As shown in Table 35, only 1 community falls within the top 5% (top 111) of communities at greatest risk of pluvial flooding in Wales, with Beddau ranked as 76th most at risk in Wales.

The topography of the Taf East SFRA catchment is characterised by having steep-sided valleys above the urban areas located on the valley floor, however the valleys in the south of RCT are much more ‘U’-shaped, with increased development along the low-lying valley floors. The SFRA is comprised of mountainous regions to the southeast and northeast, limiting development, however, land use throughout the Taf East SFRA is predominantly used for agricultural grazing, forestry, and public recreation.

Key settlements include the towns and villages of Church Village, Ton-teg, Llantwit Fardre, Efail Isaf, Gwaun Miskin, Llantwit Chase, Hendrescythan, Rhiwsaeson, Beddau, Cross Inn, Dan Caerlan, Llantrisant and Castellau-Ganol.

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12.2 OVERVIEW OF FLOOD RISK

The extent and degree of local flood risk in the Taf East SFRA is moderate. Figure 46, extracted from NRW's FRAW map, illustrates the areas at risk of flooding from both surface water and ordinary watercourses and main river sources across the Taf East SFRA.

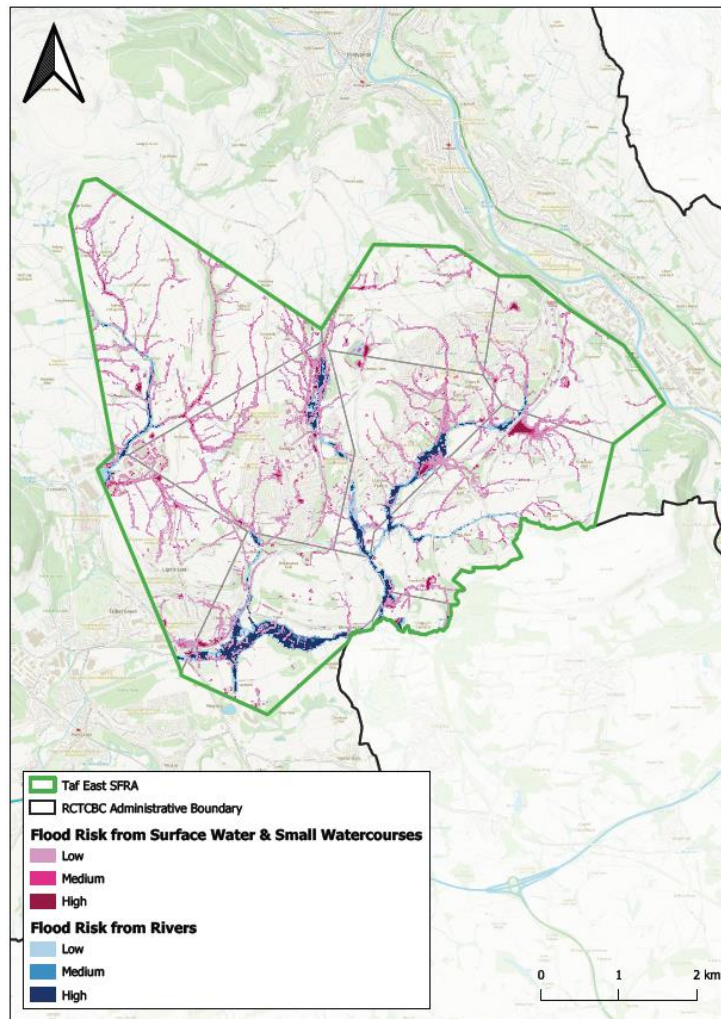


Figure 46: NRW's FRAW map for rivers and ordinary watercourse and surface water flood risk within the Taf East SFRA

The highest risk posed to people and properties within the SFRA is broadly associated with the network of named and unnamed ordinary watercourses which drain from the steep hillsides in the north, northeast and east of the SFRA. Whilst the headwaters have generally remained in a 'natural' condition, the watercourses have been heavily

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modified and culverted beneath urban development on the valley floor, before discharging into the River Clun which flows southwest through the SFRA.

As a result, flooding is primarily sourced from culvert inlets and bank breaches associated to the network of ordinary watercourses.

The primary ordinary watercourses flowing through the Taf East SFRA include:

- Nant Muchudd
- Nant Y Arian
- Nant Y Dall

Figure 46 also notes a high to low risk of flooding along the length of the main rivers which flow through the SFRA; namely the Clun River and its tributaries including the Nant Myddlyn, Nant Y Felin, Nant Dowlais, and the Nant Cymdda-bach.

All ordinary watercourses and designated main river flowing through the Taf East SFRA have been depicted in Figure 47.

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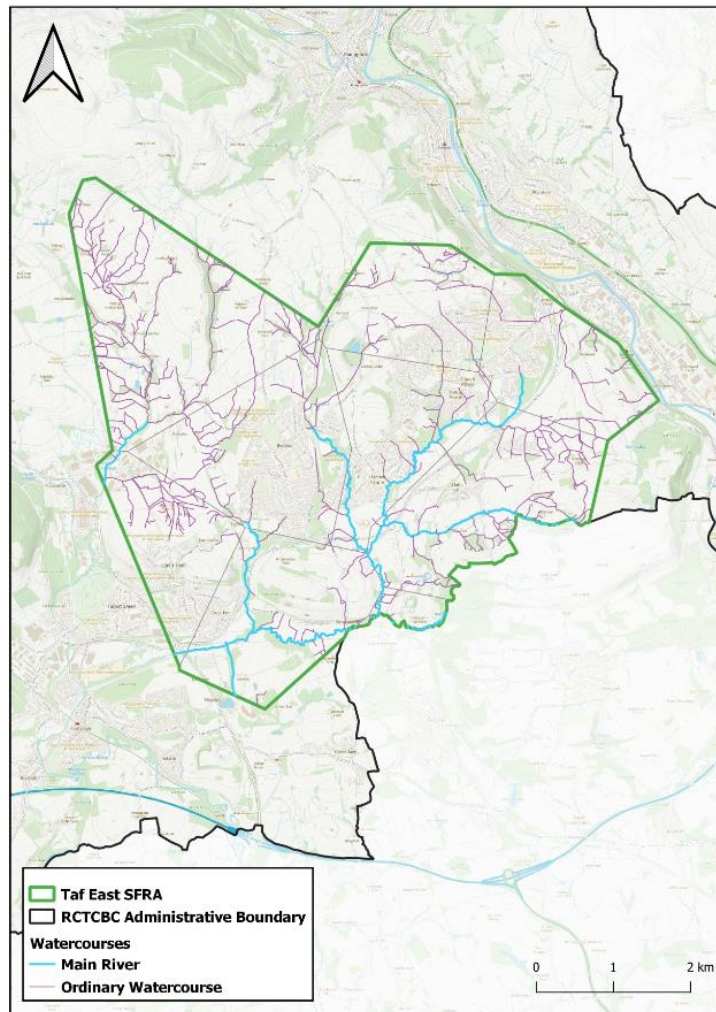


Figure 47: Ordinary watercourses and main rivers flowing through the Taf East SFRA

12.3 HISTORY OF FLOODING

The Taf East SFRA area has experienced several flood events over the past twenty years, often in relation to the network of ordinary watercourses and culverted infrastructure which convey a substantial volume of water through the urban settlements.

The most recent and significant flood event that occurred in the SFRA was the February 2020 flood events. Heavy rainfall as a result of Storms Dennis, Ciara and Jorge resulted in significant repeated flooding, with extensive flooding of residential and commercial properties occurring within the communities of Church Village, Efail

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Isaf and Llantrisant. Since the storm events in February 2020, there has only been two minor flooding incidents that have resulted in internal flooding within the communities of Beddau and Llantwit Fadre in October 2021.

Further records of historical flooding prior to Storm Dennis in the SFRA is limited however, notable flooding occurred in 2018 as a result of an Unnamed Storm on 8-9th December 2018 which impacted Ton-teg.

12.4 ASSESSMENT OF FLOOD RISK

To meet the requirements of the FRR, RCTCBC have assessed the risk of flooding from local sources for different receptor types, the results of which is provided in Table 36. The data shows the number of receptors at high, medium and low local flood risk in the Taf East SFRA.

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Table 36: Receptors at high, medium and low risk of flooding from local sources in the Taf East SFRA

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 Properties (n)	462	172	799
Commercial Properties (n)	27	8	33
Essential Services (n)	5	3	8
Primary/Trunk Roads (km)	2	0.74	3.25
Main Line Railways (km)	0.2	0.08	0.78
Agricultural Land - Grades 1, 2 and 3 (ha)	15.96	4.62	17.49
SAC (ha)	0	0	0
SPA (ha)	0	0	0
Ramsar Sites (ha)	0	0	0
SSSI (ha)	4.33	1.32	5.46
SINC (Ha)	24.34	6.97	23.18
NNR (ha)	0	0	0
LNR (ha)	0	0	0
Ancient Woodland (ha)	7.67	2.01	5.52
Registered Parks and Gardens (ha)	0	0	0
Country Parks (ha)	0	0	0
Scheduled Ancient Monuments (ha)	0.12	0.01	0.04
Listed Buildings (n)	4	1	0

12.5 THE FLOOD ACTION PLAN

The actions presented within the Taf East SFRA Flood Action Plan are listed in Table 37 and illustrated in Figure 48.

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Ref	Action Name & Description	Location (Community)	Action Type	Link to FRM Measure	Timescale	Cost	Funding Option(s)	Status
SFRA12 A1	Programme Business Case Develop a Programme Business Case, assessing the risk of local flooding utilising a catchment-based approach, considering a range of FRM measures inclusive of wider catchment and nature based solutions, and encouraging collaboration between RMAs, other organisations and the public.	Taf East SFRA	Alleviate	M6, M7, M8, M10, M11, M14, M15, M29 & M31	Medium Term	Medium	WG FCERM Capital	Not Started

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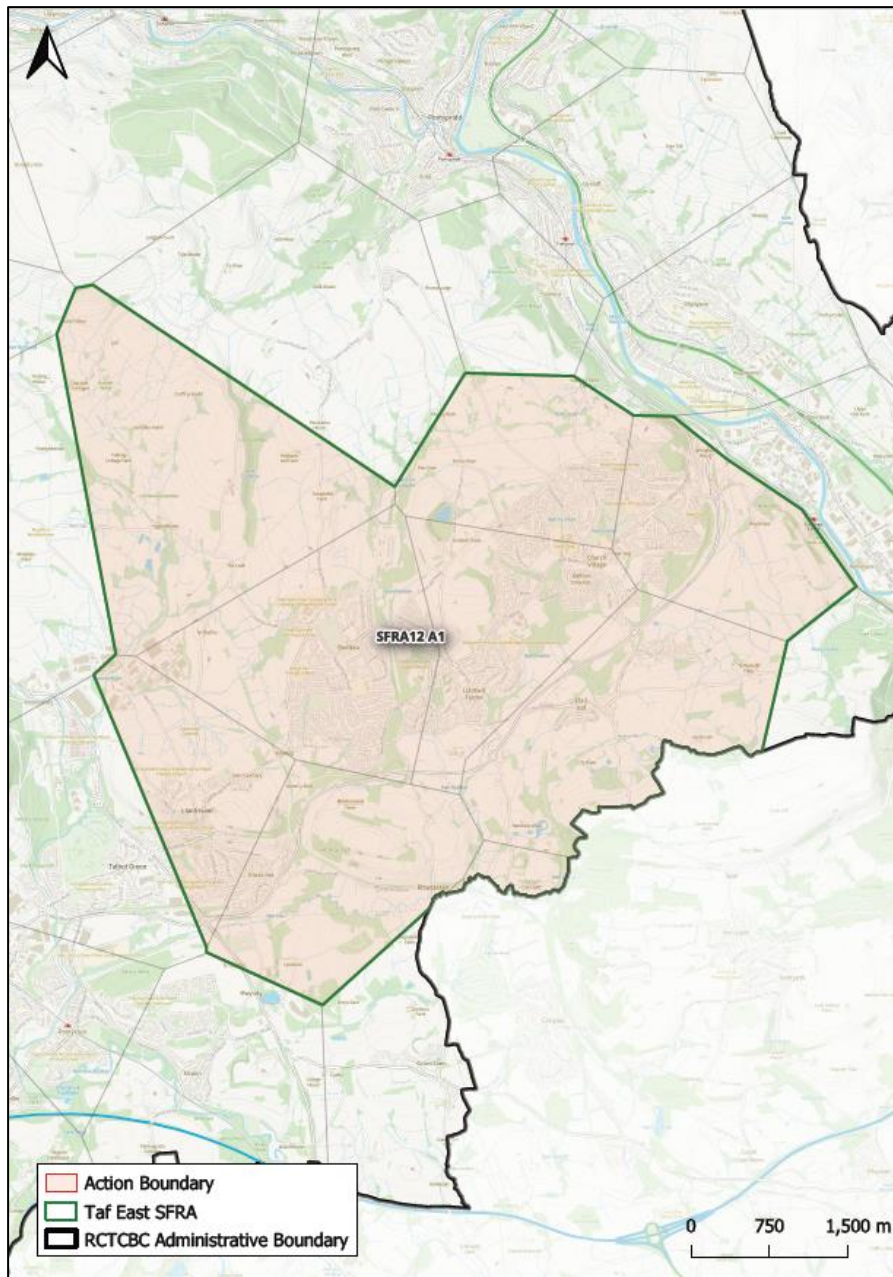


Figure 48: Location plan of the Taf East SFRA flood actions

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Flood and Water Management Act 2010

Local Flood Risk Management Strategy and Action Plan

Appendices B - D

March 2024



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APPENDIX B – LEGISLATIVE CONTEXT

THE PITT REVIEW (2008)

Sir Michael Pitt carried out an independent review of flood risk management practices after the widespread floods during the summer of 2007, in which over 50,000 households were affected, and damages exceeded £4 billion. The Pitt Review was published in June 2008 and called for urgent and fundamental changes to the way flood risk was being managed. The report contained 92 recommendations for the UK Government, Local Authorities, Local Resilience Forums and other stakeholders which were based around the concept of Local Authorities playing a major role in the management of local flood risk, through coordinating with relevant authorities.

FLOOD AND WATER MANAGEMENT ACT (2010)

The Flood and Water Management Act 2010 (FWMA) was introduced in April 2010 in England and Wales and set to implement many of the recommendations made by Sir Michael Pitt's Review of the widespread flooding of 2007 in the UK. The Act was also intended to clarify roles and responsibilities between Risk Management Authorities (RMAs).

Under the Act, the Welsh Government was required to produce a National Strategy for Flood and Coastal Erosion Risk Management (National Strategy). The LLFAs were required to produce a Local Flood Risk Management Strategy in partnership with other RMAs.

FLOOD RISK REGULATIONS (2009)

The Flood Risk Regulations 2009 transpose the European Union Floods Directive (Directive 2007/60/EC on the assessment and management of flood risk) into domestic law in England and Wales. The aim of the Directive is to provide a consistent approach to flood risk across Europe.

Under the Regulations, RCTCBC were identified as a Lead Local Flood Authority (LLFA). While Natural Resources Wales (NRW) is responsible for producing Flood Risk Management Plans at a river basin district level for communities at risk of flooding

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from main river and the sea, LLFAs are required to produce local Flood Risk Management Plans to manage flooding from surface water and ordinary watercourses.

The Flood Risk Regulations set out a six year cycle with timescale for reporting to the European Commission and the publication of 3 key documents:

- **Preliminary Flood Risk Assessment (PFRA)** to be completed by all LLFAs and NRW. The PFRA will identify 'Flood Risk Areas', at potentially significant risk of flooding. Maps and management plans will be developed on the basis of these 'Flood Risk Areas'.
- **Flood Hazard and Flood Risk Maps.** NRW and LLFA are required to produce Hazard and Risk Maps for all sources of flooding.
- **Flood Risk Management Plans.** NRW and LLFA are required to produce Flood Risk Management Plans for 'Flood Risk Areas'

The first stage of implementing the FRR, the PFRA, was undertaken by RCTCBC in 2011 and supported the preparation of its local FRMP in 2015.

The second cycle of the FRR publications are in development. A PFRA was prepared in 2017 by RCTCBC to meet its duties to manage local flood risk under the second cycle of the FRR publications. This fed into the identification of Flood Risk Areas within NRW's PFRA in 2018. The 2018 PFRA identified 3 Flood Risk Areas within RCT as having significant local flood risk. A FRMP is required for each of these 3 Flood Risk Areas to meet its requirements under the FRR.

As part of NRW's strategic overview of all sources of flooding risk, they published their updated Flood Hazard and Risk maps in 2020 as part of the Flood Risk Assessment Wales (FRAW). The maps benefit the LLFA's production of their FRMP by providing an enhanced understanding of local flood risk while also enabling the public to better understand how the risk of flooding from local sources may affect them.

The Flood Action Plan provided in Appendix A of this Local Strategy meets the requirements of the FRR and replaces RCTCBC's previous FRMP in 2015.

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PLANNING POLICY WALES (2021)

Planning Policy Wales (2021) is the overarching land use planning policy for Wales. It provides the policy framework for the effective preparation of local planning authorities' development plans. The main policy document is supplemented by a series of Technical Advice Notes (TANs). The key document influencing flood risk is TAN 15 (Development and Flood Risk).

TAN 15 provides technical guidance which supplements the policy set out in Planning Policy Wales in relation to development and flooding. It advises on development and flood risk as this related to sustainability principles and provides a framework within which risks arising from both river and coastal flooding, and from addition run-off from development in any location, can be assessed. RCTCBC's Local Development Plan implement this guidance at the local policy level.

WATER FRAMEWORK DIRECTIVE (2000)

The European Water Framework Directive (WFD) is a European Union directive which came into force in December 2000. The aim is for Member States to adopt a holistic approach to water management, considering surface and groundwater in both qualitative and quantitative terms, by 2015. In addition to improving water quality, the regulation also promotes sustainable use of water as a natural resource and encourages relevant authorities to conserve habitats and species that are directly dependent on water.

The requirements of this directive are implemented in the UK via the Water Environment Regulations 2017. It establishes a framework for the protection of water bodies, which aims to:

- Prevent deterioration in the classification status of aquatic ecosystems, protect them and improve the ecological condition of waters;
- Achieve at least good status for all water bodies by 2015. Where this is not possible and subject to criteria set out in the Directive, aim to achieve good status by 2021 or 2027;
- Meet the requirements of Water Framework Protected Areas;
- Promote sustainable use of water as a natural resource;
- Conserve habitats and species that depend directly on water;

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- Progressively reduce or phase out the release of individual pollutants or groups of pollutants that present a significant threat to the aquatic environment;
- Progressively reduce the pollution of groundwater and prevent or limit the entry of pollutants;
- Contribute to mitigating the effects of floods and droughts.

To meet the requirements of the Directive, NRW (and the Environment Agency where applicable) have produced a management plan for each of the three River Basin Districts in Wales. The Severn River Basin Management Plan (RBMP) is applicable to the administrative boundary of RCTCBC. It outlines the pressures facing the water environment in the wider south-east Wales region and the actions required to address them.

ENVIRONMENT (WALES) ACT (2016)

The Environment (Wales) Act (2016) introduced the sustainable management of natural resources approach and duties to enhance biodiversity and reduce carbon emissions.

The Act also amended the FWMA as to replace regional flood and coastal committees with a new body: the Flood and Coastal Erosion Committee, which was set up in 2019.

WELL-BEING OF FUTURE GENERATIONS (WALES) ACT (2015)

The Well-being of Future Generations Act (2015) defines the well-being goals, which set a shared vision for public bodies in Wales to work towards. By working with natural processes and identifying opportunities for Natural Flood Management (NFM) to reduce flood risk, public bodies are: contributing to the well-being goals through the Sustainable Management of Natural Resources, maintaining and enhancing biodiversity, and delivering our National Resource Policy priorities.

As the Local Authority, we also have a duty under the Well-being of Future Generation (Wales) Act 2015 to maximise our contribution to the seven well-being goals, through sustainable management of natural resources.

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OTHER RELEVANT LEGISLATION

Flood risk management is affected by a range of guidance and legislation. Some of these include:

- Climate Change Act (2008)
- Civil Contingencies Act (2004)
- Conservation of Habitats and Species Regulations (2010)
- Countryside and Rights of Way Act (2000)
- Land Drainage Act (1991)
- Highway Act (1980)
- Public Health Act (1936)
- Water Framework Directive (2009)
- Water Industry Act (1991)
- Wildlife and Countryside Act (1981)
- Strategic Environmental Assessment (SEA) Directive (2001/42/EC)

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APPENDIX C – PUBLIC CONSULTATION OUTCOMES

RCTCBC have undertaken public engagement and consultation activities in the development of this Local Flood Risk Management Strategy and Action Plan. The details and outcomes of both the engagement and consultation activities are presented in Table 1 below.

Table 1: Details and outcomes of the public engagement and consultation activities undertaken for the development of RCTCBC's LFRMS and Action Plan

Public Engagement / Consultation	Description of Engagement / Consultation	Outcomes of Engagement / Consultation
<p>Initial Public Engagement Exercise (Non-statutory)</p>	<p>An initial non-statutory public engagement exercise via a questionnaire was conducted by RCTCBC and ran for a period of six weeks from 13th December 2022 to 24th January 2023.</p> <p>The purpose of the engagement exercise was to identify what key themes the constituents of Rhondda Cynon Taf (RCT) want the revised LFRMS and Action Plan to focus and improve upon. The results from the engagement exercise also sought to provide the Lead Local Flood Authority (LLFA) with an understanding of the public's current perception of flood risk in RCT.</p> <p>A total of 57 responses were received during the public engagement exercise.</p>	<p>The key considerations raised by respondents during the initial public engagement exercise include;</p> <ul style="list-style-type: none"> Improved communication of flood risk, flood risk management, the roles and responsibilities of RMAs and non-RMAs and the support capabilities/resources available to raise awareness and build preparedness within communities and for individuals; Promoting sustainable flood risk management techniques such as SuDS, retrofitting green infrastructure into the urban environment, utilising NFM methods and adopting a catchment-based approach to flood risk management; Adaptation and building resilience into both physical assets and the community to help address the risks associated to climate change. Measures and actions include asset maintenance and improvements, installation of property resilience measures, promoting NFM and raising awareness;

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Public Engagement / Consultation	Description of Engagement / Consultation	Outcomes of Engagement / Consultation
		<ul style="list-style-type: none"> Utilising a risk-based approach to prioritise flood risk management activities and investment to reduce the number of people living in high and medium flood risk areas. <p>The key considerations raised were used to inform the drafting of the LFRMS and Action Plan, particularly to enhance the objectives, measures and actions.</p> <p>Further details on the outcomes of the initial public engagement exercise can be found on RCTCBC's website¹.</p>
<p>Public Consultation (Statutory) on the draft LFRMS and Action Plan and accompanying environmental assessments (SEA & HRA)</p>	<p>It is a requirement under Section 10 of the Flood and Water Management Act 2010 for the LLFA to consult on the LFRMS and accompanying documents (SEA & HRA) with the public and risk management authorities that may be affected by the strategy.</p> <p>The statutory public consultation on the draft LFRMS and Action Plan was conducted by RCTCBC and ran for a period of six weeks, from 21st August to 2nd October 2023.</p> <p>The aim of the statutory public consultation was to canvas opinion on the draft LFRMS and Action Plan and accompanying environmental assessments.</p> <p>A total of 20 responses were received during the statutory public consultation period.</p>	<p>The results and feedback received during the public consultation were positive, demonstrating general support from the public and relevant risk management authorities for the draft LFRMS and Action Plan, in addition to the environmental assessments (SEA & HRA), with only minor comments received.</p> <p>Feedback provided as part of the public consultation was used to inform changes to the final LFRMS and Action Plan.</p> <p>Further details on the outcomes of the statutory public consultation on the draft LFRMS and Action Plan, and accompanying environmental assessments, can be found on RCTCBC's website².</p>

¹ [FWMA 2010, Revised Local Flood Risk Management Strategy and Action Plan, Initial Public Engagement Report, March 2023](#)

² [FWMA 2010, Revised Local Flood Risk Management Strategy and Action Plan, Statutory Public Consultation Report, November 2023](#)



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APPENDIX D – GLOSSARY OF TERMS

Business Case: A management tool for scoping, planning and evaluating a proposal and repository for the evidence base.

Business Justification Case (BJC): A 'lighter', single-stage, Business Case that is intended to be used for the appraisal of smaller, simpler and less contentious FCERM projects.

Critical Infrastructure: Includes all assets, systems and networks that are essential to the proper functioning of a society and economy. Critical infrastructure includes transportation systems (e.g., roads, highways and railways), electricity sub-stations, water and sewerage treatment plants and digital infrastructure.

Drainage and Wastewater Management Plan (DWMP): A long-term strategic plan that highlights the known and expected future risks to drainage and identified strategies to mitigate.

Dŵr Cymru Welsh Water (DCWW): Not-for-profit company which supplies drinking water and wastewater services to most of Wales and parts of western England that border Wales.

Essential Services: Services that are significantly important to the economy and wider society such as health services (i.e., hospitals), educational facilities (e.g. schools, universities) and services provided by public servants (Council, Police).

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 Forecast Centre (FCC): A partnership between the Met Office and Environment Agency to provide flood risk guidance for England and Wales.

Flood Risk Assessment Wales (FRAW): A national assessment of risk from all sources of flooding for public and professionals.

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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.

Flood Hazard: Defined as the produce of the depth and velocity of floodwaters.

Flood Risk: Combination of the probability and the potential consequences of flooding.

Full Business Case: The completed business case and third stage in the development of a business case for a significant project, which identified the most economically advantageous option following procurement, confirms affordability and puts in place the detailed arrangements for successful delivery.

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 material 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.

Land Drainage Act (1991): An Act to consolidate the enactments relating to internal drainage boards, and to the functions of such boards and of local authorities in relation to land drainage.

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.

Local flood risk: The risk of flooding from surface water runoff, groundwater and ordinary watercourses.

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Local Flood Risk Management Strategy: A requirement of the FWMA for LLFAs to develop, maintain, apply and monitor a strategy for managing local flood risk.

Local Development Plan (LDP): Sets an overarching land-use and development strategy, along with a policy framework and site-specific allocation for a range of development types.

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 real evidence of a flood risk.

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

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 Strategy for Flood and Coastal Erosion Risk Management: A requirement of the FWMA for the Welsh Government to produce which sets the direction and objectives for managing flood and coastal erosion risks in Wales.

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, river 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 solution in this document.

Natural Resources Wales: A Welsh Government sponsored body formed in April 2013, largely taking over the functions of the Countryside Council for Wales, Forestry Commission Wales and the Environment Agency.



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

Outline Business Case (OBC): The 'intermediate' business case and second stage in the development of a business case for a significant project, which identifies the option offering best public value for spend and puts in place the arrangements for successful delivery.

Planning Policy Wales (PPW): Sets out the Welsh Government's land use planning policies and is supplemented by a series of Technical Advice Notes (TANs).

Pre-feasibility studies: Used to assess the viability of a range of project options and ensure that future investment decisions are made on a consistent, prioritised basis.

Property Flood Resilience/Resistance (PFR): A way of managing flooding which work alongside traditional engineered defences and natural flood management. PFR measures can help to prevent flood water ingress into a building or aid rapid recovery following a flood event.

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.

River Basin Management Plan (RBMP): Under the Water Framework Directive, a management plan is required for each River Basin District. The RBMP describes the challenges that threaten the water environment and how these challenges can be management and funded.

South East Wales Flood Risk Management Group (SEWFRMG): Regional working group established across South East Wales Local Authorities to facilitate best practice, consistency in interpretation and collaborative working.

Strategic Flood Consequences Assessment (SFCA): Provides the evidence to inform policies and site selection processes for all strategic and local development plans.



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Strategic Outline Business Case (SOC): The first stage in the development of a business case for a significant project, which makes the strategic case for change and appraises the available options.

Sustainable Drainage System (SuDS): Approach to surface water management which helps to deal with excesses of water by mimicking natural drainage processes.

Sustainable Drainage System Approval Body (SAB): A statutory function under the FWMA for the Local Authority to deliver to ensure that drainage proposals for all new development of more than a single dwelling of over 100m² of construction area is fit for purpose, designed and built in accordance with the National Standards for Sustainable Drainage published by Welsh Ministers.

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. It provides a framework within which the flood risks arising from rivers, the sea and surface water can be assessed, in addition to providing advice on the consequences of the risks and adapting to and living with flood risk.

Water Framework Directive (WFD) 2000: An important piece of environmental legislation which aims to improve water quality. It applies to rivers, lakes, groundwater, estuaries and coastal waters.

Water Resources Act 1991: An Act of Parliament that regulates water resources, water quality and pollution, and flood defence.

Water Resource Management Plan: A statutory requirement under the Water Industry Act 1991 for water companies to produce once every 5 years, and which plays a crucial role in securing the public water supply for the region.

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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.

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Flood and Water Management Act 2010

Local Flood Risk Management Strategy and Action Plan

Strategic Environmental Assessment

Environmental Report

March 2024

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1. INTRODUCTION

1.1. BACKGROUND

Rhondda Cynon Taf County Borough Council's (RCTCBC) has produced a revised Local Flood Risk Management Strategy and Action Plan (Local Strategy) as a key duty under Section 10 of the Flood and Water Management Act (FWMA) 2010. The purpose of the Local Strategy is to guide the management of local flood risk across Rhondda Cynon Taf (RCT).

This report forms the revised Strategic Environment Assessment (SEA) Environmental Report which presents an assessment of the potential environmental effects of RCTCBC's revised Local Strategy.

The SEA Environmental Report forms part of the consultation (along with the Local Strategy and Habitats Regulations Assessment) undertaken as part of the development of the Local Strategy.

This Environment Report presents the findings of the SEA process.

The LFRMS sets out:

- The roles and responsibilities of the risk management authorities in the Lead Local Flood Authority (LLFA) area and the risk management functions that may be exercised by those authorities;
- the strategic objectives for managing local flood risk, the measures by which these objectives will be met and the actions that will be delivered to achieve the measures and objectives;
- the timescales and costs for the implementation of the above measures and actions;
- benefits of these measures and the mechanisms to fund them;
- an assessment of local flood risk for the purpose of the Strategy and Action Plan;
- the method and timescales for review of the Strategy and Action Plan; and
- how the Local Strategy contributes to the achievement of wider environmental objectives.

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1.2. STRATEGIC ENVIRONMENTAL ASSESSMENT

The aim of the SEA is to identify potentially significant environmental effects created as a result of the implementation of the Local Strategy on issues such as “*biodiversity, population, human health, fauna, flora, soil, water, air, climatic, material assets including architectural and archaeological heritage, landscape and the interrelationship between the above factors*” (Annex 1(f)). The Directive was transposed into Welsh legislation by the Environmental Assessment of Plans and Programmes (Wales) Regulations 2004 (the ‘SEA Regulation’).

1.3. AIMS AND STRUCTURE OF THIS REPORT

This report aims to document the SEA process and:-

- provides a description of the SEA process and the decisions taken during this process;
- considers, and takes into consideration other strategies, plans and policies deemed relevant;
- identifies key environmental issues and trends and provides an environmental context for the revised Local Strategy;
- assesses the potential effects of the Strategy in addition to appropriate mitigation (if required) and enhancement measures; and
- sets out the proposed monitoring measures which will be used to review the Strategy in the future.

Table 1 presents the structure of this report with cross-references to the requirements of the SEA Directives.

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Table 1: Requirements of the SEA Environmental Report

SEA Requirement	Section in this report
An outline of the contents and main objectives of the Strategy, and of its relationship with other relevant plans and programmes	4.1 & 6.0
The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the Strategy.	4.2
The environmental characteristics of areas likely to be significantly affected.	4.3
Any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Council Directive 79/409/EEC on the conservation of wild birds and the Habitats Directive.	Ref. LFRMS Habitats Regulation Assessment
The environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation.	5.1
The likely significant effects on the environment, including short, medium and long-term effects, permanent and temporary effects, positive and negative effects, and secondary, cumulative and synergistic effects, on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above issues.	7.1
The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme.	N/A
An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information.	5.2
A description of the measures envisaged concerning monitoring.	7.3

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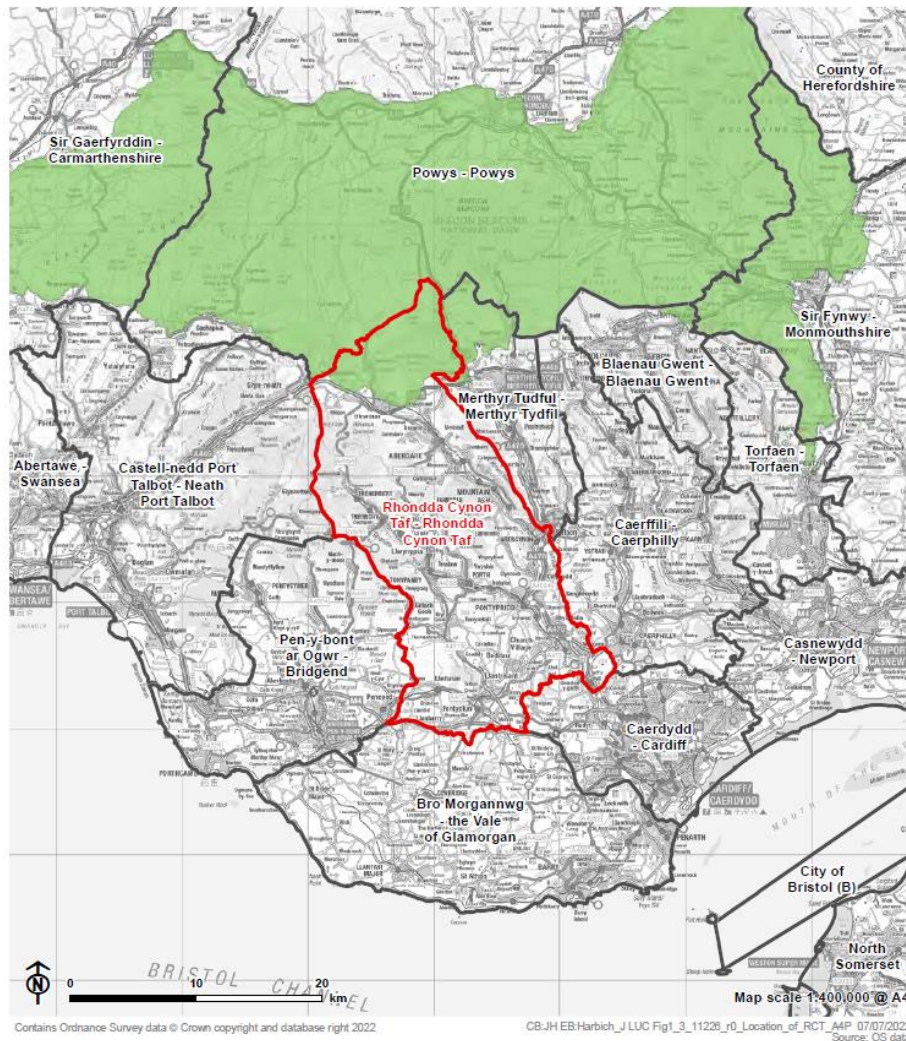
An outline structure of the remainder of this report is provided below:-

- Section 2** Strategic Environmental Assessment Processes and Stages
- Section 3** Strategic Environmental Context, Baseline and Objectives
- Section 4** SEA Assessment Method
- Section 5** Local Flood Risk Management Strategy Objectives
- Section 6** Assessment of Local Flood Risk Management Strategy Objectives
- Section 7** Future SEA Activities

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1.4. STUDY

The SEA will encompass the administrative boundary of RCTCBC as indicated in Figure 1.






-  Rhondda Cynon Taf
-  Neighbouring local authority
-  Brecon Beacons National Park

Figure 1: Location of RCTCBC

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1.5. CONSULTATION

In accordance with the SEA Directive, the draft Scoping Report was published for public consultation alongside the draft Local Flood Risk Management Strategy and Action Plan. The consultation ran for a period of six weeks from the 21st of August to 2nd October 2023.

The feedback received during the public consultation has been used to inform changes to the final report.

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2. STRATEGIC ENVIRONMENTAL ASSESSMENT PROCESS AND STAGES

This section outlines the Strategic Environmental Assessment process and provides a summary of the stages of the process completed thus far.

2.1. STRATEGIC ENVIRONMENTAL ASSESSMENT SCREENING

2.1.1. SCREENING ASSESSMENT

Prior to commencement of the SEA process, a Strategy, Plan or Programme would ordinarily be 'screened' to establish whether the plan is subject to the SEA Directive and requires an SEA.

In accordance with the requirements of Regulation 9 of the *Environmental Assessment of Plans and Programmes (Wales) Regulations 2004* (herein referred to as the Regulations), RCTCBC screened its initial LFRMS to determine the likely significance of the effects of the strategy on the environment. In doing so RCTCBC took into consideration the selection criteria in schedule 1(1) and (2) of the Regulations (ref. Table 2).

2.1.2. SUMMARY OF SCREENING ASSESSMENT

Given the high-level nature of the LFRMS, it is difficult to accurately establish the degree to which potentially significant environmental effects will occur. Due to the inherent uncertainty, and the potential for significant environmental effects, it is RCTCBCs view that the LFRMS is likely to have significant environmental effects, and that SEA is required.

A Screening assessment was not undertaken for the second cycle of the Local Strategy. A review of the changes to the initial and second cycle LFRMS concluded the revision will not lead to significant environmental effects at a strategic level which have not already been identified and explored in the previous assessment. As a result, RCTCBC have proceeded to produce a revised SEA for the second cycle of the Local Strategy.

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2.2. STRATEGIC ENVIRONMENTAL ASSESSMENT PLAN

This has been developed in accordance with the following guidance:

*A Practical Guide to the Strategic Environmental Assessment Directive (ODPM, August 2006)*¹.

Table 2: Prediction of significant Environmental Effects

Criteria (ref. Schedule 1 of the Regulations)	Likely to have significant environmental effects?
<i>The characteristics of plans and programmes, having regard, in particular, to:-</i>	
1(a) The degree to which the plan or programme sets a framework for projects and other activities, either with regard to the location, nature, size and operating conditions or by allocating resources;	Potentially significant effect. The flood actions set out in the Action Plan (Appendix A of the LFRMS) are specific to each Strategic Flood Risk Area (SFRA). The nature, size and operating conditions require further assessment however there is potential to have positive effects through for instance, natural flood management measures, retrofitting green infrastructure and environmental enhancement.
1(b) the degree to which the plan or programme influences other plans and programmes including those in a hierarchy;	No predicted significant effects. However there are potential linkages with other land use, biodiversity and water based plans and strategies.
1(c) the relevance of the plan or programme for the integration of environmental considerations in particular with a view to promoting sustainable development;	Potentially significant effects. It is believed that the Strategy will make a significant positive contribution to sustainability in RCT.
1(d) environmental problems relevant to the plan or programme; and	Potential significant effects. Potential to have positive effects through for instance, land management policies and water quality enhancement.
1(e) the relevance of the plan or programme for the implementation of Community legislation on the environment	No predicted significant effects.
<i>Characteristics of the effects and of the area likely to be affected, having regard, in particular, to the:-</i>	
2(a) the probability, duration, frequency and reversibility of the effects;	Uncertain. Further assessment required.
2(b) cumulative nature of the effects;	Uncertain. There may be potential for positive cumulative effects.
2(c) transboundary nature of the effects;	No predicted significant effects. No transboundary issues.

¹ [A Practical Guide to the Strategic Environmental Assessment Directive \(publishing.service.gov.uk\)](http://publishing.service.gov.uk)

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Criteria (ref. Schedule 1 of the Regulations)	Likely to have significant environmental effects?
2(d) risks to human health or the environment;	Potential for significant effects via the increased provision of accessible open space or the reduction in intangible human health issues. Hence likely to have a positive effect.
2(e) magnitude and spatial extent of the effects (geographical area and size of the population likely to be affected);	Uncertain. Potential for significant effects. The spatial extent of projects/plans associated with the Strategy are unknown at this time but could encompass a large area.
2(f) value and vulnerability of the area likely to be affected due to:- special natural characteristics or cultural heritage, exceeded environmental quality standards or limit values, intensive land use; and	Uncertain. Potential for significant effects. There is a potential that future plans or policies could increase disturbance to habitats and areas of cultural heritage.
2(g) effects on areas or landscapes which have a recognised national, Community or international protection status.	Uncertain. Potential for significant effects. There is potential for increased disturbance of species and habitats (including those that form parts of SSSIs and SACs).

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2.3. SEA S

The main stages and tasks for each stage of the SEA process are presented in Table 3 below:

Table 3: Stages in the SEA Process

SEA Stages	SEA Tasks
Stage A: Setting the context and objectives, establishing the baseline and deciding on the scope	A1: Identifying other relevant policies, plans and programmes, and environmental protection objectives
	A2: Collecting baseline information
	A3: Identifying environmental issues and problems
	A4: Developing the SEA objectives and framework
	A5: Consulting on the scope of the SEA
Stage B: Developing and refining options and assessing effects	B1: Testing strategy objectives against the SEA objectives
	B2: Developing strategic alternatives
	B3: Predicting the effects of the strategy, including alternatives
	B4: Evaluating the effects of the strategy, including alternatives
	B5: Mitigating adverse effects
	B6: Proposing measures to monitor the environmental effects of implementing the strategy
Stage C: Preparing the Environmental Report	C1: Preparing the Environmental Report
Stage D: Consulting on the LFRMS and the SEA Report	D1: Consulting on the draft LFRMS and Environmental Report with the public and Consultation Bodies
	D2: Assessing significant changes
	D3: Making decisions and providing information
Stage E: Monitoring the significant effects of implementing the LFRMS	E1: Developing aims and methods for monitoring
	E2: Responding to adverse effects

This report presents the culmination and summary of Tasks A1 to C1 of the SEA process and progresses the SEA process to Task D1.

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2.4. STAGE A – SCOPING

The initial step in the SEA process was to produce a SEA Scoping Report which outlined the proposed framework for the SEA assessment. This report was undertaken during the initial cycle of the Local Strategy in 2011-2013 and was submitted by RCTCBC to the three statutory consultation bodies in Wales at that time:

- Environment Agency Wales;
- Countryside Council for Wales; and
- CADW

The consultation period ran for 5 weeks. Representations were received from all three of the consultation bodies. These were assessed and amendments were incorporated into further iterations of the SEA process as required.

2.5. STAGE B – DEVELOPING AND REFINING OPTIONS AND ASSESSING EFFECTS & STAGE C – PREPARING THE ENVIRONMENTAL REPORT

During the initial cycle of the RCT's Local Strategy in 2011-2013, an assessment of the Local Strategy objectives against the SEA objectives was undertaken during their development to determine how wider environmental improvements could be incorporated into and considered in the development of the Local Strategy. This process was documented in the form of an Environmental Report.

For the second cycle of RCT's Local Strategy, the previous Environmental Report has been updated to reflect the revised Local Strategy objectives.

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3. STRATEGIC ENVIRONMENTAL CONTEXT, BASELINE AND OBJECTIVES

The following section presents a summary of the work undertaken during the SEA scoping stage, summarising key environmental issues identified from baseline data and a summary of the review of relevant strategies, plans, policies, and programmes. This section also provides details on how the SEA objectives were derived and the proposed assessment framework.

3.1. CONTEXT - IDENTIFYING OTHER RELEVANT PLANS, PROGRAMMES AND STRATEGIES

The Local Strategy must comply with existing higher-level policies, plans and programmes at international, national and regional levels and endeavour to strengthen and support plans and strategies at the local level. It has therefore been important to identify and review those policies, plans and programmes which are particularly relevant to both the Local Strategy and the SEA. This has allowed any inconsistencies or constraints within the Local Strategy to be addressed and also to help develop the SEA framework. Table 4 outlines the key identified documents, whilst a comprehensive description of these documents together with their relevance is provided within the accompanying Annex A.

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Table 4: Key international, sub-national, local plans, programmes & Strategies

International Plans and Programmes
EU Floods Directive - Directive 2007/60/EC on the assessment and management of flood risks, 2007
EU Water Framework Directive - Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy, 2000
UN Framework Convention on Climate Change
World Health Organisation Global Strategy on Health, Environment and Climate Change (2020)
National Plans and Programmes
Climate Change Act 2008
DCWW Water Resources Management Plan 2019
Environment (Wales) Act 2016
Flood and Water Management Act 2010
Flood Risk Regulations 2009
Future Wales: the National Plan 2040 (2021)
Historic Environment (Wales) 2016
Land Drainage Act 1991
National Strategy for Flood and Coastal Erosion Risk Management in Wales, October 2020
Planning Policy Wales (Edition 11) 2021
Prosperity for All: A Climate Conscious Wales (2019)
Technical Advice Note (TAN) 15: Development and Flood Risk 2004
Well-being of Future Generations (Wales) Act 2015
Welsh Government Water Strategy for Wales 2015
Water for People and the Environment: Water Resources Strategy for Wales 2009

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Sub-national Plans and Programmes

Future Beacons: Management Plan for the Brecon Beacons National Park 2022-2027

Making Rhondda Cynon Taf Carbon Neutral by 2030

Managing Change Together: Brecon Beacons National Park Management Plan 2010 – 2015

Preliminary Flood Risk Assessment: Merthyr Tydfil County Borough Council, April 2011 and January 2018

Preliminary Flood Risk Assessment Report; Caerphilly County Borough Council, October 2011 and November 2017

Preliminary Flood Risk Assessment Report: Bridgend County Borough Council, August 2011 and October 2017

Preliminary Flood Risk Assessment: Final Report: Cardiff Council, October 2011 and December 2017

Preliminary Flood Risk Assessment Report: Neath Port Talbot County Borough Council, March 2011 and December 2017

Preliminary Flood Risk Assessment: Blaenau Gwent Borough Council, June 2011 and November 2017

Preliminary Flood Risk Assessment Report: Monmouthshire County Council, June 2011 and November 2017

Preliminary Flood Risk Assessment Report: Torfaen County Borough Council 2011

Severn Preliminary Flood Risk Assessment, December 2018

Severn River Basin Management Plan, 2022

Special Planning Guidance: Nature Conservation (LDP)

Local Plans and Programmes

Rhondda Cynon Taf Preliminary Flood Risk Assessment, December 2011 and December 2017

Rhondda Cynon Taf Strategic Flood Consequence Assessment (October 2008)

Action for Nature: A Local Biodiversity Action Plan for Rhondda Cynon Taf (LBAP)

Rhondda Cynon Taf County Borough Council Local Development Plan 2006-2021

RCT Site's of Importance for Nature Conservation

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Special Planning Guidance: Nature Conservation (LDP)
Cynon Valley River Catchment Strategy (2007)
Live. Grow. Aspire. Achieve: Rhondda Cynon Taf Community Strategy 2010-2020
Local Strategy
FRMP
Tree Strategy, Climate Change Strategy

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3.2. BASELINE INFORMATION

The baseline information identifies current environmental issues and problems in the area which has been addressed in the Local Strategy/SEA and provides a basis for predicting and monitoring the effects of implementing the Strategy. The baseline information has been updated to reflect new information and/or additional issues identified since the initial iteration of the Local Strategy and SEA.

To ensure the data collected was relevant and captured the full range of environmental issues it was categorised under 9 thematic topics which cover the topics referred to in Annex 1(f) of the SEA Directive, plus the additional theme of *flooding*. Summaries of the 9 thematic topics are presented below and the detailed baseline information forms Annex B of this report.

3.2.1. BIODIVERSITY, FLORA AND FAUNA

3.2.1.1. SUMMARY

Special Areas of Conservation (SAC) are identified on the basis of scientific criteria as set out in the European Commission Birds and Habitats Directives and the subsequent Conservation (Natural Habitats) Regulations 1994. They may be designated on any area of land of special interest for its flora, fauna, geological, or physiographic features and are notified by the Countryside Council for Wales (CCW) as part of a European series of important sites.

Within RCT (outside of the Bannau Brycheiniog National Park) there are parts of three SACs. In the North, Blaen Cynon SAC, Hirwaun supports a significant marsh fritillary butterfly colony, important Rhos pasture and peat bog and Coedydd Nedd a Mellte SAC includes river, woodland and grassland habitats. In the far south of the Authority a small part of the Cardiff Beechwood SAC lies within the County Borough.

Sites of Special Scientific Interest (SSSI) are identified on the basis of scientific criteria as set out in Section 28 of the Wildlife and Countryside ACT 1981 and may be designated on any area of land of special interest for its flora, fauna, geological or physiographic features. SSSIs are notified by the Countryside Council for Wales (CCW), as part of a British set of important sites. There are 14 SSSIs in Rhondda Cynon Taf.

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Local Nature Reserves (LNR) are owned or managed by RCTCBC. There are currently two LNRs in RCT, at Glyncornol (Llwynypia) and Craig yr Hesg (Llantrisant).

Wildlife Trust for South and West Wales Nature Reserves are owned or leased by the Trust and managed for nature conservation. At present there are three Trust reserves in RCT at Brynna Woods/Llanharan Marsh (Llanharan), Pwll Waun Cynon (Mountain Ash) and Y Gweira (Llantrisant).

Sites of Importance for Nature Conservation (SINC) are a local authority planning designation relating to Policy AW8 of RCT's Local Development Plan (see also the Nature Conservation Supplementary Planning Guidance for the LDP) and identified against adopted selection criteria. 183 SINC's have been formally defined in RCT. *Action for Nature: The Local Biodiversity Action Plan for Rhondda Cynon Taf* provides an important biodiversity context for the County Borough.

RCTCBC has previously commissioned an Earth Science Audit (2003/4) of the County Borough. A methodology for assessing the geo-conservation value of sites was developed, and the sites scored accordingly. The sites with the highest geo-conservation scores are already statutorily protected as Sites of Special Scientific Interest, most of the remaining sites lie within Sites of Importance for Nature Conservation, and frequently their features are a contributory factor affecting or determining the ecological value of the site. 44 sites have been included on the list of Regionally Important Geological Sites.

3.2.1.2. INFLUENCE OF THE LFRMS ON BIODIVERSITY, FLORA AND FAUNA

The Local Strategy has adopted a multitude of policy options in order to manage flood risk. These range from the potential for adopting innovative land management and natural flood management (NFM) techniques through to the construction of physical defences. It could be argued that any option, which affects the landscape or alters the hydrological regime within that landscape has the potential to have both positive and detrimental effects upon biodiversity.

When developing Local Strategy options, due regard has been given to the likely sensitivity of biodiversity to the potential changes being proposed, or indeed likely opportunities for ecosystem enhancement should be sought in support of the Local Biodiversity Action Plan.

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3.2.2. POPULATION AND HUMAN HEALTH

3.2.2.1. SUMMARY

In Wales, the population grew by 1.4% or 44,000 people between 2011 and 2021 according to the ONS census population change. Rhondda Cynon Taf is the third most populous unitary authority in Wales after Cardiff and Swansea, with approximately 237,700 people. Rhondda Cynon Taf ranked third for total population out of 22 local authority areas in Wales, maintaining the same position it held a decade ago. As of 2021, Rhondda Cynon Taf is the eighth most densely populated of Wales' 22 local authority areas, with around four people living on each football pitch-sized area of land.

Overall, in Wales, there has been an increase of 17.7% in people aged 65 years and over, a decrease of 2.5% in people aged 15 to 64 years, and a decrease of 1.0% in children aged under 15 years. There has been an increase of 16.3% in people aged 65 years and over, a decrease of 1.9% in people aged 15 to 64 years, and a decrease of 1.1% in children aged under 15 years for the population in Rhondda Cynon Taf.

The Welsh Index of Multiple Deprivation (WIMD) ranks small areas (known as Lower Super Output Areas (LSOAs)) according to their relative deprivation levels across eight types of deprivation, and these are combined to produce an overall index. According to the 2019 WIMD, of the top 50% most deprived LSOAs in Wales, 110 are within RCT which accounts for 71.4% of those in the Local Authority and 5.8% of those in Wales. This is the third highest percentage of any Welsh local authority after Merthyr Tydfil and Blaenau Gwent. In relation to the community safety domain, WIMD data show that 58% of the LSOAs within RCT are within the 50% most deprived in Wales. This is the seventh highest of the 22 Welsh local authority areas.

3.2.2.2. INFLUENCE OF THE LFRMS ON POPULATION AND HUMAN HEALTH

Population increase within RCT will inevitably put pressure on, and demand the expansion of, the provision of accommodation and associated infrastructure to meet the needs of the local population. This will in itself prove a significant constraint upon any potential options being considered as part of the LFRMS. Whereby policy options should complement local development plans and ensure the needs of the population are met in a sustainable manner.

The Local Strategy will have a positive impact upon human health. Through the tangible benefits of reduced injuries/deaths from flooding incidents to the more

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intangible aspects of stress and anxiety reduction for those living with the threat of flooding.

All Local Strategy objectives and measures will deliver significant determinants of health (economic, environmental, and social factors) benefits in terms of alleviating risk to people and properties, including more disadvantaged and vulnerable communities, from flooding, with associated whole community benefits to health and well-being. Robust, co-produced options appraisal and sensitive design of schemes (detailed in the Flood Action Plan of the LFRMS) will ensure that they benefit local communities and encourage opportunities to engage in healthy and active behaviours to maximise health and well-being, where appropriate. Where possible, the LFRMS should attempt to assist in the accessibility of green space for local residents.

3.2.3. SOIL AND CONTAMINATED LAND

3.2.3.1. SUMMARY

Soils play a critical role in the quality of water within a catchment and the degree of surface/sub-surface runoff. Fundamentally, shallow, compacted soils will not retain and hence slow the response of rainfall events the degree that a deep, loosely compacted soil would. Thus, the permeability of a catchment soil has an influence on the overall rainfall-runoff catchment response.

The soils of Rhondda Cynon Taf reflect the geology, past and present climate, the geography and ecosystems, and the land-use history of the County Borough. In general, the upland plateau comprises 'loamy acid permeable soils with a wet peaty surface', on the highest ground there is a significant area of 'deep acid peat soils'. In the border Vale, the more productive agricultural land is mostly on 'well drained loamy soils', with some 'slowly permeable, seasonally wet, loamy and clayey soils'. These also occur on the valley floors within the coalfield as well as the more typical 'slowly permeable, seasonally wet acid soils with a wet peaty surface' (all descriptions from the simplified National Soil Map of Wales). There are also areas of exposed rock and scree and mineral spoil tips with minimal or very thin soil development.

The geology is dominated by the Upper Carboniferous rocks, in particular the South Wales Pennant Formation with its Coal Measures. Older Palaeozoic rocks are exposed around the rim of the Coalfield.

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Minor outcrops of younger, Triassic rocks occur in the south of the borough near the M4. The coalfield plateau was shaped by the Tertiary uplift and the deep valleys were cut by the glaciers of the late Devensian glaciation. Boulder clay and other glacial debris overlie the rocks, periglacial and more recent landslips are also evident.

3.2.3.2. INFLUENCE OF THE LFRMS ON SOIL AND CONTAMINATED LAND

The Local Strategy will seek to maintain and where possible enhance soil quality within the County Borough. This process may develop as a by-product of specific techniques which additionally enhance flood risk management. Certain policies may have a degrading affect upon soil quality, for instance through construction activities to implement flood defence measures, but these are anticipated to be short term in nature.

The Local Strategy should be mindful of the constraints resulting from the presence of the many potentially contaminated brownfield sites within RCT. LFRMS options will, where possible, seek opportunities to enhance flood risk measures when re-development of brownfield sites is being considered.

3.2.4. WATER RESOURCES

3.2.4.1. SUMMARY

Water resources are primarily extracted from the major river systems (the Taf, Cynon, Rhondda and Clun), small minor reservoirs, and groundwater resources.

Many of the river catchments have or are recovering from historical degradation caused by the coal, iron and other industries. Given that historical industrial development largely occurred close to the riverbanks there has subsequently been extensive anthropogenic modifications made to the riparian zones with subsequent loss of habitat. Since the demise of heavy industry within RCT, there have been general improvements in water quality, in some instances allowing the return of salmon and the provision of spawning and nursery areas. However, rivers remain vulnerable to both diffuse and point source pollution from various catchment sources. Remnants of flows from abandoned mine workings can have detrimental effects on water quality but do benefit base flow to rivers in summer months.

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Water quality issues attributable to the local sewer network (principally the issues resultant from the discharge of Combined Sewer Overflows (CSOs) and water quality issues downstream of water treatment works) are significant at some locations.

3.2.4.2. INFLUENCE OF THE LFRMS ON WATER RESOURCES

The Local Strategy is unlikely to have a profound effect on water resources within RCT. However, potential options to promote the use of Sustainable Drainage Systems (SuDS) that mimic natural drainage processes may enhance the availability of groundwater and prevent pollution reaching watercourses and aquifers. Reduction in the amount of sediment entering watercourses is also likely to be a by-product of implementing best-practice land management techniques and the greater use of SuDS.

Additionally, changes in flood frequency attributable to LFRMS objectives may assist in waterbodies attaining required WFD ‘good’ or ‘no deterioration’ status by, for example, reducing the amount of surface water entering combined sewer systems.

3.2.5. AIR QUALITY

The SEA undertaken in parallel with the Welsh Governments National Flood and Coastal Erosion Risk Management Strategy (National Strategy) stated that detrimental impacts on air quality attributable to the National Strategy were unlikely and it was subsequently scoped out of the assessment. Similarly, having undertaken the baseline assessment, it has been concluded that effects on air quality from the LFRMS are unlikely, and it is proposed to scope this theme out of the SEA assessment.

3.2.6. FLOODING

3.2.6.1. SUMMARY

Climate change is predicted to increase the frequency and the intensity of flooding, increasing the risk in RCT and across the UK. Flooding can have profound consequences including loss of life, damage to the economy, social implications, and environmental damage.

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Local flooding, defined as flooding from surface water, ground water and ordinary watercourses such as small rivers, ditches, and streams, has become more frequent in recent years.

Surface water flooding occurs when heavy rainfall exceeds the capacity of local drainage networks and water flows across the ground or water cannot enter the surface of the ground but has not yet entered a watercourse, drainage system or public sewer. Information on surface water flooding incidents has been obtained from a number of sources. Key sources of surface water records were from RCT's Flood Risk Management department, RCTCBC's Contact Centre, RCTCBC's Highways and Streetcare Depot and South Wales Fire and Rescue Service.

Groundwater flooding occurs as a result of water rising up from the underlying aquifer or from water flowing from normal springs. This tends to occur after long periods of sustained high 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 principal aquifers, although increasingly it is also being associated with more localised floodplain sands and gravels.

Historic mining activities within Rhondda Cynon Taf have disrupted the "natural" groundwater regime within the coal measures and it is likely that the interconnection between many of the collieries has resulted in cross catchment "groundwater flow" in certain parts of Rhondda Cynon Taf. However, although the carboniferous limestone is recognised as a principal aquifer, and the coal measures and Triassic strata are secondary aquifers of local importance, the contribution of groundwater to even low flows is modest.

The Taff and Ely CFMP states that there is little documented evidence of groundwater flooding in the catchment and therefore the risk of flooding from this source is considered small, particularly at the catchment scale when compared to other sources.

Sewer flooding is often caused by excess surface water entering the drainage network. Welsh Water have provided data from their flood risk register which were analysed to investigate the occurrence of sewer flooding incidents across Rhondda Cynon Taf. It was found that there were a total of 279 sewers currently at risk of flooding that have been recorded by the water company. Of these, 93 had a 1 in 20 chance or greater of flooding. There are no records of properties affected by sewer flooding with significant consequences within Rhondda Cynon Taf.

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As part of the requirements of the Flood Risk Regulations 2009, Rhondda Cynon Taf County Borough Council has produced its Preliminary Flood Risk Assessment (PFRA), which provides a high level overview of flood risk from local sources within the County Borough.

The PFRA included an analysis of historic flood risk which revealed that, based on existing flood records, nearly 12,000 flood incidents have been recorded in RCT from local sources.

An overview of future surface water flood risk has revealed that potentially in excess of 21,000 properties may be at risk from a 1 in 200 annual chance rainfall event. The PFRA process also identifies areas of 'Indicative Flood Risk Areas' defined by key risk indicators and threshold values as laid out by DEFRA and the Welsh Government. Eight Indicative Flood Risk Areas have been defined in Wales, one of which falls within RCT. This Indicative Flood Risk Area covers approximately 41% of RCT (largely encompassing the valley bottoms), affects approximately 35,000 people, 2500 non-residential properties and 84 pieces of critical infrastructure.

3.2.6.2. INFLUENCE OF THE LFRMS ON FLOODING

The Local Strategy will, by definition, have a positive impact upon flooding in RCT. However, when developed in more detail, potential project options may advocate 'no intervention' policies whereby risk-based decisions are made not to manage flood risk in particular areas. Indeed, options to increase flooding in areas where necessary to protect downstream regions could potentially be advocated.

3.2.7. MATERIAL ASSETS

3.2.7.1. SUMMARY

Major transport links reflect the distinctive geography of RCT, with primary routes running along the valley bottoms. Key routes: the A470, A4119 and M4 trunk roads and the 'valley lines' railway network are all widely used by the population for commuting to work (both within and out of the County Borough). These routes are particularly vulnerable to disruption as a result of flooding incidents. Given that approximately 60% of the workforce of Rhondda Cynon Taf commute to work outside of the County Borough, then the wider economy remains vulnerable to substantial disruption during flood events.

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There are approximately 2,000 dwellings currently in RCT, but the number of households in RCT is forecast to increase by 16.2% in the period 2003 to 2023 (Welsh Assembly Government – Household Projections 2006). This predicted need is a key consideration for RCT and is also likely to put additional pressure on the need to manage flood risk with regards to the protection of residential properties.

3.2.7.2. INFLUENCE OF THE LFRMS ON MATERIAL ASSETS

The Local Strategy has attempted to manage the flood risk to material assets, and it is therefore anticipated that the LFRMS will have a positive influence on infrastructure and assets. However, the protection of assets is likely to be prioritised differently and the extent of any positive effects may be variable.

3.2.8. CULTURAL HERITAGE

3.2.8.1. SUMMARY

RCT has 366 listed buildings and 16 conservation areas designated on the basis of their special architectural or historic interest.

The County Borough has a rich and diverse archaeological record including prehistoric burial cairns, a Roman Fort and more recent post-medieval examples of industrial heritage.

Rhondda Cynon Taf has 5 historic parks and gardens.

Two large areas of RCT have been identified as Special Historic Landscapes.

RCT has 86 designated Scheduled Ancient Monuments.

3.2.8.2. INFLUENCE OF THE LFRMS ON CULTURAL HERITAGE

The Local Strategy will endeavour to maintain, or where possible enhance the status of RCTs cultural heritage.

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3.2.9. LANDSCAPES

3.2.9.1. SU

20 Special Landscape areas (SLAs) have been designated within RCT.

The Cynon Valley River Park Strategy (initiated in 2007) has been developed by RCT's Countryside Section in consultation with other bodies. Its aim is to encourage positive use and management of the River Cynon floodplain to provide space for natural processes, wildlife and people.

3.2.9.2. INFLUENCE OF THE LFRMS ON LANDSCAPES

The Local Strategy has the potential to have both positive and negative impacts on landscape features. For instance the construction of physical defences could have a detrimental impact on landscapes whilst the implementation of best-practice land management techniques for the principal benefit of flood risk management is likely to have secondary benefits for the wider environment.

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3.3. STRATEGIC ENVIRONMENTAL OBJECTIVES

Key environmental issues have been identified and used correspondingly with the review of other relevant plans, policies and programmes to develop a set of SEA objectives. Tables 8 through to 16 summarises how the assessment of key plans, programmes and policies together with baseline information has been used to develop the SEA objectives.

3.3.1. SEA OBJECTIVE 1

Table 5: Defining SEA Objectives – Biodiversity, Flora and Fauna

Key Environmental Issue/Baseline Data	SEA Objective
<p>Detailed Action Plans for each of the 30 habitats and 141 species important for wildlife in RCT have been drawn up.</p> <p>Within RCT (outside of the Brecon Beacons National Park) there are parts of three SACs: Blaen Cynon, Coedydd Nedd a Mellte and part of the Cardiff Beechwood SAC.</p> <p>There are 14 SSSIs within RCT.</p> <p>There are two LNRs within RCT: Glyncornol (Llwynypia) and Craig yr Hesg (Llantrisant). There are three Wildlife Trust for South Wales and West Wales Nature Reserves sites within RCT: Pwll Waun Cynon (Mountain Ash), Y Gweira (Llantrisant) and Brynna Woods/Llanharan Marsh (Llanharan).</p> <p>183 SINCs have been designated within RCTs Local Development Plan.</p>	<p>Protect and enhance biodiversity (biodiversity, flora and fauna)</p>

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3.3.2. SEA Objectives

Table 6: Defining SEA Objectives – Population & Human Health

Key Environmental Issue/Baseline Data	SEA Objective
<p>In Wales, the population grew by 1.4% or 44,000 people between 2011 and 2021 according to the ONS census population change. Rhondda Cynon Taf is the third most populous unitary authority in Wales after Cardiff and Swansea, with approximately 237,700 people. Rhondda Cynon Taf ranked third for total population out of 22 local authority areas in Wales, maintaining the same position it held a decade ago. As of 2021, Rhondda Cynon Taf is the eighth most densely populated of Wales' 22 local authority areas, with around four people living on each football pitch-sized area of land.</p> <p>to the national baseline.</p> <p>The health profile of RCT is largely worse than the average for Wales. Key identified issues include:</p> <ul style="list-style-type: none"> • Life expectancy for both men and women is below the Welsh average; • RCT has <i>significantly higher</i> rates of obesity and mortality relative to the Welsh average value; • Alcohol consumption within RCT is <i>significantly higher</i> than the Welsh national average. <p>Residents of RCT have relatively low availability of natural greenspace within their local communities.</p>	<p>Provide opportunities to improve human health and avoid adverse effects on population (Population and Human Health)</p>

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3.3.3. SEA OBJECTIVE 3

Table 7: Defining SEA Objectives – Soil and Contaminated Land

Key Environmental Issue/Baseline Data	SEA Objective
<p>Upland areas of RCT are in agricultural use, with potential attendant implications for soil degradation and near-surface compaction if best-practice land management techniques are not implemented.</p> <p>Agricultural land in RCT is largely Grade 4 or Grade 5.</p>	<p>Protect and enhance land quality (soil and contaminated land)</p>

3.3.4. SEA OBJECTIVE 4

Table 8: Defining SEA Objectives – Water Resources

Key Environmental Issue/Baseline Data	SEA Objective
<p>Main Rivers within RCT are the Rivers, Taff, Rhondda, Cynon and Clun.</p> <p>The water resource availability status over most of RCT has been designated as <i>over licensed</i> at low flows.</p> <p>The majority of RCT is underlain by either Sandstone or Carboniferous Limestone units which are capable of supporting significant yields, but are currently not used to their full potential.</p> <p>Surface water monitoring results against parameters defined in the WFD, are variable throughout the County Borough. Particular problems exist with regards to the discharge of CSOs.</p> <p>There numerous water related SSSIs within RCT, in addition to two water related SACs at Cwm Cadlan and Blaen Cynon.</p>	<p>Protect and enhance water environment (water resources)</p>

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3.3.5. SEA OBJECTIVE 5

Table 9: Defining SEA Objectives – Flooding

Key Environmental Issue/Baseline Data	SEA Objective
<p>Significant levels of surface water flood risk identified within RCT.</p> <p>Approximately 12,000 recorded incidences of flooding from local sources</p> <p>Approximately 21,000 properties at risk from a 1 in 200 annual chance event.</p>	<p>Minimise the risk of flooding</p>

3.3.6. SEA OBJECTIVE 6

Table 10: Defining SEA Objectives – Material Assets

Key Environmental Issue/Baseline Data	SEA Objective
<p>Major transport links reflect the distinctive geography of RCT, with primary routes running along the valley bottoms. Key routes: the A470, A4119 and M4 trunk roads and the ‘valley lines’ railway network are all widely used by the population for commuting to work (both within and out of the County Borough). These routes are particularly vulnerable to disruption as a result of flooding incidents.</p>	<p>Protect existing and proposed infrastructure (material assets)</p>

3.3.7. SEA OBJECTIVE 7

Table 11: Defining SEA Objectives – Cultural Heritage

Key Environmental Issue/Baseline Data	SEA Objective
<p>RCT has 366 listed buildings and 16 conservation areas designated on the basis of their special architectural or historic interest.</p> <p>The County Borough has a rich and diverse archaeological record including prehistoric burial cairns, a Roman Fort and more recent post-medieval examples of industrial heritage.</p> <p>RCT has 86 designated Scheduled Ancient Monuments</p>	<p>Sustainably manage the cultural environment (cultural heritage)</p>

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3.3.8. SEA OBJECTIVE 8

Table 12: Defining SEA Objectives – Landscapes

Key Environmental Issue/Baseline Data	SEA Objective
<p>Two large areas of RCT have been identified as Special Historic Landscape Areas: The Rhondda Fawr; and East Fforest Fawr and Mynydd-y-glog.</p>	<p>Protect and enhance landscape character/visual amenity</p>

3.3.9. SEA OBJECTIVE 9

Table 13: Defining SEA Objectives – Climatic Factors

Key Environmental Issue/Baseline Data	SEA Objective
<p>By 2050 it is anticipated that Wales is likely to experience an increase in temperature of between 2.0 °C and 2.5°C.</p> <p>It is anticipated that river flood flows within the Severn River Basin District are likely to increase by 20% up to 2050.</p> <p>Across Wales, extreme daily rainfall is anticipated to increase by 10% by 2050.</p> <p>The ecological footprint per capita has decreased since 2003 and is below both the Welsh and UK average.</p> <p>Climate change will likely place increasing pressure on flood risk management regimes.</p>	<p>Mitigate impacts from climate change (climatic factors)</p>

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3.4. STRATEGIC ENVIRONMENTAL ASSESSMENT FRAMEWORK

The SEA framework presented in Table 17 has been developed based on the information gathered thus far, and shows the relationship between the following:

- Each of the identified SEA objectives.
- The source of each of the SEA objectives.
- The key questions that have to be asked of each LFRMS policy to assess its relationship with the SEA objectives; and
- The indicators to be used to monitor the success of the LFRMS.

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Table 14: Strategic Environmental Assessment Framework and Potential Indicators

SEA Objective	Relevant Plans, Strategies and Programmes	Key Questions	Potential Indicators
<p>1) To protect and enhance biodiversity</p>	<p><i>Action for Nature: A Local Biodiversity Action Plan for Rhondda Cynon Taf (LBAP)</i></p>	<p>Will the LFRMS protect and enhance biodiversity across RCT?</p> <p>Does the LFRMS seek to protect and/or enhance national/international designated sites?</p> <p>Does the LFRMS seek to conserve and/or enhance natural/semi-natural habitats?</p> <p>Does the LFRMS conserve and/or enhance species diversity, and in particular avoid harm to protected species?</p>	<p>Changes in condition to designated sites</p> <p>Achievement of biodiversity action plan targets</p> <p>Ecological potential assessments</p> <p>Chemical and ecological condition of rivers.</p> <p>Requirements for habitat enhancement and/or compensation arising out of the LFRMS</p>
<p>2) To protect and enhance human health and well being</p>	<p><i>Health, Social Care and Well-Being Strategy 2011-2014, Rhondda Cynon Taf County Borough Council</i></p> <p><i>Live. Grow. Aspire. Achieve: Rhondda Cynon Taf Community Strategy 2010-2020, Rhondda Cynon Taf County Borough Council</i></p> <p><i>Our Living Space-An Environmental Improvement Strategy for RCT,</i></p>	<p>Will the LFRMS have an adverse impact upon human health?</p> <p>Will the LFRMS seek to preserve areas with an amenity use?</p>	<p>Number of properties/businesses at risk of flooding</p> <p>Number of developments permitted contrary to EA advice</p> <p>Area/number of recreational and amenity facilities effected by flooding incidents</p>

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SEA Objective	Relevant Plans, Strategies and Programmes	Key Questions	Potential Indicators
	Rhondda Cynon Taf County Borough Council		Change in area/number/quality of public open spaces, recreational and sports facilities Number of flood related injuries
3) To protect land quality	<i>Rhondda Cynon Taf Landscape Strategy</i> , Rhondda Cynon Taf County Borough Council <i>Soil, a precious resource – our strategy for protecting, managing and restoring soil</i> , Environment Agency	Will the LFRMS have an adverse impact upon the best and most versatile agricultural land?	Area/number of incidences where Grade 1,2 or 3 soil lost due to need for flood defence
4) To maintain and enhance water resources and quality	<i>Water for Life and Livelihoods: River Basin Management Plan, Severn River Basin District</i> , Environment Agency <i>Taff and Ely Catchment Abstraction Management Strategy (CAMS)</i> , Environment Agency	Will the LFRMS have an adverse impact on water resources? Will the LFRMS enhance water resources? Will the LFRMS have an adverse impact upon water quality?	Ecological status of rivers Chemical status of rivers Resource availability status for surface water and groundwater in Catchment Abstraction Management Strategy Areas Maintenance or enhancement of existing surface water and groundwater regimes. Resource availability status at low flows for units of surface water and/or

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SEA Objective	Relevant Plans, Strategies and Programmes	Key Questions	Potential Indicators
			<p>Surface water combined with groundwater in Catchment Protection Management Strategy Areas</p> <p>Condition of water bodies (Water Framework Directive)</p>
<p>5) To minimise the risk of flooding</p>	<p><i>Rhondda Cynon Taf Preliminary Flood Risk Assessment</i>, Rhondda Cynon Taf County Borough Council</p> <p><i>National Strategy for Flood and Coastal Erosion Risk Management in Wales</i>, Welsh Government</p> <p><i>Technical Advice Note TAN 15: Development and Flood Risk</i>, Welsh Government</p> <p><i>Taff and Ely Catchment Flood Management Plan</i>, Environment Agency</p>	<p>Will the LFRMS reduce the risk of flooding?</p> <p>Will the LFRMS have a reducing effect on the impact of flooding?</p> <p>Does the LFRMS encourage the implementation of sustainable drainage systems?</p>	<p>Number of properties/businesses at risk of flooding</p> <p>Number of flood defences developed</p> <p>Number of sustainable drainage systems implemented since the publication of the LFRMS</p>
<p>6) To ensure the potential impact of flooding on existing and future infrastructure is minimised</p>	<p><i>Rhondda Cynon Taf County Borough Council Local Development Plan 2006-2021</i>, Rhondda Cynon Taf County Borough Council</p>	<p>Will the LFRMS ensure the protection of important transport infrastructure?</p> <p>Will the LFRMS ensure the protection of services including water, power and telecommunications?</p>	<p>Number and severity of incidents leading to disruption or damage to transport infrastructure.</p>

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SEA Objective	Relevant Plans and Programmes	Key Questions	Potential Indicators
	<p><i>Rhondda Cynon Taf Local Transport Plan, Rhondda Cynon Taf County Borough Council</i></p> <p><i>Regional Transport Plan, SEWTA</i></p> <p><i>Housing Matters: A Local Housing Strategy for Rhondda Cynon Taf, Rhondda Cynon Taf County Borough Council</i></p>	<p>Does the LFRMS ensure that adequate drainage of surface water is provided?</p> <p>Does the LFRMS encourage the implementation of sustainable drainage systems?</p>	<p>Number and severity of incidents leading to disruption or damage to water supply provision.</p> <p>Number of days lost by industry due to access problems.</p>
<p>7) To maintain and/or enhance the cultural heritage of RCT</p>	<p><i>Planning (Listed Buildings and Conservation Areas) Act 1980</i></p> <p><i>Ancient Monuments and Archaeological Areas Act 1979</i></p>	<p>Will the LFRMS have an adverse impact upon local historic assets?</p>	<p>Number of listed buildings at risk of flooding events</p> <p>Number of flood defences/strategies implemented to protect listed buildings since the LFRMS was published</p> <p>Number and condition of conservation areas</p> <p>Number and condition of registered historic parks and gardens</p>
<p>8) To protect/enhance landscape</p>	<p><i>Rhondda Cynon Taf Landscape Strategy, Rhondda Cynon Taf County Borough Council</i></p>	<p>Does the LFRMS seek to protect and/or enhance national/international designated sites?</p>	<p>Number of proposed and actual flood mitigation developments to be located within landscapes with a high sensitivity.</p>

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SEA Objective	Relevant Plans, Strategies and Programmes	Key Questions	Potential Indicators
		Does the LFRMS seek to enhance the range and quality of the public realm and green spaces?	
9) To adapt to the impacts of climate change	<i>Climate Change Strategy for Wales, Welsh Government</i>	What impact will the LFRMS have upon RCTS vulnerability to the impacts of climate change?	Indicative floodplains under current conditions and under climate change scenarios and the developments occurring within.

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4. SEA ASSESSMENT METHODOLOGY

The Strategic Environmental Assessment Directive requires “the likely significant effects on the environment of implementing the strategy and reasonable alternatives taking into account the objectives and the geographical scope of the strategy” (Article 5.1).

This section aims to outline how the SEA Assessment was undertaken in parallel with the development of the Local Strategy and presents the methodology used to undertake the SEA Assessment.

4.1. LFRMS/SEA STAGES

The development of the draft Local Strategy was undertaken in parallel with the SEA process. Table 18 presents the various stages undertaken in the LFRMS and how the SEA has inputted into this development process.

Table 15: Principal stages in the LFRMS development process and SEA activities

LFRMS Stage	Description	Strategic Environmental Assessment (SEA) Activities
Characterisation of flooding and wider environmental issues within RCT and at a wider catchment scale.	Developing an understanding of the local flood risk within RCT.	The Scoping work for the SEA process was undertaken alongside the data gathering phase of the LFRMS.
Objective setting for managing flood risk.	Developing a set of objectives to manage flood risk and achieve, where possible, improvements to the wider environment.	Main stage (this report) of the SEA process was undertaken alongside the objective setting for the Draft LFRMS.

4.2. SCENARIOS

Given the high-level nature of the Local Strategy, which sets out objectives undefined in terms of their spatial and geographical extent, it is difficult at this point in time to develop a set of “reasonable alternatives” or scenarios to the objectives presented in the Local Strategy.

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Rather than undertake an SEA assessment which incorporates an alternative scenario, RCTCBC proposed to undertake the SEA assessment by comparing the preferred approach against the 'do nothing' scenario. The 'do nothing' scenario essentially represents the future state of the environment without implementation of the Local Strategy. Given that the Local Strategy is likely to generate further, more detailed plans and projects, it would be anticipated that assessment of alternative scenarios would be undertaken during any SEA process carried out at the appropriate point in the future.

4.3. ASSESSMENT METHODOLOGY

The SEA will assess the likely environmental effects of Local Strategy objectives against the SEA objectives selected in the SEA Framework. An additional assessment of the likely state of the environment under the 'do nothing' scenario will be undertaken.

It is proposed that each assessment will be presented in a tabular format as per Table 19. Impacts will be colour coded as indicated below:

Colour	Impact
++	Major Positive
+	Positive
0	No Impact
/	Uncertain
-	Negative
--	Major Negative

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Figure 16: Examples of Strategic Assessment Matrix

		SEA Objective									
		Timeframe	1	2	3	4	5	6	7	8	9
Do Nothing	Short	0	0	0	0	0	0	0	0	0	0
	Med	-	0	-	0	0	-	0	-	-	
	Long	-	--	-	-	--	--	-	-	--	
Implement LFRMS Objective	Short	0	+	0	+	0	+	0	0	0	
	Med	+	++	+	+	0	+	+	+	+	
	Long	+	++	+	+	+	+	+	+	+	
Summary											
<p><i>A brief summary of the primary positive and negative effects of each objective will be provided here.</i></p>											

The SEA will reflect the timescale over which the policies, objectives and strategies of the Local Strategy will be implemented. It is intended that three time periods will be used to reflect this in the assessment of the Local Strategy. These time periods are indicated as S, M and L in the matrix above which represent:

- S – Short term – Present to 2029
- M – Medium term – 2029 to 2044
- L – Long term – 2044 and beyond

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5. LOCAL FLOOD RISK MANAGEMENT STRATEGY OBJECTIVES

This section presents the detailed Local Strategy Objectives and gives an insight as to how they were developed, with particular regard to other, overarching strategies and policies.

5.1. DETAILED LFRMS STRATEGIC OBJECTIVES

RCT's Local Strategy presents sixteen strategic objectives which outline how the Authority intends to manage flood risk within this LFRMS cycle. These objectives adhere to the objectives set out in the Welsh Government's National Strategy for Flood and Coastal Erosion Risk Management. The table below presents these objectives in detail.

Table 17: LFRMS Strategic Objectives
RCTCBC Detailed LFRMS Objectives

1	Reduce distress by decreasing the number of people exposed to the risk of flooding
2	Reduce community disruption by reducing the number of residential and commercial properties exposed to the risk of flooding
3	Reduce risk to life by reducing the number of people exposed to risk of flooding of significant depth and velocity.
4	Reduce disruption caused by severe weather to critical infrastructure and essential services
5	Improve or not detrimentally affect water quality
6	Identify opportunities that work with natural processes to reduce the risk of flooding
7	Maintain, or where possible, improve the status of Special Areas of Conservation (SACs), Sites of Special Scientific Interest (SSSIs), Sites of Importance for Nature and Conservation (SINC) sites and contribute to the RCT's 'Action for Nature' (Local Nature Recovery Plan) plan.
8	Improve our understanding of local flood risk in RCT and how this risk may be impacted by climate change in the future.
9	Develop effective communication tools to share information and improve individual and community awareness of local flood risks and how they can be managed proactively
10	Improve individual and communities' ability to prepare, respond and recover to the impacts of flooding
11	Ensure that RCT work in partnership with Risk Management Authorities and other stakeholders to holistically manage the risk of flooding

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RCT SAC Detailed LAMS Objectives	
12	Ensure flood risk management functions are provided and delivered in a sustainable way
13	Ensure that investment decisions for flood risk management schemes are prioritised utilising a risk-based approach

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6. ASSESSMENT OF LOCAL FLOOD RISK MANAGEMENT STRATEGY OBJECTIVES

This section presents the assessment of the Local Strategy objectives against SEA objectives for both a ‘do nothing’ and ‘implement strategy’ scenarios. An assessment of secondary and synergistic effects is additionally presented.

6.1. ASSESSMENT OF OBJECTIVES

There are thirteen strategic objectives presented within RCTCBCs Local Strategy. The ensuing sections assess the likely impact of each of the Local Strategy objectives in accordance with the framework outline in 4.4.

7.1.1 Local Strategy Objective 1 Reduce distress by decreasing the number of people exposed to the risk of flooding

	SEA Objective									
	Timeframe	1	2	3	4	5	6	7	8	9
Do Nothing	Short	0	-	0	0	-	-	0	0	0
	Med	0	-	0	0	--	-	0	-	-
	Long	-	--	-	-	--	--	0	-	--
Implement LFRMS Objective	Short	0	+	0	+	+	+	0	0	0
	Med	+	++	+	+	+	+	+	+	+
	Long	+	++	+	+	+	+	+	+	+

Summary of significant environmental effects

As an objective which has particular regard to reducing the intangible effects on human health attributable to the threat, as well as actual effects of flooding, there is a strong, positive impact on SEA Objective 2 (*to protect and enhance human health and wellbeing*). This positive impact is likely to increase over time as the predicted effects of climate change materialise. Due to the direct effect on reducing the risk of flooding that this objective has, it has positive effects on a number of other SEA objectives.

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The 'Do Nothing' scenario assumes that the status of a number of SEA objectives would worsen over time as the likelihood and frequency of flooding increases.

7.1.2 Local Strategy Objective 2 Reduce community disruption by reducing the number of residential and commercial property exposed to the risk of flooding

	SEA Objective									
	Timeframe	1	2	3	4	5	6	7	8	9
Do Nothing	Short	0	-	0	0	-	-	0	0	0
	Med	0	-	0	0	--	-	0	-	-
	Long	-	--	-	-	--	--	0	-	--
Implement LFRMS Objective	Short	0	+	0	+	+	+	0	0	0
	Med	+	++	+	+	++	++	+	+	+
	Long	+	++	++	++	++	++	+	++	++

Summary of significant environmental effects

As an objective which results in a direct reduction of flood risk, it has multiple positive effects across multiple SEA objectives. This positive impact is likely to increase over time as the predicted effects of climate change materialise.

The 'Do Nothing' scenario assumes that the status of a number of SEA objectives would worsen over time as the likelihood and frequency of flooding increases.

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7.1.3 Local Strategy Objective 3: Reduce the risk to life by reducing the number of people exposed to risk of flooding of significant depth and velocity

		SEA Objective								
		Timeframe	1	2	3	4	5	6	7	8
Do Nothing	Short	0	-	0	0	-	-	0	0	0
	Med	-	--	-	0	--	--	0	0	0
	Long	-	--	-	0	--	--	0	-	-
Implement LFRMS Objective	Short	0	+	0	0	+	+	0	0	0
	Med	+	++	+	0	++	++	0	0	+
	Long	+	++	++	+	++	++	+	+	+

Summary of significant environmental effects

Reducing the risk to life by reducing the number of people exposed to the risk of flooding of significant depth and velocity will obviously have a positive impact on SEA objectives 2, 5 & 6. Secondary positive effects on other SEA objectives will additionally materialise as a consequence of the direct reduction in flood risk.

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7.1.4 Local Strategy Objective 4: Reduce the impact caused by severe weather to critical infrastructure and essential services

		SEA Objective								
		Timeframe	1	2	3	4	5	6	7	8
Do Nothing	Short	0	0	0	0	-	--	0	0	0
	Med	0	-	0	0	--	--	0	0	-
	Long	-	-	-	-	--	--	0	-	-
Implement LFRMS Objective	Short	0	+	0	0	+	++	0	0	0
	Med	0	+		0	++	++	0	0	+
	Long	+	++	+	+	++	++	+	+	+

Summary of significant environmental effects

This particular objective has strong, positive impacts upon SEA objectives 5 & 6, which concern the *minimisation of flood risk* and *ensuring that the potential impact of flooding on existing and future infrastructure is minimised*. There is also a positive impact upon SEA objective 2 attributable to the likely positive impact on human health and wellbeing as a result of less disruption to infrastructure.

Draft

7.1.5 Local Strategy Objective 5: Improve and maintain high water quality

		SEA Objective								
		Timeframe	1	2	3	4	5	6	7	8
Do Nothing	Short	0	0	0	-	0	0	0	0	0
	Med	-	-	0	--	0	0	0	-	-
	Long	-	--	-	--	-	0	0	--	-
Implement LFRMS Objective	Short	0	+	0	+	0	0	0	+	0
	Med	+	++	0	++	0	0	0	++	0
	Long	++	++	+	++	+	+	+	++	+

Summary of significant environmental effects

Strong, positive impacts are evident on SEA objectives concerning the *protection and enhancement of human health, maintenance and enhancement of water resources* and the *protection and enhancement of landscape*. There are also likely to be secondary positive effects on *biodiversity* and to a lesser extent *land quality*.

Draft

7.1.6 Local Strategy Objective 1 Identifying opportunities that link with natural processes to reduce the risk of flooding

	SEA Objective									
	Timeframe	1	2	3	4	5	6	7	8	9
Do Nothing	Short	0	0	0	0	0	0	0	0	0
	Med	-	0	-	-	-	0	0	-	-
	Long	-	-	-	-	-	-	0	-	-
Implement LFRMS Objective	Short	++	0	0	0	+	0	0	++	0
	Med	++	+	+	+	+	+	0	++	+
	Long	++	+	++	+	++	+	+	++	+

Summary of significant environmental effects

As expected, strong, positive impacts will occur to SEA objectives 1 & 8 which concern the *protection and enhancement of biodiversity* and the *protection and enhancement of landscape*.

Draft

7.1.7 Local Strategy Objective 7 Maintain, where possible, improve the status of Special Areas of Conservation (SACs), Sites of Special Scientific Interest (SSSIs), Sites of Importance for Nature and Conservation (SINC) sites and contribute to the RCT’s Local Biodiversity Action Plan.

		SEA Objective									
		Timeframe	1	2	3	4	5	6	7	8	9
Do Nothing	Short	0	0	0	0	0	0	0	0	0	0
	Med	-	-	-	-	-	0	0	-	-	
	Long	--	-	-	-	-	-	0	--	--	
Implement LFRMS Objective	Short	++	+	+	+	+	0	0	++	+	
	Med	++	+	+	+	+	0	0	++	+	
	Long	++	++	++	++	+	+	+	++	++	

Summary of significant environmental effects

As a result of this objective, a strong, positive impact on *landscape* features within RCT will result. There will likely be secondary positive impacts on *the protection and enhancement of biodiversity, the protection of land quality and the minimisation of risk to flooding.*

Draft

7.1.8 Local Strategy Objective – improve our understanding of local flood risk in RCT and how this risk may be impacted by climate change in the future.

		SEA Objective									
		Timeframe	1	2	3	4	5	6	7	8	9
Do Nothing	Short	0	0	0	0	0	0	0	0	0	0
	Med	-	-	-	-	-	0	0	-	-	
	Long	--	-	-	-	-	-	0	--	--	
Implement LFRMS Objective	Short	++	+	+	+	+	0	0	++	+	
	Med	++	+	+	+	+	0	0	++	+	
	Long	++	++	++	++	+	+	+	++	++	

Summary of significant environmental effects

The most prominent positive impacts are on *biodiversity* and *landscape* features. There will likely be secondary positive impacts on *human health* and the *maintenance and enhancement of water resources and quality*.

Draft

7.1.9 Local Strategy Objective 5 Develop effective communication tools to share information and improve individual and community awareness of local flood risks and how they can be managed proactively

		SEA Objective								
		Timeframe	1	2	3	4	5	6	7	8
Do Nothing	Short	0	-	0	0	-	-	0	0	0
	Med	0	-	0	0	--	-	0	-	-
	Long	-	--	-	-	--	--	0	-	--
Implement LFRMS Objective	Short	0	+	0	+	+	+	0	0	0
	Med	+	++	+	+	+	+	+	+	+
	Long	+	++	+	+	+	+	+	+	+

Summary of significant environmental effects

With a particular focus on safeguarding *human health and well-being* by developing effective communication for flood risk management, the objective will significantly contribute to the achievement of SEA Objective 2. As the projected effects of climate change become more apparent, the positive influence of our efforts is expected to grow even stronger.

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7.1.10 Local Strategy Objective 10: Improve individual and communities' ability to prepare, respond and recover to the impacts of flooding

	SEA Objective									
	Timeframe	1	2	3	4	5	6	7	8	9
Do Nothing	Short	0	0	0	0	0	0	0	0	0
	Med	0	0	0	0	-	-	0	0	-
	Long	0	-	-	-	--	-	0	-	-
Implement LFRMS Objective	Short	0	0	0	0	0		0	+	0
	Med	0	0	0	0	+	+	0	+	+
	Long	0	+	+	+	++	+	+	+	+

Summary of significant environmental effects

By ensuring that everyone is aware of how prepare, respond, and recover to flood will be a key component in the minimisation of flood risk. Hence, the primary positive impact is on SEA objective 5, *minimise the risk of flooding*, as well as a positive impacts to the protection and enhancement of *human health and wellbeing*.

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7.1.11 Local Strategy Objective 11 Ensure that RCT work in partnership with Risk Management Authorities and other stakeholders to holistically manage the risk of flooding

		SEA Objective								
Timeframe		1	2	3	4	5	6	7	8	9
Do Nothing	Short	0	0	0	0	0	0	0	0	0
	Med	0	0	0	0	-	-	0	0	-
	Long	0	-	-	-	--	-	0	-	-
Implement LFRMS Objective	Short	0	0	0	0	0		0	+	0
	Med	0	0	0	0	+	+	0	+	+
	Long	0	+	+	+	++	+	+	+	+

Summary of significant environmental effects

By ensuring that everyone is aware of their roles on flood risk management will assist in the minimisation of flood risk. Hence, the primary positive impact is on SEA objective 5, *minimise the risk of flooding* and positive impacts to the protection and enhancement of *human health and wellbeing*.

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7.1.12 Local Strategy Objective 2: Ensuring flood risk management functions are considered and delivered in a sustainable way

		SEA Objective									
		Timeframe	1	2	3	4	5	6	7	8	9
Do Nothing	Short	0	0	0	0	0	0	0	0	0	0
	Med	-	-	-	-	-	-	0	-	-	-
	Long	-	-	--	-	--	--	0	--	--	--
Implement LFRMS Objective	Short	+	+	++	+	+	+	0	++	+	+
	Med	++	+	++	++	++	++	0	++	++	++
	Long	++	+	++	++	++	++	+	++	++	++

Summary of significant environmental effects

Positive impacts across a wide range of environmental topics are likely to result as a consequence of implementing innovative land management techniques. Prominent impacts occur to *the protection of land quality* and the protection/enhancement of landscapes which will enhance the characteristics of land and soils.

Draft

7.1.13 Local Strategy Objective – Ensure that investment decisions for flood risk management schemes are prioritised utilising a risk-based approach

	SEA Objective									
	Timeframe	1	2	3	4	5	6	7	8	9
Do Nothing	Short	0	-	0	0	-	-	0	0	0
	Med	-	--	-	-	--	--	0	-	-
	Long	--	--	--	-	--	--	0	--	--
Implement LFRMS Objective	Short	+	+	+	+	++	+	0	+	+
	Med	+	++	+	+	++	++	+	+	+
	Long	++	++	++	+	++	++	+	++	++

Summary of significant environmental effects

It is likely that the production of flood risk investment decisions will have a strong positive influence on the SEA objectives given that these plans will effectively pull together a large number of the flood risk management policies and measures and will provide a mechanism for these to be directly implemented to those areas that are at the most risk of flooding.

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6.2. SUMMARY ASSESSMENT OF LOCAL STRATEGY

An attempt has been made to summarise the likely environmental effects of implementing the Local Strategy as a whole and is presented below

	SEA Objective									
	Timeframe	1	2	3	4	5	6	7	8	9
Do Nothing	Short	0	0	0	0	0	0	0	0	0
	Med	0	0	0	0	0	0	0	0	0
	Long	0	0	0	0	0	0	0	0	0
Implement LFRMS	Short	0	+	+	+	0	+	+	+	0
	Med	0	+	+	+	0	+	+	+	0
	Long	0	+	+	+	0	+	+	+	0

As is to be expected, the Local Strategy has particularly strong, positive environmental effects of SEA objectives concerning the:

- *protection and enhancement of human health and well being* – which can be attributed to a number of factors such as the reduction in anxiety/stress brought about through flooding incidents, and the strong emphasis placed on utilising land management techniques which has the potential to increase accessibility to open spaces.
- *minimise the risk of flooding ensuring the potential impact of flooding on existing and future infrastructure is minimised.*

6.3. SIGNIFICANT SECONDARY AND SYNERGISTIC EFFECTS

The Strategic Environmental Assessment Directive requires the assessment of synergistic and cumulative effects of a strategy – effects which interact in such a way to form significant positive/negative environmental effects. A summary of the additional cumulative/synergistic significant environmental effects likely to arise from implementation of the Local Strategy is summarised in Table 21 according to SEA theme.

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SEA Theme	Significant Synergistic/Secondary Environmental Effects
Biodiversity, Flora & Fauna	Where potential exists, the Local Strategy will compliment RCTCBC Local Biodiversity Action Plan. For instance opportunities to incorporate habitat enhancements into flood risk management measures will be sought where possible.
Population & Human Health	<p>The Local Strategy shows a high degree of synergy with RCTCBCs Community Strategy, particularly with regards to ambitions to reduce health inequalities by:</p> <ul style="list-style-type: none"> i) potentially increasing access/availability of open spaces which in turn improve mental and physical well being; and ii) reducing stress and anxiety caused by the both the perceived threat and actual occurrence of flooding. <p>The Local Strategy will also contribute to ensuring that residents of RCT are prepared for how climate change is likely to affect local communities</p>
Soil	By implementing SuDS and innovative land management techniques there is likely to be a beneficial impact on soil quality and sustainable use of soil resources. Thus there is likely to be a certain degree of synergy with the Environment Agency Strategy for <i>Soil, a precious resource – our strategy for protecting, managing and restoring soil.</i>
Water & Flooding	There are obvious synergies with environmental and Water Framework Directive objectives contained within overarching strategies, most notably the River Severn Catchment Flood Management Plan.
Material Assets	The SEA did not identify any significant environmental effects for this theme.
Cultural Heritage	The SEA did not identify any significant environmental effects for this theme.
Landscapes	The Local Strategy has the potential to provide a high degree of synergy with complimentary strategies whose primary focus is the enhancements of landscapes.

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6.4. PROPOSED MONITORING

Upon finalisation and adoption of the draft Local Strategy, Article 10 (1) of the Strategic Environmental Assessment requires monitoring of significant environmental effects.

RCTCBC will attempt to utilise existing monitoring protocols to meet the monitoring requirements of the Strategic Environmental Assessment process. Table 22 presents the proposed monitoring measures. Whilst using existing monitoring measures will give an indication of wider environmental trends, it is unlikely that these measures will directly pick up the effects of Local Strategy policies due to the impact of other influences.

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Table 1: Proposed Monitoring

SEA Theme	Proposed Monitoring
Biodiversity, Flora & Fauna	Changes in condition to designated sites
	Achievement of biodiversity action plan targets
	Ecological potential assessments
	Chemical and ecological condition of rivers.
	Requirements for habitat enhancement and/or compensation arising out of the Local Strategy
Population & Human Health	Number of properties/businesses at risk of flooding
	Number of developments permitted contrary to EA advice
	Area/number of recreational and amenity facilities effected by flooding incidents
	Change in area/number/quality of public open spaces, recreational and amenity facilities
	Number of flood related injuries
Soil	Area/number of incidences where Grade 1,2 or 3 soil lost due to need for flood defence
Water	Resource availability status for surface water and groundwater in Catchment Abstraction Management Strategy Areas
	Maintenance or enhancement of existing surface water and groundwater regimes
	Resource availability status at low flows for units of surface water and/or surface water combined with groundwater in Catchment Abstraction Management Strategy Areas
	Condition of water bodies (Water Framework Directive)
Flooding	Number of properties/businesses at risk of flooding
	Number of flood defences developed
	Number of sustainable drainage systems implemented since the publication of the LFRMS
Material Assets	Number and severity of incidents leading to disruption or damage to transport infrastructure.
	Number and severity of incidents leading to disruption or damage to service provision
	Number of days lost by industry due to access problems
Cultural Heritage	Number of listed buildings at risk of flooding events
	Number of flood defences/strategies implemented to protect listed buildings since the Local Strategy was published
	Number and condition of conservation areas
	Number and condition of registered historic parks and gardens

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SEA theme	Proposed Monitoring
Landscapes	Number of proposed and actual flood mitigation developments to be located within landscapes with a high sensitivity.

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7. FUTURE ACTIVITIES

This Environmental Report concludes the principal stage of the Rhondda Cynon Taf County Borough Council's Local Strategy. Additional assessment may be required if changes to draft Strategy required subject to the completion of the consultation period result in additional/or significantly alter the significant environmental effects described in this report.

An additional statement will be published upon adoption of the final Local Strategy highlighting how consultation responses have influenced the Final Strategy in addition to finalising the monitoring requirements.

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Flood and Water Management Act 2010

Local Flood Risk Management Strategy and Action Plan

Strategic Environmental Assessment

Annexes to the Environmental Report

March 2024

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ANNEX A

Plans and Programmes

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1. INTRODUCTION

1.1. BACKGROUND

Rhondda Cynon Taf County Borough Council (RCTCBC) have conducted a Strategic Environmental Assessment (SEA) on the revised Local Flood Risk Management Strategy and Action Plan (Local Strategy) for Rhondda Cynon Taf (RCT).

This document is Annex A of the Consultation Environmental Report for the SEA of the RCT's Local Strategy. In section two, relevant plans and programmes are listed and in section three these plans and programmes are reviewed, and its relevance stated in regard to the Local Strategy.

1.2. IDENTIFYING OTHER RELEVANT POLICIES, PLANS AND PROGRAMMES

It is key that the Local Strategy acts in accordance with existing policies, plans and programmes at international, national, regional and local levels, reinforcing local plans and strategies. It is therefore necessary to identify and analyse these policies, plans and programmes along with environmental protection objectives which are relevant to the SEA and the Local Strategy early in the process.

By identifying relevant policies, plans, and programmes, inconsistencies or constraints can be addressed to aid the development of the SEA framework. The relationships between the Local Strategy and various other policies, plans, and programmes and sustainability objectives are also analysed to: -

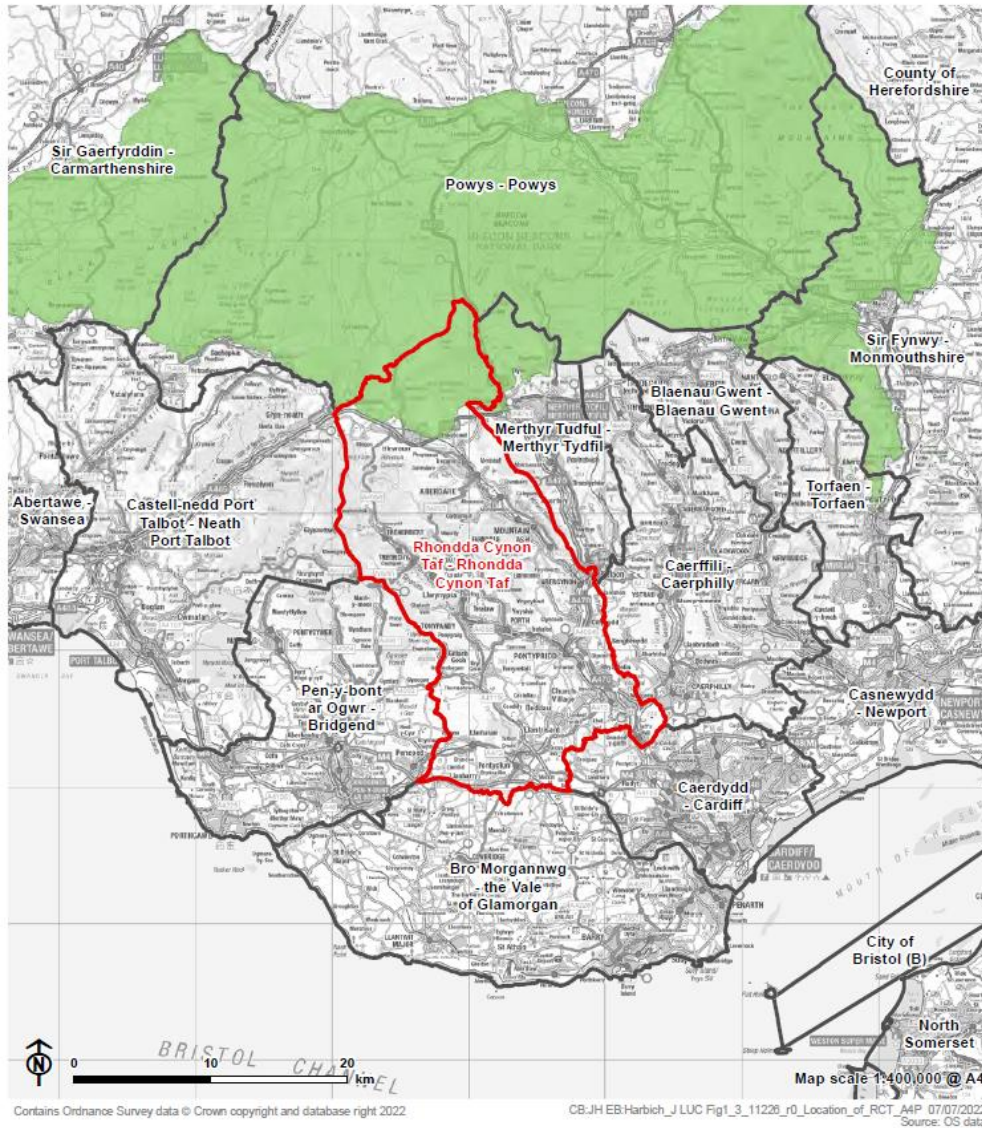
- identify external socio-economic and environmental objectives that should be considered in the SEA process
- identify external factors that may have influences the preparation of the plan
- determine if the policies or objectives in the other plans and programmes lead to cumulative or synergistic effects when combined with elements in the plan

Carrying out this process enables the Local Strategy to take advantage of any potential synergies and to identify any inconsistencies and constraints. The plans and programmes have been categorised as international, national, sub-national or local. It should be noted that no list of plans and programmes can be definitive.

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1.3. STUDY AREA

The Strategic Environmental Assessment will encompass the RCTCBC as indicated in Figure 1.






-  Rhondda Cynon Taf
-  Neighbouring local authority
-  Brecon Beacons National Park

Figure 1: RCTCBC Location Plan

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2. LIST OF RELEVANT PLANS AND PROGRAMMES

Table 1 presents details of plans, programmes and strategies deemed relevant to RCTs Local Strategy, with an indication of the relevant SEA under which they are considered.

2.1. INTERNATIONAL PLANS AND PROGRAMMES

Table 1: International Plans and Programmes – Biodiversity, Flora & Fauna

Plan/Programme	Category of Plan or Programme
EU Freshwater Fish Directive 2006/44/EC on the quality of fresh waters needing protection or improvement in order to support fish life	Biodiversity, Flora and Fauna
EU Eel Directive 1100/2007/EC establishing measures for the recovery of the stock of European eel	
EU Biodiversity strategy 1998	
EU Birds Directive 2009/47/EC on the conservation of wild birds	
EU Habitats Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora	
Rio Convention 1992	
Bern Convention 1979	
Bonn Convention 1975	
Ramsar Convention 1971	
Convention of Biological Diversity: Strategic Plan for Biodiversity 2011-2020 (under review)	

Table 2: International Plans and Programmes – Population & Human Health

Plan/Programme	Category of Plan or Programme
Children’s Environment and Health Action Plan for Europe 2004 (WHO)	Population & Human Health
Health 2020. A European policy framework and strategy for the 21st century (2013)	
World Health Organisation Global Strategy on Health, Environment and Climate Change (2020)	
Guidelines for Community Noise 1999 (WHO)	

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Table 3: International Plans and Programmes – Soil and Contaminated Land

Plan/Programme	Category of Plan or Programme
Environmental Liability Directive 2004	Soil & Contaminated Land
European Soil Charter 2003/World Soil Charter 1982	

Table 4: International Plans and Programmes – Water Resources

Plan/Programme	Category of Plan or Programme
EU Water Framework Directive 2000/60/EC on community action in the field of water policy	Water Resources
EU Drinking Water Directive 98/83/EC on quality standards for drinking water quality at the tap	
EU Groundwater Directive 2006/118/EC on the protection of groundwater against pollution and deterioration	
EU Bathing Water Directive 2006/7/EC on the protection of public health whilst bathing	
EU Nitrates Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources	
EU Drinking Water Abstraction Directive 75/440/EEC concerning the quality requirements which surface fresh water used or intended for use in the abstraction of drinking water must meet after application of appropriate treatment.	

Table 5: International Plans and Programmes – Flooding

Plan/Programme	Category of Plan or Programme
EU Floods Directive 2007/60/EC on the assessment and management of flood risk	Flooding

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Table 6: International Plans and Programmes – Material Assets

Plan/Programme	Category of Plan or Programme
EU Waste Framework Directive/EU Waste to Landfill Directive	Material Assets
European Commission White Paper on the European Transport Policy 2001	
EU Sustainable Development Strategy 2006	
EU Directive to promote Electricity from Renewable Energy, on the promotion of electricity from renewable energy sources in the internal electricity market	
UK Sustainable Development Goals 2021	

Table 7: International Plans and Programmes – Cultural Heritage

Plan/Programme	Category of Plan or Programme
UNESCO World Heritage Convention 1972	Cultural Heritage
The Charter for the Conservation and Restoration of Monuments and Sites 1964	
Convention on the Protection of Underwater Cultural Heritage 2001	
Convention Concerning the Protection of the World Cultural and Natural Heritage 1972	
The Charter for the Conservation of Historic Towns and Urban Areas 1987	

Table 8: International Plans and Programmes - Landscape

Plan/Programme	Category of Plan or Programme
European Landscape Convention (ELC) Council of Europe, ratified 2008	Landscape
UNESCO - World Heritage Convention 1972	

Table 9: International Plans and Programmes - Climatic Factors

Plan/Programme	Category of Plan or Programme
Paris Agreement; Europe 2020	Climatic Factors
United Nations Climate Change Conferences (1995 – Present)	
A Roadmap for Moving to a Competitive Low Carbon Economy in 2050	
UK Climate Change Risk Assessment 2022	

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2.2. NATIONAL PLANS AND PROGRAMMES

Table 10: National Plans and Programmes - Biodiversity, Flora & Fauna

Plan/Programme	Category of Plan or Programme
Natural Environment and Rural Communities Act 2006	Biodiversity, Flora and Fauna
Wildlife and Countryside Act 1981 (as amended)	
Countryside and Rights of Way Act 2000	
UK Forestry Standard 2017 (review due by end of 2022)	
Conservation of Habitats and Species Regulations 2017	
Protection of Badgers Act (1992)	
State of Nature Report (2019)	
The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017	
UK Biodiversity Indicators 2021 revised	
The UK National Ecosystem Assessment 2011 & 2014	
Future Wales: the national plan 2040 (2021)	
The Environment (Wales) Act 2016	
Well-being of Future Generations (Wales) Act 2015	
The Welsh National Marine Plan 2019	
Planning Policy Wales (Edition 11) 2021	
Welsh Government Natural Resources Policy 2017 (next revision due 2022)	
Nature Recovery Action Plan: Our strategy for nature 2015	
Nature Recovery Action Plan for Wales 2020-21	
The State of Natural Resources Report 2020	
Vital Nature: making the connections between biodiversity and the people and places of Wales 2018-2022	
Woodland for Wales Strategy 2018	
The Action Plan for Pollinators in Wales 2013	

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Table 1: National Plans and Programmes- Population & Human Health

Plan/Programme	Category of Plan or Programme
National Parks and Access to the Countryside Act 1949	Population & Human Health
Equality Act 2010	
Public Health (Wales) Act 2017	
Active Travel (Wales) Act 2013	
Active Travel Act guidance (2021)	
Well-being of Future Generations Act (Wales) 2015	
Social Services and Well-being (Wales) Act 2014	
TAN 23: Economic Development 2014	
TAN 16: Sport, Recreation and Open Space 2009	
TAN 15 Development and Flood Risk	
TAN 13: Tourism 1997	
TAN 11: Noise 1997	
TAN 6: Planning for Sustainable Rural Communities 2010	
Child Poverty Strategy for Wales (2015)	
Welcome to Wales: Priorities for the visitor economy (2020-2025)	
Future Wales: the national plan 2040 (2021)	
Planning Policy Wales (Edition 11) 2021	
Welsh Government Natural Resources Policy 2017 (under review)	
The State of Natural Resources Report 2020 - Aim 3	
A Healthier Wales: our plan for health and social care 2021	
Cymraeg 2050 – A Million Welsh Speakers	
Cymraeg 2050: our plan for 2021-2026	
Prosperity for All: economic action plan 2017	
Wales Infrastructure Investment Plan for Growth and Jobs: Project Pipeline 2021	
Learner Travel Statutory provision and operational guidance (2014)	
Age Friendly Wales: our strategy for an ageing society (2021)	
Evidence for the third UK Climate Change Risk Assessment (CCRA3): Summary for Wales	
Health Weight: Healthy Wales 2020	

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Table 2: National Plans and Programmes – Soil and Contaminated Land

Plan/Programme	Category of Plan or Programme
Environmental Permitting Regulations (England and Wales) 2016	Soil & Contaminated Land
Environmental Damage (Prevention and Remediation) (Wales) Regulations 2009	
UK Geodiversity Action Plan 2011	
Wildlife and Countryside Act 1981 (as amended)	
Contaminated Land (Wales) Regulations 2006 (as amended)	
Future Wales: the national plan 2040 (2021)	
Planning Policy Wales (Edition 11) 2021	
Agriculture (Wales) Bill	
Sustainable Farming Scheme co-design of future farming 2020	
Welsh Government Natural Resources Policy 2017 (under review)	
National Peatland Action programme 2020-2025	
The State of Natural Resources Report 2020	
Food Strategy for Wales 2010-2020	
TAN5: Nature Conservation and Planning 2009	

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Table 13: National Plans and Programmes – Water Resources

Plan/Programme	Category of Plan or Programme
The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017	Water Resources
Water supply (water quality) Regulations 2016	
Nitrate Pollution Prevention (Wales) Regulations 2013	
Water Act 2014	
Water Industry Act 1991	
Water Resources Act 1991	
The Water Supply (Water Quality) Regulations (Wales) 2018	
Draft Water resources (Control of Agricultural Pollution) (Wales) Regulations 2020	
The Bathing Waters Regulations 2013	
The Environment (Wales) Act 2016	
Well-being of Future Generations (Wales) Act 2015	
Future Wales: the national plan 2040 (2021)	
Planning Policy Wales (Edition 11) 2021	
The State of Natural Resources Report 2020	
Welsh Government Water Strategy for Wales 2015	
Water for People and the Environment: Water Resources Strategy for Wales 2009	
The Urban Waste Water Treatment (England and Wales) (Amendment) Regulations 2003	
The Water Environment (Water Framework Directive) (England and Wales) Regulations 2003	
The Town and Country Planning (Environmental Impact Assessment) (Undetermined Reviews of Old Mineral Permissions) (Wales) Regulations 2009	
The Surface Waters Regulations (Amendment) 2009	
Water Industry Act 1999	

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Table 14: National Plans and Programmes – Flooding

Plan/Programme	Category of Plan or Programme
Flood Risk Regulations 2009	Flooding
Flood and Water Management Act 2010	
National Strategy for Flood and Coastal Erosion Risk Management in Wales 2021	
TAN15: Development and Flood Risk 2004	
CIRIA <i>Interim Code of Practice for SuDS</i> , 2004	
CIRIA C687 <i>Planning for SuDS</i>	
CIRIA C690 <i>Guidance for water cycle management for new developments</i>	
CIRIA C697 <i>The SuDS Manual</i>	

Table 15: National Plans and Programmes – Material Assets

Plan/Programme	Category of Plan or Programme
TAN 2: Planning and Affordable Housing 2006	Material Assets
TAN 4: Retailing and Town Centres 1996	
TAN 6: Agricultural and Rural Development 2000	
TAN 8: Renewable Energy 2005	
TAN 13: Tourism 1997	
TAN 18: Transport 2007	
TAN 21: Waste 2001	
TAN 22: Sustainable Buildings 2010	
Waste and Emissions Trading Act 2003	
Well-being of Future Generations Act (Wales) 2015	
Future Wales: the national plan 2040 (2021)	
The Wales Transport Strategy 2021	
Energy Generation in Wales 2019	
The State of Natural Resources Report 2020	
Welsh Government Natural Resources Policy 2017	
Towards zero waste: our waste strategy 2019	
The Waste (England and Wales) Regulations 2012	
Waste (Wales) Measure 2010	
Planning Policy Wales (Edition 11) 2021	
Planning Policy Wales (Edition 11) 2021	

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Table 16: National Plans and Programmes – Cultural Heritage

Plan/Programme	Category of Plan or Programme
Ancient Monuments and Archaeological Areas Act 1979	Cultural Heritage
The Historic Buildings and Ancient Monuments Act 1953	
The Historic Buildings and Ancient Monuments Act 1953	
Planning (Listed Buildings and Conservation Areas) Act 1990	
Future Wales: the national plan 2040 (2021)	
Historic Environment Strategy for Wales (2012)	
Planning Policy Wales (Edition 11) 2021	
TAN 24: The Historic Environment 2017	
Historic Environment (Wales) Act 2016	
Welsh Government Natural Resources Policy 2017	
Historic Environment and Climate Change in Wales 2020	
The State of Natural Resources Report 2020	
TAN 24: The Historic Environment 2017	

Table 17: National Plans and Programmes – Landscape

Plan/Programme	Category of Plan or Programme
National Parks and Access to the Countryside Act 1949	Landscape
Countryside and Rights of Way Act 2000	
Well-being of Future Generations Act (Wales) 2015	
Future Wales: the national plan 2040 (2021)	
Planning Policy Wales (Edition 11) 2021	
Welsh Government Natural Resources Policy 2017	
The State of Natural Resources Report 2020	
Sustainable Farming Scheme co-design of future farming 2020	
Valued and Resilient: Priorities for AONB and National Parks (Welsh Government 2018)	
NRW - National Landscape Character Areas 2013	

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Table 18: National Plans and Programmes – Climatic Factors

Plan/Programme	Category of Plan or Programme
The Energy Act 2008	Climatic Factors
Forestry Act 1967	
Climate Change Act 2008	
The Stern Report (2007)	
The Environment (Wales) Act 2016	
Well-being of Future Generations (Wales) Act 2015	
Future Wales: the national plan 2040 (2021)	
Prosperity for All: A Climate Conscious Wales (2019)	
Planning Policy Wales (Edition 11) 2021	
Welsh Government Natural Resources Policy 2017	
Flood and Coastal Erosion Risk management Strategy for Wales (2020)	
Evidence for the third UK Climate Change Risk Assessment (CCRA3): Summary for Wales	
The State of Natural Resources Report 2020	

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2.3. SUB-NATIONAL PLANS AND PROGRAMMES

Table 19: Sub-national Plans and Programmes – Biodiversity, Flora & Fauna

Plan/Programme	Category of Plan or Programme
Taff and Ely Salmon Action Plan Dec 2003	Biodiversity, Flora and Fauna
Eel Management plans for the United Kingdom (Severn River Basin District) March 2010	

Table 20: Sub-national Plans and Programmes – Population & Human Health

Plan/Programme	Category of Plan or Programme
None deemed relevant	Population & Human Health

Table 21: Sub-national Plans and Programmes – Soil and Contaminated Land

Plan/Programme	Category of Plan or Programme
None deemed relevant	Soil and Contaminated Land

Table 22: Sub-national Plans and Programmes – Water Resources

Plan/Programme	Category of Plan or Programme
Taff and Ely Catchment Abstraction Management Strategies (CAMS) Dec 2010	Water Resources

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Table 23: Sub-national Plans and Programmes – Flooding

Plan/Programme	Category of Plan or Programme
TAN15: Development and Flood Risk 2004	Flooding
Flood Risk Management Plans (various Local Authorities)	
Severn River Basin Management Plan 2009, 2015 and 2022	
Catchment Abstraction Management Strategies (CAMS) (various)	
Local Planning Authority Local Plans (various Local Authorities)	
Preliminary Flood Risk Assessment 2011 and 2017 (various Local Authorities)	
Taff and Ely Catchment Abstraction Management Strategies (CAMS) Dec 2010	
Taff and Ely Catchment Flood Management Plans Jan 2010	

Table 24: Sub-national Plans and Programmes – Material Assets

Plan/Programme	Category of Plan or Programme
South East Wales Regional Waste Plan 2004	Material Assets

Table 25: Sub-national Plans and Programmes – Cultural Heritage

Plan/Programme	Category of Plan or Programme
None deemed relevant	Cultural Heritage

Table 26: Sub-national Plans and Programmes – Landscape

Plan/Programme	Category of Plan or Programme
Wales Spatial Plan: Capital Region, 'Networked Environment Region' – Towards a Green Infrastructure Strategy' 2010	Landscape
Managing Change Together: Brecon Beacons National Park Management Plan 2010 – 2015	

Table 27: Sub-national Plans and Programmes – Climatic Factors

Plan/Programme	Category of Plan or Programme
None deemed relevant	Climatic Factors

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2.4. LOCAL PLANS AND PROGRAMMES

Table 28: Local Plans and Programmes – Biodiversity, Flora & Fauna

Plan/Programme	Category of Plan or Programme
Action for Nature: A Local Biodiversity Action Plan for Rhondda Cynon Taf March 2022	Biodiversity, Flora & Fauna

Table 29: Local Plans and Programmes – Population & Human Health

Plan/Programme	Category of Plan or Programme
Live. Grow. Aspire. Achieve: Rhondda Cynon Taf Community Strategy 2010 - 2020	Population & Human Health
Health, Social Care and Well – Being Strategy 2008-2011	
Our Living Space – An Environmental Improvement Strategy for RCT	
Out and About: The Rights of Way Improvement Plan for Rhondda Cynon Taf	

Table 30: Local Plans and Programmes – Soil and Contaminated Land

Plan/Programme	Category of Plan or Programme
Rhondda Cynon Taf County Borough Council Contaminated Land Strategy, 2004	Soil and Contaminated Land

Table 31: Local Plans and Programmes – Water Resources

Plan/Programme	Category of Plan or Programme
None deemed relevant	Water Resources

Table 32: Local Plans and Programmes – Flooding

Plan/Programme	Category of Plan or Programme
Rhondda Cynon Taf Preliminary Flood Risk Assessment (May 2011 and December 2017)	Flooding
Rhondda Cynon Taf Strategic Flood Consequence Assessment (October 2008)	

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Table 33: Local Plans and Programmes – Material Assets

Plan/Programme	Category of Plan or Programme
Housing Matters: A Local Housing Strategy for Rhondda Cynon Taf 2007-2012	Material Assets
Respecting Waste - Waste Strategy (2001/2002)	
Reaching Destination: Rhondda Cynon Taf Tourism Strategy 2007 - 2013	

Table 34: Local Plans and Programmes – Cultural Heritage

Plan/Programme	Category of Plan or Programme
The Historic Built Environment SPG, 2011	Cultural Heritage

Table 35: Local Plans and Programmes – Landscape

Plan/Programme	Category of Plan or Programme
The Historic Built Environment SPG, 2011	Landscape
Cynon Valley River Park Draft Strategy (2007)	
Cynon Valley River Park Appendices (2007)	
Cynon Valley River Park Update Report (2010)	

Table 36: Local Plans and Programmes – Climatic Factors

Plan/Programme	Category of Plan or Programme
Climate Change Topic Paper, 2008 RCT LDP	Climatic Factors
Making Rhondda Cynon Taf Carbon Neutral by 2030	

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3. REVIEW OF KEY PLANS, PROGRAMMES AND STRATEGIES

3.1. INTERNATIONAL PLANS, PROGRAMMES AND STRATEGIES

The following tables present a more detailed appraisal of the international levels plans, programmes and strategies deemed most applicable to RCT's Local Strategy (referred to as LFRMS in the Tables below).

EC Birds and Habitats Directive (79/409/EEC and 92/43/EEC respectively)	
Description	The principal aim of the Habitats Directive is to promote the maintenance of biodiversity by requiring Member States to maintain or restore natural habitats and species at an appropriate conservation status as well as introducing habitat and species protection. The objectives of the Birds Directive include providing a framework for the conservation, protection, control and management of wild birds.
Link to LFRMS	The LFRMS should avoid having a detrimental impact on sites indicated within the Directives
Reference	http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31992L0043:EN:HTML

EU Water Framework Directive, 2000 (2000/60/EC)	
Description	This Directive sets out a timetable for improvement of aquatic ecosystems and wetlands to achieve good ecological status (or potential, where dealing with heavily modified watercourses) by 2027.
Link to LFRMS	The LFRMS should avoid compromising the objectives of the WFD, and where possible, explore options that complement the Directive
Reference	http://ec.europa.eu/environment/water/water-framework/index_en.html

EU Floods Directive (2007/60/EC)	
Description	The Directive aims to reduce the consequences of flooding to human health, the wider environment, the economy and cultural heritage,
Link to LFRMS	By definition, the LFRMS will complement the Directive.
Reference	http://floods.jrc.ec.europa.eu/eu-floods-directive

EU Groundwater Directive (80/68/EEC)	
Description	Aims to protect groundwater bodies from harm from particular dangerous substances.
Link to LFRMS	The LFRMS should avoid compromising the objectives of the Groundwater Directive, and where possible, explore options that complement the Directive.
Reference	http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en&type_doc=Directive&an_doc=1980&nu_doc=68

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Our Life Insurance, our Natural Capital: The EU Biodiversity Strategy to 2020 (2011)

Description	The strategy is aimed at reversing biodiversity loss and speeding up the EUs transition towards a resource efficient and green economy. Primary objectives of the strategy include: <ul style="list-style-type: none">• conserving and restoring nature;• maintaining and enhancing ecosystems and their services;• ensuring the sustainability of agriculture, forestry and fisheries;• combating invasive alien species; and• addressing the global biodiversity crisis.
Link to LFRMS	The LFRMS will need to consider the objectives and targets of this strategy.
Reference	http://ec.europa.eu/environment/nature/biodiversity/comm2006/pdf/2020/1_EN_ACT_part1_v7[1].pdf

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3.2. NATIONAL PLANS, PROGRAMMES AND STRATEGIES

The following tables present a more detailed appraisal of the national levels plans, programmes and strategies deemed most applicable to RCT’s Local Strategy (referred to as LFRMS in the Tables below).

Flood and Water Management Act, 2010	
Description	The Flood and Water Management Act 2010:- <ul style="list-style-type: none"> embeds the principals of flood risk management into legislation. introduces the concept of Risk Management Authorities and clarifies their roles and responsibilities. states the requirement for statutory flood and coastal erosion risk management strategies at both the national and local levels. establishes Regional Flood and Coastal Committees. updates reservoir safety legislation; and amends existing legislation to provide Risk Management Authorities with the powers they need to implement their risk management approach.
Link to LFRMS	The Flood and Water Management Act sets out the requirement and scope for Local Flood Risk Management Strategies, essentially acting as the overarching driver for Local Flood Risk Management Strategies.
Reference	http://www.legislation.gov.uk/ukpga/2010/29

Flood Risk Regulations, 2009	
Description	The EU Floods Directive has been transposed into UK law by the Flood Risk Regulations 2009. The Regulations require Lead Local Flood Authorities to determine whether, and if so, where, they have significant flood risk and document this in the form a Preliminary Flood Risk Assessment Report. Where <i>Significant Flood Risk Areas</i> have been identified, subsequent flood hazard and flood risk maps in addition to flood risk management plans are to be produced. The Regulations additionally stipulate when these elements of work are to be completed.
Link to LFRMS	RCTs Preliminary Flood Risk Assessment shows that RCT has significant flood risk in its area. Consequently, Flood Risk and Flood Hazard maps in additional to Flood Risk Management Plans will be produced. These detailed, local scale plans are likely to be a key influence in implementing the higher-level Local Flood Risk Management Strategy at the local level within the County Borough.
Reference	http://www.legislation.gov.uk/uksi/2009/3042/contents/made

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National Flood and Coastal Erosion Risk Management Strategy for Wales (2020)	
Description	As part of the Flood and Water Management Act 2010, the Welsh Government has produced a National Flood and Coastal Erosion Risk Management Strategy for Wales. The National Strategy sets four overarching objectives for the management of flood and coastal erosion risk in Wales: <ul style="list-style-type: none"> • reducing the consequences for individuals, communities, businesses, and the environment from flooding and coastal erosion. • raising awareness of and engaging people in the response to flood and coastal erosion risk. • providing an effective and sustained response to flood and coastal erosion events; and prioritising investment in the most at-risk communities
Link to LFRMS	In preparing its Local Flood Risk Management Strategy, RCT should ensure consistency with the National Strategy produced by the Welsh Government, particularly with regards to the four overarching objectives listed above.
Reference	https://www.gov.wales/sites/default/files/publications/2021-03/the-national-strategy-for-flood-and-coastal-erosion-risk-management-in-wales.pdf

Technical Advice Note 15 (TAN 15): Development and Flood Risk	
Description	TAN 15 provides technical guidance which supplements the Welsh Government policy in relation to development and flooding. It advises on development and flood risk as this relates to sustainability principles and provides a framework within which risks from both river and coastal flooding, and from additional run-off from developments can be assessed.
Link to LFRMS	Issues raised in TAN 15 need to be considered when developing the LFRMS.
Reference	http://wales.gov.uk/topics/planning/policy/tans/tan15

Land Drainage Act 1991	
Description	Gives relevant authorities, including Rhondda Cynon Taf County Borough Council, certain powers to undertake works or require others to undertake works to watercourses.
Link to LFRMS	The powers available within the Act should be considered when developing the LFRMS.
Reference	http://www.legislation.gov.uk/ukpga/1991/59/content

Water for People and the Environment, Water Resources Strategy for Wales, 2009	
Description	Strategy developed by Environment Agency Wales to set how water resources can be sustainably managed. Essentially to ensure sufficient water will exist in the future for both the population and the environment.
Link to LFRMS	The LFRMS should, at the very least, not have a detrimental impact upon water resources. Due regard should be given to the management of water resources in RCT. See also <i>Taf and Ely Catchment Abstraction Management Strategy</i> .
Reference	http://publications.environment-agency.gov.uk/PDF/GEHO0609BQCO-B-E.pdf

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Technical Advice Note 5 (TAN 5): Nature Conservation and Planning, 2009	
Description	TAN 5 provides advice about how the current planning system could contribute to protecting and enhancing biodiversity and geological conservation.
Link to LFRMS	The LFRMS should conform with the provisions of TAN 5.
Reference	http://wales.gov.uk/topics/planning/policy/tans/tan5

Environment Strategy for Wales 2006-2026 (2006)	
Description	The Environment Strategy for Wales sets out the Welsh Government's framework for achieving a clean, healthy, biologically diverse, and publicly valued environment in Wales. The Strategy has five main environmental themes: <ul style="list-style-type: none"> • addressing climate change. • sustainable resource use. • distinctive biodiversity, landscapes, and seascapes. • our local environment; and environmental hazards.
Link to LFRMS	The LFRMS should have due regard for the high-level environmental policies set out in this national strategy.
Reference	http://wales.gov.uk/topics/environmentcountryside/epq/envstratforwale

UK Biodiversity Indicators 2021 revised	
Description	The UK Biodiversity Indicators describes the biological resources of the UK and provides detailed plans for conservation of these resources, at national and devolved levels. Action plans for the most threatened species and habitats have been set out to aid recovery.
Link to LFRMS	The LFRMS will need to recognise the statutory designations of protected species and complement the provisions of any action plans.
Reference	https://jncc.gov.uk/news/uk-biodiversity-indicators-2021/

UK Biodiversity Indicators 2021 revised	
Description	The UK Biodiversity Indicators describes the biological resources of the UK and provides detailed plans for conservation of these resources, at national and devolved levels. Action plans for the most threatened species and habitats have been set out to aid recovery.
Link to LFRMS	The LFRMS will need to recognise the statutory designations of protected species and complement the provisions of any action plans.
Reference	https://jncc.gov.uk/news/uk-biodiversity-indicators-2021/

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Technical Advice Note 6 (TAN 6): Planning for Sustainable Rural Communities	
Description	The Technical Advice Note provides guidance on how the planning system can contribute to: <ul style="list-style-type: none"> • sustainable rural communities. • sustainable rural housing. • sustainable rural services; and sustainable agriculture
Link to LFRMS	The LFRMS should conform with the provisions of TAN 5.
Reference	http://wales.gov.uk/topics/planning/policy/tans/tan6/?lang=en

Technical Advice Note 18 (TAN 18): Transport	
Description	This Technical Advice Note aims to consider: <ul style="list-style-type: none"> • the integration of transport and land use planning. • the integration between different types of transport; and the integration of transport policy with policies for the environment, education, social justice, health, economic development, and wealth creation.
Link to LFRMS	The LFRMS should have due regard to the guidance set out in TAN 18.
Reference	http://wales.gov.uk/topics/planning/policy/tans/tan18/?lang=en

Technical Advice Note 16 (TAN 16): Sport, Recreation and Open Space 2009	
Description	TAN 16 advises on the role of the planning system in making provision for sport and recreational facilities and informal open spaces, in addition to the protection of existing facilities in both urban and rural areas of Wales.
Link to LFRMS	The LFRMS should have due regard to the guidance set out in TAN 18.
Reference	http://wales.gov.uk/topics/planning/policy/tans/tan18/?lang=en

Planning Policy Wales edition 4 (2011)	
Description	PPW provides the policy framework for the preparation of local authorities; development plans in Wales. It sets out the land use planning policies of the Welsh Government.
Link to LFRMS	Due regard should be given within the LFRMS to the high-level planning framework in Wales
Reference	

Woodland for Wales (2018)	
Description	Woodlands for Wales is the Welsh Government's strategy for woodlands and trees, setting out the objectives for all woodlands and trees in both public and private ownership within Wales.
Link to LFRMS	The LFRMS should have no detrimental effect upon the woodlands of RCT. Ideally the LFRMS will seek to utilise the obvious synergies that potentially exist with the 'water and soil management' objectives and measures of the Woodland Strategy.
Reference	https://www.gov.wales/sites/default/files/publications/2018-06/woodlands-for-wales-strategy_0.pdf

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One Wales, One Planet; A New Sustainable Development Scheme for Wales (2009)	
Description	The Sustainable Development Scheme sets out the Welsh Government's vision of a sustainable Wales, and reflects the priorities of the EU Sustainable Development Strategy.
Link to LFRMS	The LFRMS will need to consider the 2 core and 6 supporting principles of the Welsh Governments Sustainable Development Scheme.
Reference	http://wales.gov.uk/topics/sustainabledevelopment/publications/onewalesoneplanet/?lang=en

One Wales, One Planet: A New Sustainable Development Scheme for Wales (2009)	
Description	The Sustainable Development Scheme sets out the Welsh Government's vision of a sustainable Wales, and reflects the priorities of the EU Sustainable Development Strategy.
Link to LFRMS	The LFRMS will need to consider the 2 core and 6 supporting principles of the Welsh Governments Sustainable Development Scheme.
Reference	http://wales.gov.uk/topics/sustainabledevelopment/publications/onewalesoneplanet/?lang=en

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3.3. SUB-NATIONAL PLANS, PROGRAMMES AND STRATEGIES

The following table presents a more detailed appraisal of the sub-national levels plans, programmes and strategies deemed most applicable to RCT’s Local Strategy (referred to as LFRMS in the Table below).

River Basin Management Plan, Severn River Basin District 2022-27	
Description	<p>This plan focuses on the protection, improvement and sustainable use of the water environment within the River Severn Basin as required by the Water Framework Directive. Key issues identified include:</p> <ul style="list-style-type: none"> • diffuse pollution from agriculture and other rural activities; • point source pollution from water industry sewage works; • physical modification of water bodies; and • diffuse pollution from urban sources.
Link to LFRMS	This River Basin Management Plan covers the whole of Rhondda Cynon Taf, hence any measures outlined should be reflected within the LFRMS.
Reference	Severn RBMP 2021_2027 Summary (cyfoethnaturiol.cymru)

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3.4. LOCAL PLANS, PROGRAMMES AND STRATEGIES

The following tables presents a more detailed appraisal of the local plans, programmes and strategies deemed most applicable to RCT’s Local Strategy (referred to as LFRMS in the Table below).

Action for Nature: A Local Biodiversity Action Plan for Rhondda Cynon Taf (2022)	
Description	<p>Action for Nature is a plan to conserve wildlife sites and species within RCT. Functions of the LBAP are:</p> <ul style="list-style-type: none"> • to ensure national targets for species and habitats, as laid out in the UK BAP, are implemented at the local level. • to identify targets and species and habitats appropriate to the locality. • to ensure that programmes for biodiversity conservation are maintained in the long term by developing effective partnerships. • to raise local awareness of the need for biodiversity conservation. • to ensure that full consideration is given to the whole biodiversity resource when looking at opportunities for conservation and enhancement; and • to provide a basis for monitoring conservation at both local and national level.
Link to LFRMS	The LFRMS will need to have regard for the habitats and species identified in the LBAP and complement any actions and targets presented in the LBAP.
Reference	rctlnp.wixsite.com/rct-actionfornature

Live. Grow. Aspire. Achieve: Rhondda Cynon Taf Community Strategy 2010-2020	
Description	<p>This strategy sets out the vision for Rhondda Cynon Taf and outlines improvements to make Rhondda Cynon Taf one of the best places to live. These improvements include:</p> <ul style="list-style-type: none"> • reducing crime and anti-social behaviour; • improving skills and qualifications; • increasing life expectancy; • reducing the number of economically inactive people, particularly those in our disadvantaged communities; • reducing child poverty; • improving the quality and choice of housing; and • providing cleaner streets and better parks and open spaces.
Link to LFRMS	Given that the RCT Community Strategy is in essence the over-arching socio-economic strategy for Rhondda Cynon Taf, the LFRMS should attempt to adhere to and where possible, to contribute to the aims of the Community Strategy.
Reference	http://www.rctcbc.gov.uk/en/relateddocuments/publications/systemadministration/communitystrategy2010.pdf

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Our Living Space – An Environmental Improvement Strategy for RCT	
Description	The Strategy forms the framework for improving the living space in Rhondda Cynon Taf up to 2015. The Strategy is framed within the context of seven themes: <ul style="list-style-type: none"> • biodiversity and rivers; • waste; • a cleaner, safer environment; • local environments; • the built environment; • transport; and • energy resource use and climate change
Link to LFRMS	Sets out the sustainability principles for RCT. As such, there will be commonality with the LFRMS.
Reference	http://www.rctcbc.gov.uk/en/developmentplanning/examination/examinationlibrary/localauthoritydocuments/la15-envimprovementstrategy.pdf

Rhondda Cynon Taf Preliminary Flood Risk Assessments 2011 and 2017	
Description	The RCT Preliminary Flood Risk Assessment (PFRA) has been undertaken under the Flood Risk Regulations 2009 and provides an assessment of existing and potential flood risk within RCT.
Link to LFRMS	Baseline data to inform this SEA has been taken directly from RCTs PFRA.
Reference	Flood risk regulations 2009 Rhondda Cynon Taf County Borough Council (rctcbc.gov.uk)

Rhondda Cynon Taf County Borough Council Local Development Plan	
Description	RCTs Local Development Plan sets out how the County Borough will be developed over the plan period. Advocating areas for potential development whilst protecting others. The LDP also contains detailed policies that will control the form of new development.
Link to LFRMS	The LFRMS will need to conform with the Local Development Plan.
Reference	rctcbc.gov.uk/EN/Res/LocalDevelopmentPlans/RelateddocumentsLDP20062021/AdoptedLocalDevelopmentPlan.pdf

Housing Matters: A Local Housing Strategy for Rhondda Cynon Taf	
Description	Rhondda Cynon Taf's Local Housing Strategy sets out the housing issues and priorities and provides a strategic direction for housing within the County Borough.
Link to LFRMS	The LFRMS should not contravene any policies laid out in RCTs Housing Strategy.
Reference	http://www.rctcbc.gov.uk/en/housing/housingstrategies/localhousingstrategy/localhousingstrategy.aspx

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ANNEX B

Baseline Information

1. INTRODUCTION

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1.1. BACKGROUND

This document is Annex B to the Scoping Report for the Strategic Environmental Assessment (SEA) of RCT's Local Strategy. The Scoping Report was produced for the initial cycle of the SEA and contains detailed baseline information for Rhondda Cynon Taf (RCT). Although a Scoping Report was not deemed necessary for the second cycle of the Local Strategy, baseline information for RCT has been updated and reflected below.

1.2. BASELINE INFORMATION

Multiple secondary sources of data have been used to define the environmental baseline of RCT. No new investigations or surveys have been undertaken as part of the scoping process.

Whilst a vast array of data exists which could have been used to characterise the 'state of the environment' in RCT, the information collected in this report has been limited to that which is deemed particularly relevant to the Local Strategy. It is recognised that as the Local Strategy process develops, further baseline data may be required to accommodate proposed monitoring requirements.

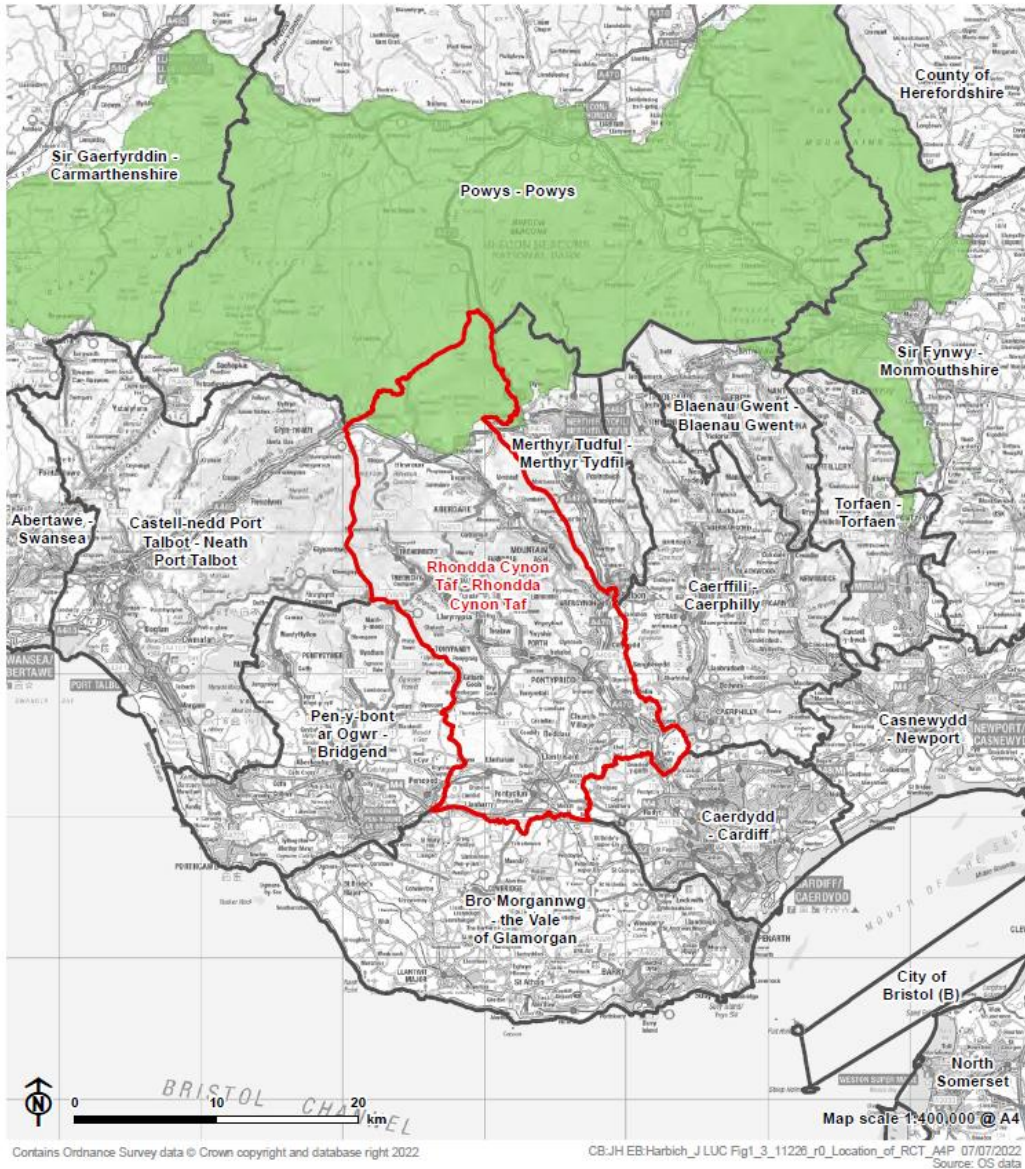
Environmental issues are categorised into the 9 relevant, thematic topics, referred to in Annex 1(f) of the SEA Directive, plus an additional theme of 'flooding':

- biodiversity, flora and fauna
- population and human health
- soil
- water
- air
- climatic factors
- flooding
- material assets (including housing and the economy; agriculture; mineral resources; waste management; and transport infrastructure)
- cultural heritage, including architectural and archaeological heritage
- landscape

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1.3. STUDY AREA

The Strategic Environmental Assessment will encompass the administrative boundary of RCTCBC as indicated in Figure 2.



- Rhondda Cynon Taf
- Neighbouring local authority
- Brecon Beacons National Park

Figure 2: RCTCBC Location Plan

2. BIODIVERSITY, FLORA & FAUNA

2.1. SPECIAL AREAS OF CONSERVATION

Special Areas of Conservation (SAC) are identified on the basis of scientific criteria as set out in the European Commission Birds and Habitats Directives and the subsequent Conservation (Natural Habitats) Regulations 1994. They may be designated on any area of land of special interest for its flora, fauna, geological, or physiographic features and are notified by the Countryside Council for Wales (CCW) for Rhondda Cynon Taf as part of a European series of important sites.

Within RCT (outside of the Brecon Beacons National Park) there are parts of three SACs. In the north Blaen Cynon SAC, Hirwaun supports a significant marsh fritillary butterfly colony, important Rhos pasture and peat bog, while Coedydd Nedd a Mellte SAC supports woodland, grassland, and upland stream communities. In the far south of the authority a small part of the Cardiff Beechwood SAC lies within the County Borough.

2.2. SITES OF SPECIAL SCIENTIFIC INTEREST (SSSI)

Sites of Special Scientific Interest (SSSI) are identified on the basis of scientific criteria as set out in Section 28 of the Wildlife and Countryside ACT 1981 and may be designated on any area of land of special interest for its flora, fauna, geological or physiographic features. SSSIs are notified by the Countryside Council for Wales (CCW), as part of a national set of important sites. There are 114 SSSIs in Rhondda Cynon Taf.

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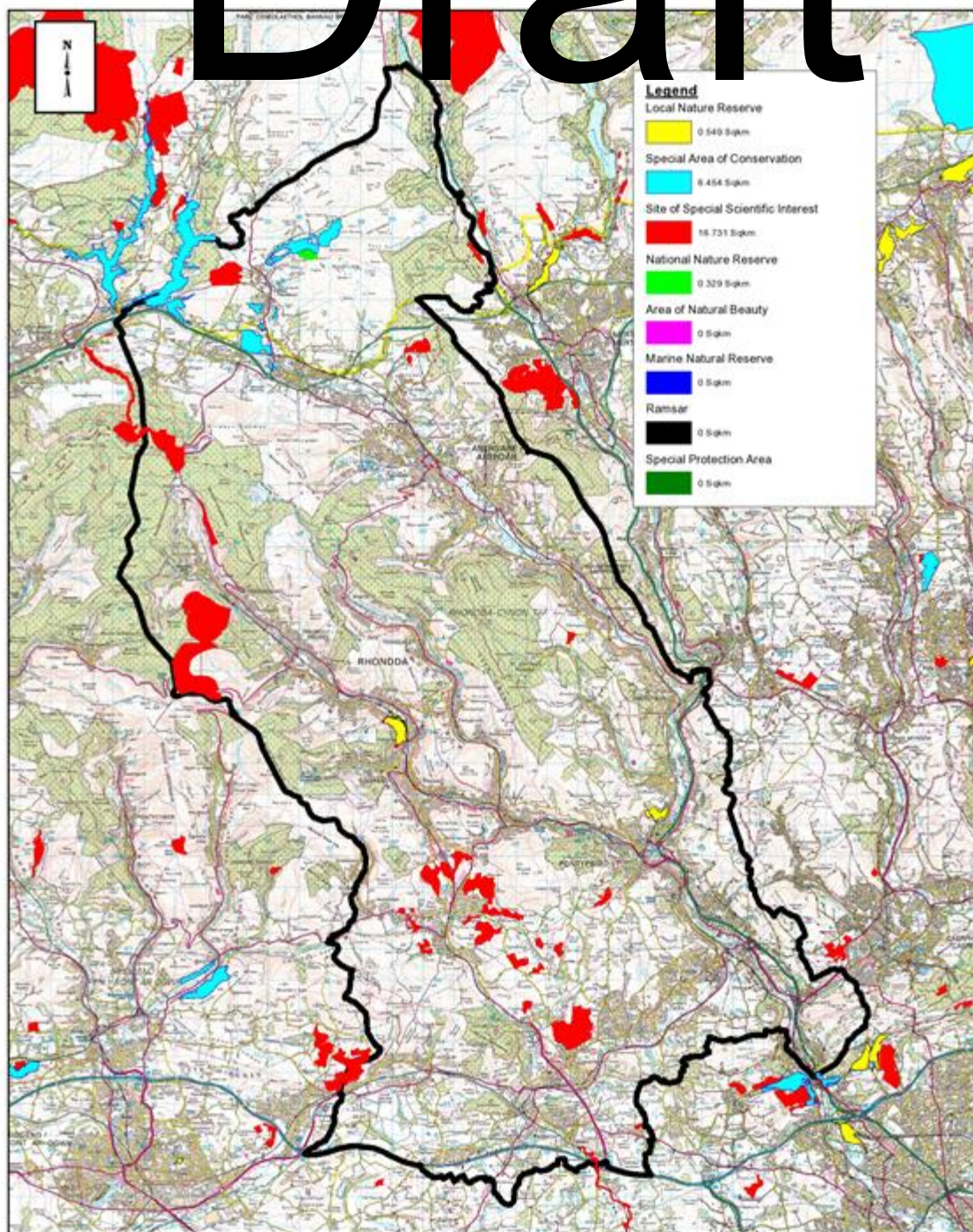


Figure 3: Designated Sites

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2.3. LOCAL NATURE RESERVES (LNRs)

Local Nature Reserves (LNR) are owned or managed by RCTCBC. There are currently two LNRs in RCT, at Glyncornol (Llwynypia) and Craig yr Hesg (Llantrisant).

2.4. WILDLIFE TRUST FOR SOUTH WALES AND WEST WALES NATURE RESERVES

Wildlife Trust for South and West Wales Nature Reserves are owned or leased by the Trust and managed for nature conservation. At present there are three Trust reserves in RCT at Pwll Waun Cynon (Mountain Ash), Y Gweira (Llantrisant) and Brynna Woods/Llanharan Marsh (Llanharan).

2.5. SITES OF IMPORTANCE FOR NATURE CONSERVATION (SINC)

Sites of Importance for Nature Conservation (SINC) are planning designations used to identify Sites of County Borough ecological importance. They are defined by scientific criteria contained within adopted Council SINC Selection. SINC have been designated within the RCT Local Development Plan.

2.6. GEOLOGICAL SITES

RCTCBC has previously commissioned an Earth Science Audit (2003/4) of the County Borough. A methodology for assessing the geo-conservation value of the sites were developed, and the sites scored accordingly. The sites with the highest geo-conservation scores are already statutorily protected as Sites of Special Scientific Interest, most of the remaining sites lie within Sites of Importance for Nature Conservation, and frequently their features are a contributory factor affecting or determining the ecological value of the site. 44 sites have been included on the list of Regionally Important Geological Sites.

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3. POPULATION & HUMAN HEALTH

An appreciation of local population/demographic trends is of importance when considering and planning for the future needs of the local population.

3.1. POPULATION

The Office for National Statistics (ONS) publishes annual mid-year estimates and biannual projections for population.

3.1.1. POPULATION STRUCTURE

In Wales, the population grew by 1.4% or 44,000 people between 2011 and 2021 according to the ONS census population change. Rhondda Cynon Taf is the third most populous unitary authority in Wales after Cardiff and Swansea, with approximately 237,700 people. Rhondda Cynon Taf ranked third for total population out of 22 local authority areas in Wales, maintaining the same position it held a decade ago. As of 2021, Rhondda Cynon Taf is the eighth most densely populated of Wales' 22 local authority areas, with around four people living on each football pitch-sized area of land.

Overall, in Wales, there has been an increase of 17.7% in people aged 65 years and over, a decrease of 2.5% in people aged 15 to 64 years, and a decrease of 1.0% in children aged under 15 years. There has been an increase of 16.3% in people aged 65 years and over, a decrease of 1.9% in people aged 15 to 64 years, and a decrease of 1.1% in children aged under 15 years for the population in Rhondda Cynon Taf.

The age distribution and population structure in RCT generally mirrors of Wales at large. The principles features being:

- a greater number of females than males in the elderly population.
- higher 'middle age' populations relative to younger generations.

The median average age in Rhondda Cynon Taf in 2021 was 41.4, with over 18s representing 82.8% of the population. The sex ratio was 95.8 males to every 100 females.

The Welsh Index of Multiple Deprivation (WIMD) ranks small areas (known as Lower Super Output Areas (LSOAs)) according to their relative deprivation levels across eight types of deprivation, and these are combined to produce an overall index.

71% of LSOAs in RCT are ranked as being within the 50% most deprived in Wales. This is the third highest percentage of any Welsh local authority after Merthyr Tydfil

and Blaenau Gwent. In relation to the community safety domain, WMD data show that 58% of the LSOAs within RCT are within the 30% most deprived in Wales. This is the seventh highest of the 22 Welsh local authorities are

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3.1.2. HOUSING DETAILS

According to Welsh Government's most recent statistics, as of 31st March 2020 there were an estimated 1.4 million dwellings in Wales.

The 2011 ONS census recorded 105,269 dwellings in the County Borough.

There are approximately 105,269 dwellings currently in RCT, but the number of households in RCT is forecast to increase by 16.2% in the period 2003 to 2023 (Welsh Assembly Government – Household Projections 2006). This predicted need is a key consideration for RCT and is also likely to put additional pressure on the need to manage flood risk with regards to the protection of residential properties.

Rhondda Cynon Taf is a diverse area, comprising a mix of urban, semi urban and rural communities. There are a number of Principal Towns and Key Settlements dispersed throughout the County Borough that are centres for population and commerce, which include Pontypridd, Aberdare, and Llantrisant/Talbot Green (the three Principal Towns) along with Porth, Tonypany, Treorchy, Mountain Ash, Ferndale, Hirwaun, Llanharan and Tonyrefail (Key Settlements).

The 2011 ONS census recorded 105,269 dwellings in the County Borough

3.2. HEALTH PROFILE

In 2021, 44.0% of Rhondda Cynon Taf residents described their health as "very good", increasing from 43.0% in 2011. Those describing their health as "good" rose from 29.9% to 32.0%

The proportion of Rhondda Cynon Taf residents describing their health as "very bad" decreased from 2.3% to 2.0%, while those describing their health as "bad" fell from 7.9% to 6.3%.

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3.3. ACCESSIBLE NATURAL GREENSPACE

Having access to local greenspace is an important contributor to good health, both physically and mentally. The Countryside Council for Wales (CCW) has set recommended criteria with regards to the provision of access to natural greenspace of at least 2 hectares (ha) of accessible natural greenspace per 1,000 population according to a system of tiers:

- no person should live more than 300m from their nearest area of natural green space;
- there should be at least one accessible 20ha site within 2km from home;
- there should be one accessible 100ha site within 5km; and
- there should be one accessible 500ha site within 10km.

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4. SOIL, GEOLOGY AND CONTAMINATED LAND

4.1. SOIL AND GEOLOGY

The soils of Rhondda Cynon Taf reflect the geology, past and present climate, the geography and ecosystems, and the land-use history of the County Borough. In general, the upland plateau comprises ‘loamy acid permeable soils with a wet peaty surface’, on the highest ground there is a significant area of ‘deep acid peat soils’. In the border Vale, the more productive agricultural land is mostly on ‘well drained loamy soils’, with some ‘slowly permeable, seasonally wet, loamy and clayey soils’. These also occur on the valley floors within the coalfield as well as the more typical ‘slowly permeable, seasonally wet acid soils with a wet peaty surface’ (all descriptions from the simplified National Soil Map of Wales). There are also areas of exposed rock and scree and mineral spoil tips with minimal or very thin soil development.

The geology is dominated by the Upper Carboniferous rocks, in particular the South Wales Pennant Formation with its Coal Measures. Older Palaeozoic rocks are exposed around the rim of the Coalfield.

Minor outcrops of younger, Triassic rocks occur in the south of the borough near the M4. The coalfield plateau was shaped by the Tertiary uplift and the deep valleys were cut by the glaciers of the late Devensian glaciation. Boulder clay and other glacial debris overlie the rocks, periglacial and more recent landslips are also evident.

4.2. CONTAMINATED LAND

Under the Contaminated Land Regulations, Local Authorities are responsible for surveying their areas and identifying sites which may give rise to environmental or human health problems. RCTs Contaminated Land Strategy has to date only identified a few sites which may meet the definition of contaminated land.

5. WATER

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5.1. WATER RESOURCES

There are a number of main rivers and tributaries that flow through RCT including the River Taff, River Cynon, River Rhondda and River Clun. Figure 5.1 shows the location of these water courses.

Over most of the wider Taff catchment groundwater contributions to summer flows are modest, emanating from the carboniferous Limestone, the Coal Measures or from superficial deposits along the river channels.

5.2. WATER USE

Water use in the catchment peaked in 1970 and then declined through the 1970s due to the fall in demand from traditional heavy industries. It has slowly risen since but is still only just half of the peak in 1970. The dominant use of water is for public drinking water supply with Taff catchment sources forming an important part of the integrated water supply system for Southeast Wales.

The Carboniferous Limestone strata is considered to be a major aquifer, however overall groundwater resources are not exploited within the area.

5.3. SURFACE WATER QUALITY

Water quality within RCT is important for potable water supplies, maintaining fisheries and recreation and for aquatic and riparian habitats.

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Table 3: Waterbody Status (Main Rivers)

Waterbody	Reference	Waterbody Status	Fishing Elements	Comments
Sychryd	GB110058032320	Moderate	Fish	The waterbody is currently achieving its fish classification. Recent surveys have shown improvement, the fish classification is expected to improve. However, there are issues attributable to this area, particularly concerning the capacity of the sewage treatment works.
Ewenny Fach Headwaters	GB110058026270	Good	N/A	The waterbody is currently achieving Good Ecological Status. However the waterbody may be at risk of deterioration due to problematic CSOs.
Rhondda Fach	GB109057027210	Moderate	Fish	Classed as a heavily modified waterbody on the basis of flood protection works and urbanisation pressures. Therefore will need to obtain Good Ecological 'Potential' (as opposed to status) which means that the ecology will need to be maximised. Studies on-going to tackle the issue of partial obstruction to fish migration.
Rhondda (source to Rhondda Fach)	GB109057027200	Poor	Fish	Studies on-going to tackle the issue of partial obstruction to fish migration. Localised pressure on invertebrates which are Moderate at Tonypany, possibly attributable to CSOs. CSOs currently being improved under the current AMP investment period.
Ely (conf Clun to Cardiff Bay)	GB109057027260	Poor	Phytobenthos, Fish, Benzo's	Fish within this waterbody are currently at Good Ecological status. The Phytobenthos and Benzo failures are lower down the waterbody and outside of RCT. Localised pressures on water quality as demonstrated by the Moderate classification for invertebrates (cause unknown).
Ely (source to conf Mychydd)	GB109057027120	Moderate	Fish	Fish failures currently being investigated. Localised issues of Poor Phosphate status downstream of the sewage treatment works at Dyffryn Isaf despite nutrient removal already being present at the works.

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Waterbody	Reference	Waterbody Status	Priority Elements	Comments
Clun	GB109057027	Bad	Fish, Invertebrates	This waterbody is under severe pressure having been historically polluted by industrial wastewater treatment works, misconnections and CSOs. Also at risk of sediment from mass construction.
Mychydd	GB109057027		Fish	Failure is currently being investigated
Taff (conf Rhondda to Cardiff)	GB109057027270	Moderate	Phytobenthos, Invertebrates, Benzo's	Is classed as a heavily modified waterbody on the basis of flood protection works, urbanisation and 'wider environment' pressures. . Therefore will need to obtain Good Ecological 'Potential' (as opposed to status) which means that the ecology will need to be maximised. The Phytobenthos, invertebrate and Benzo failures are all lower down the watercourse and outside of the RCT boundary
Rhondda (from conf. Rhondda Fach to conf. R. Taff)	GB109057027230	Good	N/A	Although not failing overall there are localised impacts on water quality as indicated by the Moderate invertebrate status at Porth (cause unknown).
Clydach	GB109057027250	Poor	Fish	Studies on-going to tackle obstruction to fish migration. Fish failures also under investigation. Historic issues from Old Parish Rd industrial estate. Pressure on water resources with one large abstraction in this waterbody.
Cynon (from conf. Aman to Taff Clydach)	GB109057027140	Poor	Fish	Studies on-going to tackle obstruction to fish migration and fish failures also under investigation. Although not failing overall there are localised impacts on water quality as shown by the Moderate invertebrate status on the Cynon at Abercynon, CSOs being at least part of the problem.
Aman (from source to conf. Cynon)	GB109057027130	Good	N/A	
Cynon (source to conf. Aman)	GB109057033110	Poor	Fish	Current studies to tackle obstructions to fish migration and fish failures are also under investigation. . Although not failing overall there are localised impacts on water quality as shown by the Moderate invertebrate status on the Cynon at

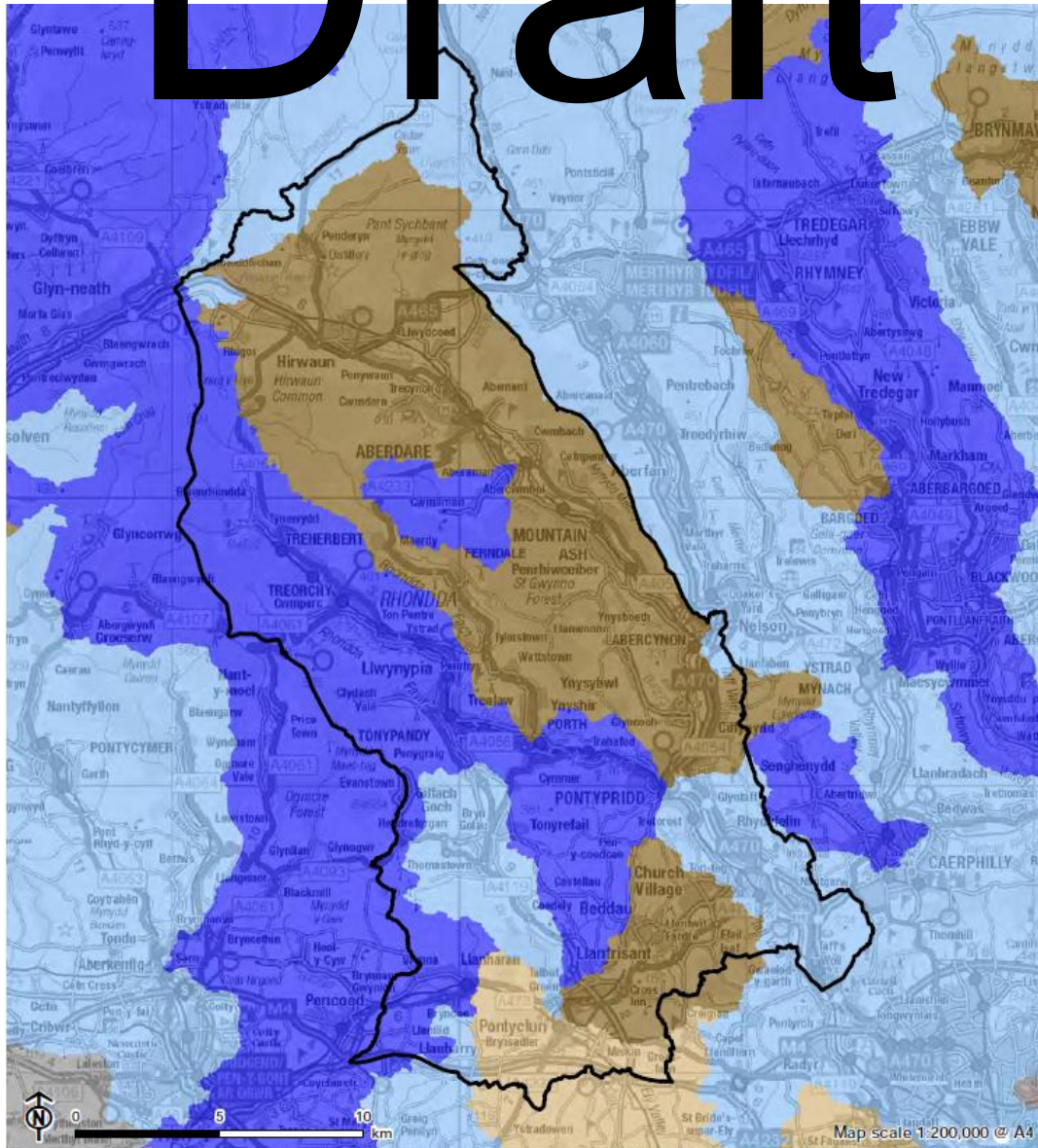
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Waterbody	Reference	Waterbody Status	Priority Elements	Comments
				Robertstown Galls being at least part of the problem. There is pressure on water resources with a large abstraction in this waterbody.
Taff Fawr	GB109057033170	Moderate	Fish	Is classed as a heavily modified waterbody on the basis of water storage. Therefore will need to obtain Good Ecological 'Potential' (as opposed to status) which means that ecology needs to be maximised given the modified nature of the waterbody. Current studies to look at the problem of obstructions to fish migration and fish failures are also under investigation.
Ely (conf. Mychydd to conf. Clun)	GB109057027900	Moderate	Phosphate	Phosphate failure due to Dyffryn Isaf sewage treatment works upstream.
Taff (conf Taf Fechan to conf. Cynon)	GB109057033100	Moderate	Fish	Is classed as a heavily modified waterbody on the basis of flood protection works, urbanisation and 'wider environment' pressures. . Therefore will need to obtain Good Ecological 'Potential' (as opposed to status) which means that the ecology will need to be maximised. Current studies to tackle obstructions to fish migration and fish failures.
Hepste headwaters	GB110058032390	Moderate	Fish	The waterbody is failing its fish classification. Only one site was assessed and is only slightly under its Trout expectation and is likely to be a borderline failure. There are issues with water resources, with the river having natural sink holes and known to dry up.
Mellte (from Hepste to Sychryd)	GB110058032350	Good	N/A	
Mellte (from Sychryd to R. Neath)	GB110058032330	Good	N/A	

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Waterbody	Reference	Waterbody Status	Failure Elements	Comments
Neath (from conf. with Nedd Fechan and Melte)	GB110058032	Good	N/A	The waterbody is failing for fish due to two large abstractions. The waterbody is currently achieving Good Ecological Status.
Ogwr Fach Headwaters	GB110058026310	Moderate	Fish	The waterbody is failing its fish classification. The Ogmore is a recovering river, and has low but increasing populations of salmon. One potential fish barrier is also known. There are additional water quality issues attributable to a CSO and misconnections.
Ewenny (headwaters to conf. with the Ewenny Fach)	GB110058026290	Moderate	Phosphate	The waterbody is failing for fish and Phosphate. The fish failure appears to be borderline. Possible problems with sewage infrastructure is suspected and is under investigation.
Thaw headwaters	GB110058026430	Moderate	Fish, Phosphate	Fish failures under investigation. Phosphate failure largely due to sewage treatment works situated outside of the RCT boundary.
Taff (from conf. R. Cynon to conf. Rhondda)	GB10905702740	Moderate	Fish	Current studies to tackle obstructions to fish migration and fish failures under investigation.

Draft



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 CB:JH EB:Harbich_J LUC Fig4_3_11226_r0_WaterQuality_A4P 07/07/2022 Source: OS

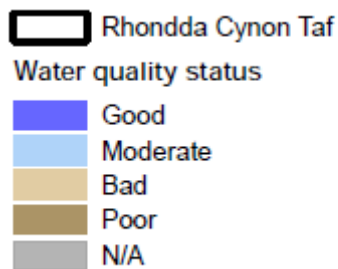


Figure 4: Water Framework Directive water quality status

5.4. GROUND WATER

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Over most of the catchment of the Taff the groundwater contribution to summer flows are modest, emanating from the carboniferous Limestone, the Coal Measures or from superficial deposits along river channels. Because of this, river levels fall quite rapidly during dry periods.

In places the natural groundwater flow regime has been disrupted as a result of historical mining activities. Complex flow patterns have evolved along shafts and adits of the old mineworking's. Iron-rich groundwaters are known to emerge from old mine workings at various locations in the area, some causing significant pollution problems. There are warm groundwater springs at Taffs Well which have, in the past, been used for bathing.

6. AIR QUALITY

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The SEA for the National Flood and Coastal Risk Management Strategy concluded that significant environmental effects on air quality were unlikely to arise as part of the NFRMS and therefore this was scoped out of the assessment.

Upon reviewing the objectives of RCTs LFRMS, it is also anticipated that significant environmental impacts on air quality are unlikely and therefore air quality has been scoped out of this assessment.

7. CLIMATIC FACTORS

The UKCP09 projections provide an overview of the situation with regard to climate change in the UK. In Wales, we can expect to see more intense rainfall, more flooding in low-lying coastal areas as well as hotter, drier summers.

The projections also foresee more extremely warm days, milder and wetter winters, less snowfall, and frost as well as lower groundwater levels.

8. FLOODING

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Flooding as a natural process plays a significant role in shaping the natural environment. However, flooding threatens directly and indirectly the quality of life of the local population in addition to causing substantial damage to property and infrastructure, incurring significant costs. The effects of heavy and/or prolonged rainfall can be detrimentally increased in severity as a result of planning decisions relating to the location, design, nature of development and land use. Additionally, flooding is viewed as a potential consequence of the future effects of climate change. Increased surface water flooding is one such consequence predicted for RCT. Although flooding cannot be completely prevented, its impacts can be partially mitigated through good planning and land management. RCT have completed a Strategic Flood Risk Assessment (SFRA) in order to identify catchment wide flooding issues within the authority's area as part of the wider planning process. Data compiled on this subject is useful to identify whether broad potential future locations for development represent the most appropriate choices.

8.1. FLOOD ZONES

TAN 15 seeks to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas at highest risk. TAN 15 sets out a risk-based sequential test to be applied at all stages of the planning process with the aim of steering new development to areas with the lowest probability of flooding.

The exception test may also be required to ensure that the vulnerability of a proposed development is compatible with the flood zone. Different land uses have varying vulnerability to flooding.

A hierarchy of flood zones for application of the sequential test is defined as:

- **Zone 1 – Low Probability:** Encompasses land assessed as having a less than 1 in 1000 annual probability of flooding in any year (<0.1%).
- **Zone 2 - Medium Probability:** Comprises land assessed as having a between 1 in 100 and 1 in 1000 annual probability of river flooding (1% - 0.1%).
- **Zone 3a – High Probability:** Covers land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%) in any year.

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- **Zone 3b – The functional floodplain:** The zone comprises land where water has to flow or be stored in times of flood and should be identified by local planning authorities in their SFRA in agreement with the Environment Agency. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. But land which would flood with an annual probability of 1 in 20 (5%) or greater in any year, or is designed to flood in an extreme (0.1%) flood, should provide a starting point for consideration and discussions to identify the functional floodplain.

8.2. GROUNDWATER FLOOD RISK

Historically, groundwater flooding has not been a major issue in Wales, principally because of the nature of Wales's geology. However, with a changing climate, groundwater flooding may become more of a problem in the medium to long term future, probably on a local scale rather than strategic.

Groundwater is subsurface water in the zone of saturation, including water below the water table and water occupying cavities, pores, and openings in underlying rocks.

Groundwater flooding is the result of groundwater rising up from the underlying aquifer or from water flowing from normal springs at ground level.

This type of flooding tends to occur after prolonged periods of rainfall and the area's most at risk are often low-lying areas, where the groundwater table is more likely to be at a shallow depth.

This is commonly experienced within RCTCBC where development has cut into hillsides without appropriate land drainage installed. Water then seeps/flows out of the hillside into properties and across land.

Groundwater flooding is also noted to occur from mines adits following the cessation of pumping. Historically, coalmining operations would pump excess water

There is limited local information available which provides evidence on the risk posed by groundwater flooding to RCTCBC, and it is notoriously difficult to quantify groundwater.

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8.3. ORDINARY WATERCOURSE AND SURFACE WATER FLOOD RISK

8.3.1. SURFACE RUNOFF

Surface Runoff occurs when rainwater (including snow and other precipitation) which is on the surface of the ground (whether or not it is moving) and has not yet entered a watercourse, drainage system or public sewer.

This is particularly prominent following a prolonged wet period when the catchment is saturated, or after an intense storm following a prolonged dry period and rainfall is unable to infiltrate into the sub-strata.

This is common within Rhondda Cynon Taf County Borough Council as a result of the catchments geomorphology and the areas climate.

8.3.2. ORDINARY WATERCOURSE

Ordinary Watercourse flooding occurs when the capacity of a local drainage channel is exceeded. It also occurs due to blockages at culvert inlets and trash screens.

Usually, flooding from culverts occurs following intense rainfall events happen, particularly following leave fall in the Autumn and the blockage of the trash screen with vegetation.

Flooding can also occur in culverts when they collapse or are unmaintained.

Ordinary watercourse flooding is the most common cause of flooding within RCTCBC.

Historically, ordinary watercourses within Rhondda Cynon Taf County Borough Council have been culverted, a practise that has led to significant flood risk resulting from blockage of inlets and lack of culvert capacity. Commonly, flooding has been experienced following blockages and poor maintenance of a watercourse. This is exacerbated where watercourses are culverted through development, as a culverted watercourse is more prone to blockages and flooding than an open watercourse.

Draft

8.3.3 Combined Sewer Flooding

Combined sewers within Rhondda Cynon Taf County Borough Council are under the ownership of Dwr Cymru Welsh Water. Combined sewers are underground conduits for the removal of drainage water and waste matter from source to treatment works. Flooding arises from combined sewers when excess rainwater entering the system exceeds the capacity of the sewer.

Dwr Cymru Welsh Water have provided information that 293 locations at risk of sewer flooding at varying locations across the authority.

8.3.4 Highways Flooding

Flooding to the highway occurs following an intense and short storm event. In these circumstances, the gully systems are unable to accommodate the volume of rainwater. Also, gullies may become blocked by debris.

This type of flooding also provides a source of hydrocarbon contamination and is more of a problem when an intense rainfall follows a period of dry weather.

This is a potential problem throughout the authority.

8.4 Flooding Summary

It is identified that 25 communities in RCT fall within the High-Risk category as per the Maximum Pluvial Flood Risk Ranking set out in the Communities at Risk Register. This accounts for 22.5% of areas identified to be at a High pluvial flood risk at the national level (a total of 111 communities falls within the High-risk category across Wales).

Storm Dennis caused extensive flooding across South Wales in February 2020, with RCT particularly badly hit. RCTBC has confirmed internal flooding to a total of 1,476 properties, 1,070 of which were homes. A net total of 1,175 homes and 417 businesses were affected in the cumulative 2020 flooding events (including as a result of Storms Dennis, Ciara and Jorje, as well as the June thunderstorms).

The topography of the County Borough greatly influences the outcomes of weather events such as Storm Dennis. The rivers in RCT are relatively steep and flow through narrow valleys that are underlain by impermeable geology. As a consequence, runoff from headwaters rapidly reaches main rivers, and river levels respond quickly following normal river levels to some of the highest on record in a matter of hours.

Draft

Within the County Borough there is a legacy of Victorian culverts. There is also a significant amount of ordinary watercourse invert infrastructure within RCT, which is estimated to cover approximately 700km. Presently there is a culverting policy in place⁴⁷ which effectively suggests that culverting is a last resort and where possible the culverts should be ‘daylighted’ and returned to an above ground flow.

Draft

9. MATERIAL ASSETS

9.1. HOUSING

RCT is the second largest authority in Wales with a population of 237,700 and 103,300 dwellings.

There are approximately 105,269 dwellings currently in RCT, but the number of households in RCT is forecast to increase by 16.2% in the period 2003 to 2023 (Welsh Assembly Government – Household Projections 2006).

The Council has also identified an overall shortfall in affordable housing units, as well as a predicted future increase in housing need. The most recent Local Housing Market Assessment (LHMA) undertaken in 2022 has identified a need for 255 new affordable homes each year between 2022 and 2037.

9.2. ECONOMY

Rhondda Cynon Taf saw Wales' joint third-largest percentage-point rise (alongside Merthyr Tydfil) in the proportion of people aged 16 years and over (excluding full-time students) who were employed (from 50.3% in 2011 to 51.9% in 2021).

During this period, Rhondda Cynon Taf went from having the fifth-lowest to the 11th-highest percentage of people aged 16 years and over who were employed (excluding full-time students) out of all 22 Welsh local authority areas.

9.3. MINERAL RESOURCES

Rhondda Cynon Taf has a geological base of sedimentary rocks, mainly upper Paleozoic, which include the dissected pennant sandstone plateau and underlying coal measures and shales. A narrow belt of carboniferous limestone rims the coalfield on both the southern and northern fringes of the County Borough. As such the area is affected by several types of mineral operations which include limestone and sandstone quarrying. In addition, some areas are undergoing restoration and aftercare as a result of open cast coal workings in the recent past. Due to the area's industrial legacy, there are also a number of sites which require land reclamation as a result of previous extractive and processing activities.

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The following carries are either active or currently inactive with RCT:

- Forest Wood (Limestone)
- Hendy (Limestone); and (currently inactive?)
- Craig yr Hesg (Sandstone);
- Penderyn (Limestone);
- Maendy (Sandstone)
- Black Bog (Sandstone).

9.4. TRANSPORT INFRASTRUCTURE

The distinctive geography of Rhondda Cynon Taff means that the County Borough has a linear communications network. Transportation links tend to follow the valleys, with access across the plateau being more difficult.

The major roads, particularly the A470, A4119 and M4 provide links to Cardiff and South-East Wales. Access to Swansea and west Wales is provided by the A465 Heads of the Valley Road. Whilst external links are generally good, internal linkages can be more problematic. In some parts of the County Borough the main through routes follow narrow, congested residential streets and town centres, which are unsuitable for heavy traffic.

Public transport provision in Rhondda Cynon Taff is provided by a combination of bus and rail services. The bus is the dominant mode of public transport in the County Borough. The area is served by more than 80 operational routes, these include regular cross boundary services to adjacent towns and cities. There is also an extensive rail network in Rhondda Cynon Taff with the County Borough being served by 22 stations. Train services operate to Cardiff from Pontypridd, Treherbert and Aberdare and to Cardiff from Bridgend with trains calling at Pontyclun/Llanharan.

10. CULTURAL HERITAGE

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The historic environment should be protected and valued for its own sake. Cultural heritage adds to the quality of life by and enhances a region's sense of identity.

10.1. HISTORIC LANDSCAPE CHARACTERISATION

In Wales, the most important and best surviving historic landscapes have been identified on a register. CADW, the Countryside Council for Wales (CCW) and the International Council of Monuments and Sites have worked together to produce a register of landscapes of Historic Interest in Wales. The register identifies two types of historic landscape:

- Outstanding Historic Landscape Areas;
- Special Historic Landscape Areas.

Rhondda Cynon Taf has two large areas that have been identified as Special Historic Landscape Areas. These are: -

- The Rhondda Valley comprising the Rhondda Fawr and Rhondda Fach;
- East Fforest Fawr and Mynydd-y-glog. Part of this area is within Rhondda Cynon Taf and the northern section of Powys. The whole area is covered by the Brecon Beacons National Park.

10.2. LISTED BUILDINGS

Rhondda Cynon Taf has 366 listed buildings that have been protected by law due to their special architectural or historic interest.

10.3. CONSERVATION AREAS

There are 16 conservation areas in Rhondda Cynon Taf, all of which have been designated because of their special architectural or historic interest.

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10.4. ARCHAEOLOGY, RECORDS, SITES AND FINDS

The County Borough has a rich and diverse archaeological record including prehistoric burial cairns on the Twyn Gweryllfa, a Roman fort at Miskin, the medieval town of Llantrisant and the post-medieval coal and iron making sites of the Valleys.

10.5. SCHEDULED ANCIENT MONUMENTS

Scheduled ancient monuments are a wide range of archaeological sites and have legal protection under the Ancient Monuments and Archaeological Areas Act 1979.

Rhondda Cynon Taf has 86 such sites which range from the Williams Edwards Bridge to linear Earthworks.

10.6. HISTORIC PARKS AND GARDENS

Rhondda Cynon Taf has 5 historic parks and gardens. This is a designation given to parks and gardens for their historic interest, contents, and features, condition, and historical associations.

Table 38: Historic Parks and Gardens

Name	Location	Grade	Features (CADW primary reasons for grading)
Aberdare Park	Trecynon, Aberdare	II*	Well-preserved public park partly laid out by the eminent designer William Barron. As well as retaining most of its Victorian built features, such as bandstand and fountain, it has an attractive lake and many of the original trees are now fine mature specimens.
Llanharan House	Llanharan	II	A well-preserved, small eighteenth century landscape park provides a beautiful setting for a fine house.
Miskin Manor	Miskin, Pontyclun	II	A well-preserved Edwardian terraced garden with yew topiary and 'king's beasts'. In Tudor style to complement the house, and some fine specimen trees. Unusually ornamental walled kitchen garden with remains of canal, pool and flanking yew hedges.
Talygarn	Talygarn, Pontyclun	II*	Extensive remains of the late Victorian gardens and woodland grounds of the well-known industrialist and antiquary George Thomas Clark. The woodland immediately around the formal garden contains some very fine specimen trees,

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Name	Location	Grade	Features (CADW primary reasons for grading)
Ynysangharad Park	Pontypridd	II	Some of the features of considerable rarity. Well preserved 1920s public park, with numerous sports facilities and ornamental features, including bandstand and sunken rockwork garden. Contains some good mature trees, and retains its traditional flowerbeds.

10.7. HISTORIC BATTLEFIELDS

There are no known historic battlefields within RCT.

11. LANDSCAPE

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Rhondda Cynon Taf extends from the uplands of the Brecon Beacons to the edge of the Vale of Glamorgan. The central feature is the coalfield plateau, which is cut by the Rhondda, Cynon and parts of the Taff and Ely River valleys. To the north of the coalfield plateau is the Brecon Beacons National Park, a small part of which is in the County Borough. The coalfield plateau is higher (600m), more remote and exposed in the north, with dramatic crags and extensive areas of forestry. Further south, hill farming predominates. The Cynon and Rhondda valleys are generally steep sided with narrow and mostly build up valley floors, and bracken covered, farmed, or wooded slopes. South of Pontypridd, the Taff Valley is wider but heavily developed. The southern part of the County Borough has a softer, more lowland landscape of farms, woods, commons, towns, and villages.

11.1. AREAS OF OUTSTANDING NATURAL BEAUTY

There are no Areas of Outstanding Natural Beauty in Rhondda Cynon Taf.

11.2. SPECIAL LANDSCAPE AREAS

Special Landscape Areas (SLAs) have been designated to protect areas of fine landscape quality within Rhondda Cynon Taf. The designation of these landscape areas has been undertaken at local level using a regionally agreed methodology. There are currently 20 SLAs within Rhondda Cynon Taf.

11.3. HISTORIC LANDSCAPES

See Culture and Heritage.

11.4. CYNON VALLEY RIVER PARK STRATEGY

The Cynon Valley River Park Strategy (initiated in 2007) has been developed by RCT's Countryside Section in consultation with other bodies. Its aim is to encourage positive use and management of the river Cynon floodplain to provide space for natural processes, wildlife, and people.

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Flood and Water Management Act 2010

Local Flood Risk Management Strategy and Action Plan

Habitats Regulations Assessment

Appropriate Assessment

March 2024

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GLOSSARY

CCW	Countryside Council for Wales
cSAC	Candidate Special Area of Conservation
European Designated Site	Defined in this report as any SAC, SPA, cSAC, pSPA or Ramsar Site
Habitats Regulations	the Conservation of Habitats and Species Regulations (2017)
HRA	Habitats Regulations Assessment
LFRMS	Local Flood Risk Management Strategy
Natura 2000 Site	SPAs and SACs make up the Natura 2000 series. In the UK, Ramsar Sites have the same protection as these sites
PPPs	Plans, Policies and Programmes
pSPA	Potential Special Protection Area
Ramsar	Sites protected under the Ramsar Convention
RCT	Rhondda Cynon Taf
RCT CBC	Rhondda Cynon Taf County Borough Council
SAC	Special Area of Conservation
SPA	Special Protection Area

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EXECUTIVE SUMMARY

Under the Conservation of Species and Habitats Regulations (2017), a Habitats Regulations Assessment (HRA) is required of the Local Flood Risk Management Strategy (LFRMS) for Rhondda Cynon Taf. The Screening Exercise previously conducted on the initial cycle of the LFRMS between 2011-13 concluded that the potential effect on European Designated Sites was uncertain. An Appropriate Assessment was then carried out for the initial LFRMS by Rhondda Cynon Taf County Borough Councils Environmental Services Group.

This Appropriate Assessment is a second cycle Habitats Regulations Assessments required for the revised LFRMS. A review of the changes to the initial and second cycle LFRMS concluded the revision will not lead to significant environmental effects at a strategic level which have not already been identified and explored in the previous assessment.

In this Appropriate Assessment, information on the conservation objectives and the potential impact of the LFRMS on European Designated Sites was collated. The objectives and measures of the revised LFRMS were then analysed alone and in combination for likely significant effect on European Designated Sites.

The Appropriate Assessment concluded that six objectives and measures could affect the integrity of eight identified European Designated Sites. However, at this high level stage, these objectives and measures provide no indication which, if any, sites will be affected or if the effects will be significant in regards to the conservation objectives of the European Designated Sites. Significant affects are also unlikely, as the LFRMS aims to improve or not detrimentally affect European Designated Sites.

Due to this conclusion, there is no requirement to progress to the next stage of the HRA, the Assessment of Alternative Solutions. Any potential significant negative effects will be identified and managed through subsequent HRAs required by the Habitats Regulations.

This Assessment concludes that subsequent HRAs are required for any plans, programmes or polices related to, or that arise from the LFRMS that have the potential to affect any European Designated Site.

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1. INTRODUCTION

Habitats Regulations Assessments (HRA) is a process that must take place to consider if a plan or project is likely to have a significant effect on a European designated site for its nature conservation interest. This report documents Appropriate Assessment of the HRA conducted on the revised Local Flood Risk Management Strategy (LFRMS) and Action Plan for Rhondda Cynon Taf County Borough Council (RCTCBC).

1.1 The Local Flood Risk Management Strategy

RCTCBC is a Lead Local Flood Authority (LLFA) and is required to develop, maintain, apply and monitor a LFRMS for their particular administrative area. In order to comply with new legislation and to enable more effective flood risk management, RCT's Flood Risk Management department have developed a revised LFRMS and Action Plan which also delivers on the requirements under the 2009 Flood Risk Regulations to produce a Flood Risk Management Plan (FRMP). The LFRMS and Action Plan (Local Strategy) applies to the administrative area of RCTCBC, covering approximately 424km² with a population of 237,497 (Census 2021).

The Local Strategy aims to address local flood risk (defined as flooding from surface water, groundwater and ordinary watercourse flooding such as small rivers, ditches and streams) and the risk associated with climate change. The Local Strategy aims to achieve more effective flood risk management by:-

- Ensuring a clear understanding of the risks of flooding and erosion, nationally and locally, so that investment in risk management can be prioritised more effectively;
- Setting out clear and consistent plans for risk management so that communities and businesses can make informed decisions about the management of the residual risk;
- Encouraging innovative management of flood and coastal erosion risks, taking account of the needs of communities and the environment;
- Forming links between the Local Strategy and local spatial planning;
- Ensuring that emergency plans and responses to flood incidents are effective and that communities are able to respond properly to flood warnings; and
- Helping communities to recover more quickly and effectively after incident.

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The Local Strategy sets a framework for all major decision making affecting local flood risk management. It also helps to translate the National Strategy for Flood and Coastal Erosion Risk Management (National Strategy) into local terms, coordinating local level activities and actions against a backdrop of the national objectives.

The implications of the Local Strategy include:-

- Reduced local flood risk;
- Better health and wellbeing of individuals and communities;
- A more resilient built and natural environment;
- Better knowledge, understanding and awareness in regards to flood risk;
- Clearer stakeholder roles and responsibilities;
- Better investment decisions and allocation of funds for flood improvement works;
- Prioritised, effective flood risk plans; and
- A more natural environment.

The Local Strategy report contains strategic objectives for managing local flooding along with measures that state how this will be achieved (in section 2.4 details these aims, objectives and measures can be found). The roles and responsibilities of those involved in managing the risk of flooding and the functions that may be exercised by them are stated. A cost benefit analysis of the proposed measures can also be found and then the way in which the Local Strategy contributes to wider environmental objectives is discussed.

It is required that the Local Strategy is consistent with the National Strategy, produced by the Welsh Government. This has been achieved by working within the 5 overarching objectives of the National Strategy. A HRA has been conducted in the National Strategy and in this document, it states the requirement for further HRAs to be conducted on lower tier (i.e. local) Strategies and Plans.

1.2 Legislative Context

The Flood and Water Management Act (2010) implemented many of the recommendations from Sir Michael Pitt's Review of the widespread 2007 floods in the UK. It provides legislation for the sustainable management of risks associated with flooding and coastal erosion. It required a National Flood Risk Management Strategy to be written for Wales and defines LLFAs and 'Risk Management Authorities' that have special responsibilities and powers in regard to flood risk

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management. Under the Act, RCT was given a set of new responsibilities for co-ordinating the management of local flood risk including: -

- The preparation of local flood risk management strategies;
- A duty to comply with the National Strategy;
- To co-operate with other authorities, including sharing data;
- A duty to investigate all flooding within its area, insofar as a LLFA consider it necessary or appropriate;
- A duty to maintain a register of structures and features likely to affect flood risk; and
- A duty to contribute to sustainable development.

Along with these duties, RCT was given a number of permissive (or optional) powers, including: -

- Powers to request information;
- Powers to designate certain structures or features that affect flood or coastal erosion risk;
- The expansion of powers to undertake works to include broader risk management actions; and
- The ability to cause flooding or coastal erosion under certain conditions.

In Wales, the Conservation of Habitats and Species Regulations (2017), referred to in this report as the 'Habitats Regulations', implements the EU Habitats Directive (92/43/EEC) on the conservation of natural habitats and of wild flora and fauna along with certain elements of the EU Birds Directive (2009/147/EC) on the conservation of wild birds. This legislation provides the legal framework for the protection of habitats and species of European importance in Wales.

HRA aims to assess the impacts of a plan, in combination with the effects of other plans and programmes, against the conservation objectives of European Designated Sites and to determine whether it would adversely affect the integrity of that site. Alternative options or mitigation measures should be explored to avoid any potential damaging effects if significant negative effects are predicted. If it is not possible to

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avoid or remove the identified effects assessed as arising from the plan implementation, then, if the plan makers wish to proceed with the policies/ proposals as set it must be demonstrated that there are Imperative Reasons of Overriding Public Interest (IROPI) to continue with the plan (Article 6(4) of the Habitats Directive).

Under the Habitats Regulations, a network of internationally important sites designated for their ecological status is defined. Table 1 below summarises the different types of designated site protected under these Regulations. In this report, these sites are collectively referred to as ‘European Designated Sites’.

Table 1: Sites defined as ‘European Designated Sites’ in this Report

Type of site	Description
Special Areas of Conservation (SAC)	Areas are classified under the Habitats Directive and are designated for the conservation of a variety of important or threatened habitats, animals, and plant species, as defined in Annex I and II of the Directive. SACs can comprise of a range of habitat types, including upland areas, areas of moors, woodland, and coastal zones (including offshore).
candidate Special Areas of Conservation (cSAC)	Areas that are candidates for achieving SAC status; a site remains a cSAC until it has been formally designated as a SAC by UK Government.
Special Protection Areas (SPA)	Areas that are classified under the Birds Directive as being of international importance for the breeding, feeding, wintering or regularly occurring migratory birds. SPAs can comprise of a range of habitat types, including moorland, estuarine and marshland environments.
potential Special Protection Areas (pSPA)	Areas that have potential to achieve SPA status that are in the process of being assessed.
Ramsar sites	Wetlands of international importance for their ecology, including their fish assemblages, botany, zoology, limnology, or hydrology.

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1.3 The Stages of Habitats Regulations Assessment

Stage One: Screening

This is the process which identifies, whether the strategy is directly connected with, or necessary to the management of European sites, the potential impacts upon European site/s of the strategy, either alone or in combination with other plans, and assesses the significance of those effects. During the initial cycle of RCT's Local Strategy in 2011-13, the 'Local Flood Risk Management Strategy, Habitats Regulations Assessment, Screening Report' documents this stage. If there is reasonable, scientific doubt that there might be an effect then stage two commences.

Stage Two: Appropriate Assessment

At this stage, the consideration of the potential impacts of the strategy on European site/s, either alone or in combination with other plans, with respect to the sites' conservation objectives. The purpose of the Appropriate Assessment is to assess the effect on European site/s integrity. Where adverse impacts are identified, an assessment of the potential mitigation of those impacts is undertaken. This Report forms the second cycle Appropriate Assessment for the revised Local Strategy.

Stage Three: Assessment of Alternative Solutions

Where it cannot be ascertained that the strategy will not adversely affect the integrity of a European site, the next stage is to examine alternative ways of achieving the objectives of the strategy that better respect the integrity of the European sites affected.

Stage Four: IROPI (Imperative Reasons of Overriding Public Interest) test and consideration of compensatory measures

Where no feasible alternative solutions exist and adverse effect on site integrity remains, the determination of whether the Strategy should proceed is by the test of imperative reasons of overriding public interest (IROPI). The imperative reasons may be of a social or economic nature, or where a site/s that hosts a priority natural habitat type or priority species, the reasons must be for human health, public safety or of primary importance to the environment, or for reasons specifically approved by the EC. If there are imperative reasons of overriding public interest, compensatory

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measures must be taken to ensure that the overall coherence of the European sites is protected.

1.4 The Structure and Purpose of this Report

The Screening Stage of the HRA was previously conducted on the initial cycle of the Local Strategy in 2011-13. This stage identified and filtered European Designated Sites along with proposed plans and projects that require further assessment. The purpose of this Appropriate Assessment is to identify the potential impacts of the filtered plans and projects on the filtered European Designated Sites, both alone and in combination with other plans, to demonstrate that there won't be an adverse effect on the integrity of European Designated Sites.

This Appropriate Assessment is a second cycle Habitats Regulations Assessments required for the revised Local Strategy. A review of the changes to the initial and second cycle Local Strategies concluded the revision will not lead to significant environmental effects at a strategic level which have not already been identified and explored in the previous assessment.

This report documents the findings of the Appropriate Assessment of RCT's Draft revised Local Strategy. Following this introductory section, the document is organised into a further five sections: -

- in Section 2 Site information is collated;
- in Section 3 the Local Strategy's strategic objectives and measures are reviewed;
- In section 4, an in combination assessment of Plans, programmes and policies (PPPs) is documented;
- In section 5 reducing the effects of European Designated Sites is discussed and mitigation measures are explored; and
- In section 6, the main conclusions are drawn.

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1.5 Guidance used in this HRA

A variety of support material guidance was used during the production of this report; these are listed below: -

- Habitats Directive (92/43/EEC)
- The Conservation of Habitats and Species Regulations (2017)
- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations (2019)
- 'Technical Advice Note (TAN 5)', Annex 6, by the Welsh Government, September 2009
- Advice Note Ten: Habitats Regulations Assessment relevant to nationally significant infrastructure projects (version 9), by the Planning Inspectorate, August 2022
- 'Wales National Development Framework – Habitats Regulations Assessment', by the Welsh Government, July 2019
- Planning Policy Wales, by the Welsh Government (2021)
- 'Guidance for Habitats Regulations Assessments: Protecting a European Site', by the Joint Guidance (the Department for Environment, Food & Rural Affairs (DEFRA), Natural England and the Welsh Government), March 2021
- 'Appropriate Assessment: Guidance on the use of Habitats Regulations Assessment', by the Department for Levelling Up, Housing & Communities, and the Ministry of Housing, Communities & Local Government, July 2019
- 'Habitats Regulations Assessment: A Toolkit to Support HRA Screening and Appropriate Assessment of Plans', by Enfusion Limited for the South East Wales Strategic Planning Group (SEWSPG), September 2008
- RCT Local Development Plan (LDP) Habitats Regulations Assessment (HRA) by RCT CBC, March 2011

The data used in this desktop assessment was sourced from the following:

- JNCC website, SAC information pages- SAC core management plans;
- CCW website- SAC information pages;
- RCTCBC 2011-13 LFRMS Strategic Environmental Assessment (SEA) Scoping Report; and
- RCTCBC Local Development Plan (LDP) Habitats Regulations Assessment (HRA).

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1.6 Consultation

A draft version of the HRA report will be issued to CCW for review and comment, with any comments taken into account and addressed in the production of the final report.

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2. COLLATION OF SITE INFORMATION

2.1 Overview

In the screening stage of the first cycle of the HRA, a shortlist European Designated sites was produced of sites that have potential to be affected by the Local Strategy. A screening stage for the second cycle HRA was not undertaken following the conclusion that changes to the initial and second cycle Local Strategies would not lead to significant environmental effects that have not already been identified in the previous assessment.

It was acknowledged that the first cycle Local Strategy would have implications that extend beyond the intended plan boundaries and that distance is not a definitive guide to the likelihood or severity of impacts on European Designated Sites. The same applies to the second cycle Local Strategy.

This assessment encompasses European Designated Sites outside of the RCT boundary if the sites integrity is at risk. These sites are listed below in Table 2.

Table 2: European Designated sites that could potentially be affected by the LFRMS with respective EU Codes

Name	Designation	EU Code
Blaen Cynon	SAC	UK 0030092
Cardiff Beech Woods	SAC	UK 0030109
Coedydd Nedd a Melte	SAC	UK 0030141
Cwm Cadlan	SAC	UK 0013585
Blackmill Woodlands	SAC	UK0030090
Severn Estuary suite of sites	SAC, SPA and Ramsar	UK0013030 (SAC) UK9015022 (SPA) UK14006 (Ramsar)

In Annex A, more detail can be found on the first cycle screening process and information on the conservation objectives of each site can also be found. The rest of

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this section summarises each of the scoped sites and describes the potential impact of the LFRMS, specific to that site.

2.2 Blaen Cynon

Figure 1 below shows an aerial view of Blaen Cynon SAC and Table 3 summarises the key characteristics of the site.

Figure 1: Aerial view of Blaen Cynon SAC



Source: CCW website

Table 3: Blaen Cynon Overview

Key Facts	
Approximate Centroid Grid Reference	SN 946 066
Site Location & Description	This SAC is formed of three separate areas of land northwest of Hirwaun, between the A465 and A4059 roads. It is located next to a housing estate, approximately 1 km south of the village of Penderyn, at an altitude of 220-265 m. Blaen Cynon contains an extensive complex of damp pastures and heaths, supporting the

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	<p>largest meta-population of marsh fritillary <i>Euphydryas aurinia</i> on the southern edge of the Brecon Beacons National Park.</p> <p>There are areas of raised bog, species-rich neutral grassland, acid grassland and semi-natural broadleaved woodland.</p>	
Total Area (ha)	66.83	
General Site Character	Bogs, Marshes, Water fringed vegetation. Fens	27.6%
	Heath, Scrub, Maquis and garrigue <i>Phygrana</i>	8.3%
	Dry grassland, Steppes	11.7%
	Humid grassland, Mesophile grassland	41.3%
	Improved grassland	5.5%
	Broad-leaved deciduous woodland	3.9%
	Other land (ie towns, villages, roads, waste places, mines, industrial sites)	1.7%
Primary reasons for selection and Qualifying Interests	<p>1) Marsh Fritillary Butterfly</p> <p>Contains an extensive complex of damp pastures and heaths supporting the largest meta-population of Marsh Fritillary <i>Euphydryas aurinia</i> on the southern edge of the Brecon Beacons National Park.</p>	
Hydrological needs	<p>The hydrological regime is a key factor affecting the site integrity. The drainage and hydrological conditions on the site should be maintained to favour the habitats that support the Marsh fritillary and their management. Devil's-bit scabious (that supports the Marsh fritillary) prefers moist soils.</p>	
Potential impact of Local Strategy	<p>The Local Strategy could potentially alter the integrity of the site by: -</p> <ul style="list-style-type: none"> • Holding water for longer in upstream catchments, rather than being exported via the wastewater network • Altering surface water regimes • Altering the velocity of water regime through the catchment • Improving surface water quality • Altering the water table • Requiring land for flood alleviation works, although it is highly unlikely that land will be used for this purpose in a European Designated Site. <p>The Local Strategy could have a detrimental effect on the qualifying interests of this site; the Marsh Fritillary Butterfly population.</p>	

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2.3 Cardiff Beech Woods

Figure 2 below shows an aerial view of Cardiff Beech Woods SAC and Table 4 summaries the key characteristics of the site.

Figure 2: Aerial view of Cardiff Beech Woods SAC



Source: CCW website

Table 4: Cardiff Beech Woods Overview

Key Facts	
Approximate Centroid Grid Reference	ST118824
Site Location & Description	<p>Located to the northeast of Cardiff and is intersected by the A4054 and the A470. The site contains one of the largest concentrations of <i>Asperulo-Fagetum</i> beech forests in Wales and represents the habitat close to the western limit of its past native range in both the UK and Europe.</p> <p>The woods show mosaics and transitions to other types, including more acidic beech woodland and oak <i>Quercus</i> and ash <i>Fraxinus excelsior</i> woodland. Characteristic and notable species in the ground flora include ramsons <i>Allium ursinum</i>, <i>sanicle Sanicula europaea</i>, bird's-nest orchid <i>Neottia nidus-avis</i> and yellow bird's-nest <i>Monotropa hypopitys</i>.</p>
Total Area (ha)	115.62

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General Site Character	Other land (including towns, villages, roads, waste places, mines, industrial sites)	0.5%
	Other land (including towns, villages, roads, waste places, mines, industrial sites)	0.5%
Primary reasons for selection and Qualifying Interests	<p>1) <i>Asperulo-Fagetum</i> Beech Forests</p> <p>Contains one of the largest concentrations of <i>Asperulo-Fagetum</i> beech forests in Wales and represents the habitat close to the western limit of its past native range in both the UK and Europe.</p> <p>2) <i>Tilio-acerion</i> forests of slopes, screes and ravines</p>	
Hydrological needs	<p>Although the sites integrity is not particularly sensitive to hydrological needs, significant changes in the hydrology of the site could have an adverse effect</p>	
Potential impact of Local Strategy	<p>The Local Strategy could potentially alter the integrity of the site by: -</p> <ul style="list-style-type: none"> • Holding water for longer in upstream catchments, rather than being exported via the waste water network • Altering surface water regimes • Altering the velocity of water regime through the catchment • Improving surface water quality • Altering the water table • Requiring land for flood alleviation works, although it is highly unlikely that land will be used for this purpose in a European Designated Site. <p>The Local Strategy is unlikely to affect the conservation objectives or the qualifying features of the site. However, significant changes in the sites hydrological regime could lead to a detrimental impact.</p>	

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2.4 Coedydd Nedd a Melte

Figure 3 below shows an aerial view of Coedydd Nedd a Melte SAC and Table 5 summaries the key characteristics of the site.

Figure 3: Aerial view of Coedydd Nedd a Melte



Source: CCW Website

Table 5: Coedydd Nedd a Melte Overview

Key Facts	
Approximate Centroid Grid Reference	SN919093
Site Location & Description	<p>This site lies within the Brecon Beacons National Park and is a very large and diverse example of old sessile oak wood in south Wales. The southernmost part of the site is approximately 500 m north of the A465 and 2.5 km north-west of Rhigos.</p> <p>The oak woodland habitat is mostly confined to the river valleys where the underlying geology is mainly carboniferous sandstones and coal measures. The ash woodland is less widespread, occurring mainly on the more base rich-sandstones, particularly along tops of crags, and on limestone in the north and south.</p> <p>The whole site is biologically rich, with many woodland plant communities represented and rich bryophyte and lichen assemblages. Notable higher plant</p>

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2.5 Cwm Cadlan

Figure 4 below shows an aerial view of Cwm Cadlan SAC and Table 6 summaries the key characteristics of the site.

Figure 4: Aerial view of Cwm Cadlan



Source: CCW website

Table 6: Cwm Cadlan Overview

Key Facts	
Approximate Centroid Grid Reference	SN961098
Site Location & Description	<p>This site is within the Bannau Brycheiniog National Park. The village of Penderyn lies approximately 1 km to the west and Hirwaun 5 km to the south.near Aberdare.</p> <p>The SAC has many interests, including: Molinia meadows on calcareous, peaty or clayey silt-laden soils (<i>Molinion caeruleae</i>) and Alkaline Fens.</p> <p>The site was traditionally managed as pasture and some as hay-meadow but there has long been a liver fluke problem in this area and there have been past attempts to drain many fields within the SAC - there is an extensive network of drainage ditches within the site. Some of these are slowly infilling, but some vegetation is likely to have been permanently modified by these drains.</p>

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Total Area (ha)		
General Site Character	Bogs, Marshes, Water fringed vegetation, Fens	15.5%
	Heath, Scrub, Maquis and garrigue, Phygrana	5%
	Dry grassland, Steppes	2.3%
	Humid grassland, Mesophile grassland	52.4%
	Improved grassland	16.6%
	Broad-leaved deciduous woodland	7.6%
	Other land (including towns, villages, roads, waste places, mines, industrial sites)	0.6%
Primary reasons for selection and Qualifying Interests	<p>1) Molinia meadows on calcareous, peaty or clayey silt-laden soils.</p> <p>Cwm Cadlan has the largest recorded example of Molinia meadows in Wales</p> <p>2) Alkaline Fens</p> <p>Cwm Cadlan supports an outstanding suite of flushed short-sedge mire communities on glacial drift overlying carboniferous limestone within the valley of the Nant Cadlan.</p>	
Hydrological needs	<p>The marshy grassland communities are strongly influenced by the quantity and base status of the groundwater. Reductions in the quality and quantity of the water in the springs and watercourses feeding the site may lead to a loss of marshy grassland or changes in species composition. Conversely, reduced/impeded drainage may lead to ground-water stagnation and a different change in species composition, e.g. increased abundance of rushes. Infilling some of the many ditches at the site is likely to lead to re-wetting of some marshy grassland.</p>	
Potential impact of Local Strategy	<p>The Local Strategy could potentially alter the integrity of the site by: -</p> <ul style="list-style-type: none"> • Holding water for longer in upstream catchments, rather than being exported via the waste water network • Altering surface water regimes • Altering the velocity of water regime through the catchment • Improving surface water quality • Altering the water table • Requiring land for flood alleviation works, although it is highly unlikely that land will be used for this purpose in a European Designated Site. <p>This could have an effect on the Alkaline Fens, a qualifying feature of the site.</p>	

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2.6 Blackmill Woodlands

Figure 5 below shows an aerial view of Blackmill Woodlands SAC and Table 7 summaries the key characteristics of the site.

Figure 5: Map of Blackmill Woodlands



Source: CCW Website

Table 7: Blackmill Woodlands Overview

Key Facts	
Approximate Centroid Grid Reference	SS929859
Site Location & Description	<p>Blackmill Woodlands is an example of old sessile oak woods at the southern extreme of the habitat's range in Wales and contributes to representation of the habitat in Wales and in south-west England.</p> <p>The site is situated within Bridgend County Borough and is approximately 3km away from the City of Bridgend. The A4061 runs directly between the two areas that comprise to make up the SAC.</p> <p>The ground flora is restricted by the relative dryness of the site, but the main habitat features of sessile oak <i>Quercus petraea</i> canopy, acidic ground flora of <i>Vaccinium myrtillus</i> and wavy hair-grass <i>Deschampsia flexuosa</i>, and moderate fern and bryophyte cover are present. The woodlands have a long cultural</p>

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	<p>history of management reflected in the distinctive gnarled appearance of many trees.</p>	
Total Area (ha)	71.01	
General Site Character	Heath. Scrub. Maquis and garrigue. Phygrana	7.5%
	Broad-leaved deciduous woodland	92.5%
Primary reasons for selection and Qualifying Interests	<p>1) Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles</p> <p>Blackmill Woodlands is an example of old sessile oak woods at the southern extreme of the habitat's range in Wales and contributes to representation of the habitat in Wales and in south-west England. The ground flora is restricted by the relative dryness of the site, but the main habitat features of sessile oak <i>Quercus petraea</i> canopy, acidic ground flora of <i>Vaccinium myrtillus</i> and wavy hair-grass <i>Deschampsia flexuosa</i>, and moderate fern and bryophyte cover are present. The woodlands have a long cultural history of management, reflected in the distinctive gnarled appearance of many of the trees</p>	
Hydrological needs	Although the sites integrity is not particularly sensitive to hydrological needs, significant changes in the hydrology of the site could have an adverse effect	
Potential impact of Local Strategy	<p>The Local Strategy could potentially alter the integrity of the site by: -</p> <ul style="list-style-type: none"> • Holding water for longer in upstream catchments, rather than being exported via the waste water network • Altering surface water regimes • Altering the velocity of water regime through the catchment • Improving surface water quality • Altering the water table • Requiring land for flood alleviation works, although it is highly unlikely that land will be used for this purpose in a European Designated Site. <p>The Local Strategy is unlikely to affect the conservation objectives or the qualifying features of the site. However, significant changes in the sites hydrological regime could lead to a detrimental impact.</p>	

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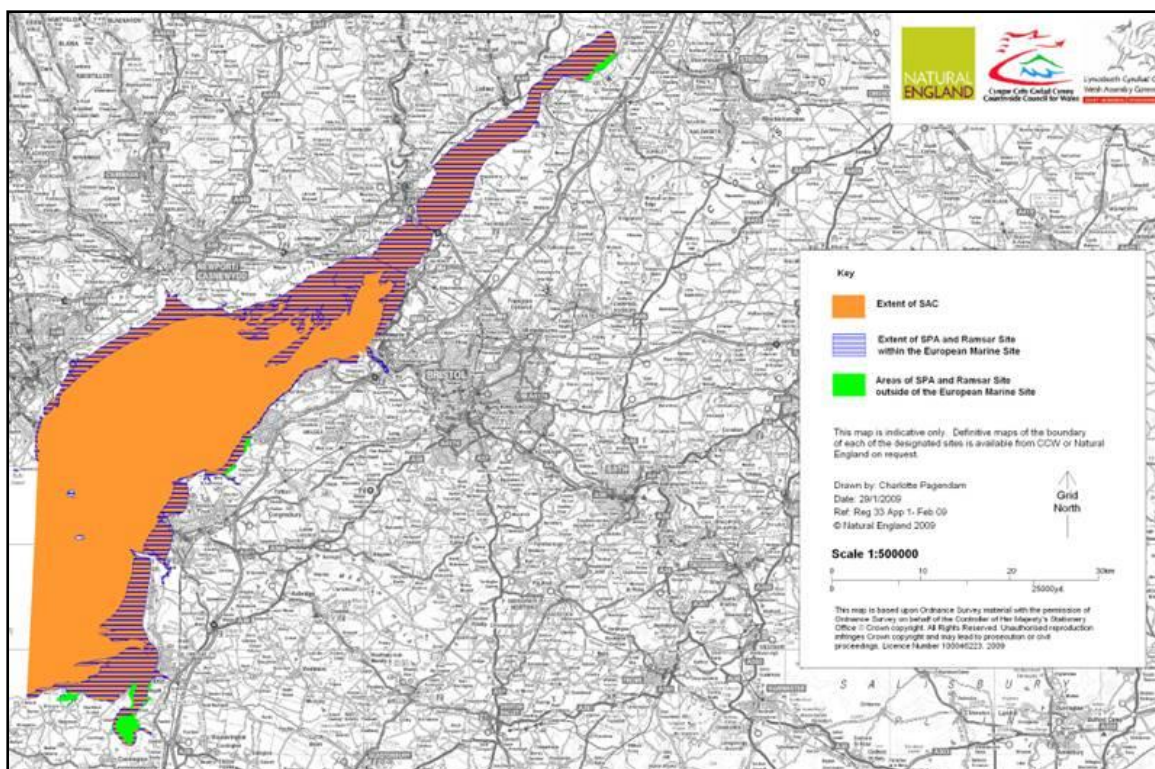
2.7 Severn Estuary Suite of Sites

The Severn Estuary Suite of sites contains: -

- The Severn Estuary Special Area of Conservation (SAC);
- The Severn Estuary Special Protection Area (SPA); and
- The Severn Estuary Ramsar Site.

Figure 6 overleaf shows a map of the Severn Estuary region showing the location of the relevant European Designated Sites. This is followed by Table 8 that summarises the Severn Estuary SAC, Table 9 that summarises the Severn Estuary SPA and Table 10 that summarises the Severn Estuary Ramsar Site.

Figure 6: Map of Severn Estuary Natura 2000



Source: Natural England Website

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Table 8: Severn Estuary SAC Overview

Key Facts	
Approximate Centroid Grid Reference	ST321748 (centroid of SAC site)
Site Location & Description	<p>The Severn Estuary is located between England and Wales and comprises of extensive intertidal mudflats, sand-flats, rocky platforms and islands.</p> <p>The estuary's characteristic funnel shape, unique in the UK, is a factor causing the Severn to have the second- highest tidal range in the world (after the Bay of Fundy in Canada). This tidal regime results in plant and animal communities typical of the extreme physical conditions of liquid mud and tide- swept sand and rock.</p> <p>The species-poor invertebrate community includes high densities of ragworms, lugworms and other invertebrates forming an important food source for passage and wintering waders. An additional result of the substantial tidal range is one of the largest intertidal zones in the UK. The site is of importance during the spring and autumn migration periods for waders moving up the west coast of Britain, as well as in winter for large numbers of waterbirds, especially swans, ducks and waders.</p>
Total Area (ha)	73715.4
General Site Character	Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins) 99%
	Salt marshes. Salt pastures. Salt steppes (1%) 1%
Primary reasons for selection and Qualifying Interests	<ol style="list-style-type: none"> 1) Estuaries 2) Mudflats and sandflats not covered by seawater at low tide 3) Atlantic Salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) 4) Sandbanks which are slightly covered by sea water all the time 5) Reefs 6) Sea lamprey (<i>Petromyzon marinus</i>) 7) River lamprey (<i>Lampetra fluviatilis</i>) 8) Twaite shad (<i>Alosa fallax</i>)
Hydrological needs	The site is sensitive to water quality, including chemical, ecological, and biological aspects.

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<p>Potential impact of Local Strategy</p>	<p>The Local Strategy could potentially alter the integrity of the site by: -</p> <ul style="list-style-type: none"> • Holding water for longer in upstream catchments, reducing the peaks of discharge into the Severn Estuary • Altering surface water regimes • Altering the velocity of water regime through the catchment • Improving surface water quality • Altering the water table • Improving water quality • Requiring land for flood alleviation works, although it is highly unlikely that land will be used for this purpose in a European Designated Site. <p>The Local Strategy is unlikely to affect the conservation objectives or the qualifying features of the site. However, as the Local Strategy creates significant changes in the site's hydrological regime, this could lead to a detrimental impact.</p>
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Table 9: Severn Estuary SPA Overview

Key Facts	
Site Location and Description	See table 8
General Site Character	See table 8
Total Area (ha)	24700.91
Primary Reasons for selection and Qualifying interests	<p>1) Bewick's Swan <i>Cygnus columbianus bewickii</i> 3.9% of the GB population</p> <p>2) Gadwall <i>Anas strepera</i> 0.9% of the population</p> <p>3) White-fronted Goose <i>Anser albifrons albifrons</i> 0.4% of the population</p> <p>4) Dunlin <i>Calidris alpina alpina</i> 3.3% of the population</p>

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	<p>5) Shelduck <i>Tadorna tadorna</i> 0.1% of the population</p> <p>6) Redshank <i>Tringa totanus</i> 1.3% of the population</p> <p>7) waterfowl</p>
Hydrological Needs	The site is sensitive to water quality, including chemical, ecological, and biological aspects.
Potential impact of Local Strategy	<p>The Local Strategy could potentially alter the integrity of the site by: -</p> <ul style="list-style-type: none"> • Holding water for longer in upstream catchments, reducing the peaks of discharge into the Severn Estuary • Altering surface water regimes • Altering the velocity of water regime through the catchment • Improving surface water quality • Altering the water table • Improving water quality • Requiring land for flood alleviation works, although it is highly unlikely that land will be used for this purpose in a European Designated Site. <p>The Local Strategy is unlikely to affect the conservation objectives or the qualifying features of the site. However, if the Local Strategy creates significant changes in the sites hydrological regime, this could lead to a detrimental impact</p>

Table 10: Severn Estuary Ramsar Overview

Key Facts	
Site Location and Description	See table 8
General Site Character	See table 8
Total Area (ha)	24662.98

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<p>Primary Reasons for selection and Qualifying interests</p>	<p>Immense natural range (second largest in the world) creating diversity of habitats, environmental and biological communities</p> <p>2) Reduced diversity and high productivity due to unusual estuarine communities</p> <p>3) This site is important for the run of migratory fish between sea and river via estuary.</p> <p>Species include Salmon <i>Salmo salar</i>, sea trout <i>S. trutta</i>, sea lamprey <i>Petromyzon marinus</i>, river lamprey <i>Lampetra fluviatilis</i>, allis shad <i>Alosa alosa</i>, twaite shad <i>A. fallax</i>, and eel <i>Anguilla anguilla</i>. It is also of particular importance for migratory birds during spring and autumn.</p> <p>4) Species with peak counts in winter:</p> <ul style="list-style-type: none"> • waterfowl <p>5) Species with peak counts in winter:</p> <ul style="list-style-type: none"> • Bewick's swan • Greater white-fronted goose • Common shelduck • Gadwall • Dunlin • Common redshank <p>6) The fish of the whole estuarine and river system is one of the most diverse in Britain, with over 110 species recorded.</p> <p>Salmon <i>Salmo salar</i>, sea trout <i>S. trutta</i>, sea lamprey <i>Petromyzon marinus</i>, river lamprey <i>Lampetra fluviatilis</i>, allis shad <i>Alosa alosa</i>, twaite shad <i>A. fallax</i>, and eel <i>Anguilla Anguilla</i> use the Severn Estuary as a key migration route to their spawning grounds in the many tributaries that flow into the estuary. The site is important as a feeding and nursery ground for many fish species particularly allis shad <i>Alosa alosa</i> and twaite shad <i>A. fallax</i> which feed on mysid shrimps in the salt wedge.</p>
<p>Hydrological Needs</p>	<p>The site is sensitive to water quality, including chemical, ecological and biological aspects.</p>
<p>Potential impact of Local Strategy</p>	<p>The Local Strategy could potentially alter the integrity of the site by: -</p> <ul style="list-style-type: none"> • Holding water for longer in upstream catchments, reducing the peaks of discharge into the Severn Estuary • Altering surface water regimes

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	<ul style="list-style-type: none">• Altering the velocity of water regime through the catchment• Improving surface water quality• Altering the water table• Improving water quality• Requiring land for flood alleviation works, although it is highly unlikely that land will be used for this purpose in a European Designated Site. <p>The Local Strategy is unlikely to affect the conservation objectives or the qualifying features of the site. However, if the Local Strategy creates significant changes in the site's hydrological regime, this could lead to a detrimental impact</p>
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3. REVIEW OF LOCAL STRATEGIC OBJECTIVES AND MEASURES

The Local Strategy’s strategic objectives and their inter-relationship against the National Strategy objectives are presented in Table 11.

Table 11: Local Objectives of RCT’s Local Strategy

No	Local Strategy Objectives	Description of Objective	National Strategy Objectives				
			A	B	C	D	E
1	Reduce distress by decreasing the number of people exposed to the risk of flooding	To reduce social vulnerability of communities exposed to flood risk	X	X	X	X	X
2	Reduce community disruption by reducing the number of residential and commercial properties exposed to the risk of flooding	To reduce the impact of flooding on physical receptors to improve individual and community well-being	X	X	X	X	X
3	Reduce risk to life by reducing the number of people exposed to risk of flooding of significant depth and velocity.	To reduce the consequences of flooding to those individuals and communities at highest risk of flooding	X	X	X	X	X
4	Reduce disruption caused by severe weather to critical infrastructure and essential services	To reduce disruption and to maintain the operation of critical infrastructure and essential services (for example, critical road and railway networks, electricity sub-stations and hospitals) during flooding events.	X	X	X	X	X
5	Improve or not detrimentally affect water quality	To align with the requirements of the Water Framework Directive and give consideration to the Severn River Basin Management Plan					
6	Identify opportunities that work with natural processes to reduce the risk of flooding	To investigate opportunities that help to protect, restore and emulate the natural functions of catchments, including implementing Natural Flood Management measures, promoting green infrastructure, sustainable land management techniques and adopting a catchment-based approach to flood risk management.		X		X	

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7	Maintain, or where possible, improve the status of Special Areas of Conservation (SACs), Sites of Special Scientific Interest (SSSIs), Sites of Importance for Nature and Conservation (SINC) sites and contribute to the RCT's 'Action for Nature' (Local Nature Recovery Plan) plan.	To minimise damage to environmentally sensitive areas, and where possible, aim to protect and enhance areas of environmental and cultural significance through managing flood risk.		X			
8	Improve our understanding of local flood risk in RCT and how this risk may be impacted by climate change in the future.	Continue to develop and improve our knowledge and understanding of local flood risk across RCT, considering the impacts of climate change. This will offer multiple benefits such as enabling the Council to identify those areas at greatest risk, prioritising measures to address known risks, validating the accuracy of modelled flood mapping, raising awareness of risks to communities, and informing emergency response plans.	X	X	X	X	X
9	Develop effective communication tools to share information and improve individual and community awareness of local flood risks and how they can be managed proactively	The LLFA to take a leadership role in ensuring stakeholders understand their roles and responsibilities in relation to local flood risk management. The LLFA aims to achieve this by improving the communication and sharing of information to raise awareness of local flood risk and how the risk can be managed proactively by all stakeholders.	X	X		X	
10	Improve individual and communities' ability to prepare, respond and recover to the impacts of flooding	Raise awareness and building preparedness within the community through the promotion of resilience themes, including property/community resilience measures, flood warning and informing, regularly updating emergency response plans and promoting community engagement activities.	X	X			X
11	Ensure that RCT work in partnership with Risk Management Authorities and other stakeholders to holistically manage the risk of flooding	RCT as the LLFA to work together with both Risk Management Authorities, stakeholders and the public to manage the risk of local flooding by sharing data	X	X		X	X

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		and resources efficiently and effectively to the greatest extent.					
12	Ensure flood risk management functions are considered and delivered in a sustainable way	To ensure the LLFA takes a sustainable and holistic approach to flood risk management functions, seeking to deliver wider environmental, social and economic benefits.			X	X	
13	Ensure that investment decisions for flood risk management schemes are prioritised utilising a risk-based approach	RCT as the LLFA to prioritise investment in the most at risk communities utilising a risk-based, transparent and consistent approach, and with due regard to the Welsh Government FCERM Business Case Guidance	X		X	X	

Table 12 presents the flood measures outlined within the revised Local Strategy to achieve the objectives in Table 11.

Table 12: Measures of the LFRMS

Theme	No	LFRMS Measure
Development, Planning and Adaption	M1	Consultee to the Local Planning Authority
	M2	SuDS Approval Body
Flood Awareness, Preparedness and Response	M3	Communications
	M4	Warning and informing
	M5	Emergency Response Plans
	M6	Community Adaption & Resilience
	M7	Partnership Working
	M8	Public Engagement & Consultation
	M9	Investigation of Flooding Incidents

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	M10	Flood Alleviation Scheme Business Case Development
Studies, Assessment and Plans	M11	Strategic Flood Risk Area Assessment
	M12	Flood Risk & Hazard Methodology
	M13	Flood Action Plan
Land, Cultural and Environmental Management	M14	Natural Flood Management
	M15	Environmental Enhancement & Habitat Creation
	M16	RMA Coordination
Asset Management and Maintenance	M17	Spatial Mapping of Drainage Assets
	M18	Catchment Asset Management Plans
	M19	Asset Register and Records
	M20	Designation of Structures
	M21	Land Drainage Consenting & Byelaws
	M22	Land Drainage Enforcement
	M23	SuDS Approval Body (SAB) Enforcement
	M24	Construction of Flood Alleviation Schemes
	M25	Powers of entry upon land

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		owers to request creation and civil sections
	M27	Cause incidental flooding for purpose of flood risk management.
	M28	Enforcement on Private Surface Water Sewers
Monitoring	M29	Monitoring the Reduction of Risk to People and Property
	M30	Hydrological Monitoring & Assessment
	M31	Monitoring the Delivery of Wider Benefits

The strategic objectives and measures were assessed in the screening assessment to at a broad level: -

- Identify measures that, because of their nature, could not conceivably have a negative effect or are not suitable for assessment; and to
- Identify measures that are necessary for the conservation management of Natura 2000 sites (these do not require consideration under the Habitats Regulations).

The full screening process, including the rationale for objectives and measure screening can be found in Annex B. Table 3-3 below shows that of the objectives and measures screened, 6 were considered to potentially have an adverse effect on European Designated Sites.

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Table 13: Local Strategy Objectives and Measures screened due to potential effect on European Designated Sites

Local Strategy Objective/ Measure	Possible Effects of Measure on European Designated Sites
Identify opportunities that work with natural processes to reduce the risk of flooding	Possible effects include: - <ul style="list-style-type: none"> • Creation of, loss of, fragmentation/ physical damage/ enhancement to habitats • Changes in the hydro morphology of channels (for example, the wetted perimeter of channels, affecting biodiversity).
Natural Flood Management	<ul style="list-style-type: none"> • Changes in turbidity and velocity of water • water quality (including biological, ecological, and physio-chemical aspects) • Visual or noise disturbance • Reduced surface water flooding
Environmental Enhancement & Habitat Creation	<ul style="list-style-type: none"> • Potential increase in the connectivity of water bodies, which could lead to increases of non-native invasive species
SuDS Approval Body	Possible effects include: - <ul style="list-style-type: none"> • Reducing run-off rates • Reducing downstream flooding • Encouraging natural groundwater recharge • Reducing pollutant concentrations in stormwater and improving water quality (ecological, chemical, and biological) • Creation of habitats for wildlife • Changes in the physical regime • Noise or visual disturbance • Changes to turbidity
Construction of Flood Alleviation Schemes	Possible effects include: - <ul style="list-style-type: none"> • Changes in water levels • Changes in flow velocity • Changes to the physical regime • Loss of, fragmentation or physical damage to habitats • Changes in the physical regime • Changes in turbidity

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	<ul style="list-style-type: none"> • Simplification of habitats/communities • Visual or noise disturbance • Potential changes to water quality (ecological, chemical, and biological) • Killing/ injury or removal of flora and fauna
<p>Land Drainage Consenting & Byelaws</p>	<p>Possible effects include: -</p> <ul style="list-style-type: none"> • Creation of, loss of, fragmentation or physical damage/ enhancement to habitats • Changes in the hydro morphology of channels (for example, the wetted perimeter of channels, affecting biodiversity). • Changes in turbidity and velocity of water • water quality (including ecological and physio-chemical aspects) • Reduced surface water flooding • Potential increase in the connectivity of water bodies, which could lead to increases of non-native invasive species • Encouraging natural groundwater recharge • Improving water quality • Creation of habitats for wildlife

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4. IN COMBINATION ASSESSMENT OF PLANS, PROGRAMMES AND POLICIES

4.1 Screening of Plans, Programmes and Policies Overview

In the scoping exercise, other Plans, Policies and Programmes (PPPs) relevant to the Local Strategy were screened for in combination effects with the Local Strategy on European Designated Sites (this is detailed in Annex C). The risk of negative effects in combination is very low as the measures in the Local Strategy are intended to maintain or improve the status of European Designated Sites, to improve or not detrimentally effect water quality, to work with natural processes and to where possible, improve naturalness.

At this high-tier level, no PPPs have been identified to have a negative effect in combination with the Local Strategy. It is not appropriate to consider the effects of PPPs at each Designated European Site as there is insufficient information on the location of works to arise from the Local Strategy.

The information considered in Annex C may help inform Habitats Regulations Assessments of individual measures undertaken at later plan, project, or permission stages, however later assessments will require their own HRAs and in combination assessments.

4.2 Interaction of Individual Measures within the Local Strategy

There is a risk of possible objectives and measures in the Local Strategy having a detrimental effect on the conservation objectives of European Designated Sites when acting in combination with each other. The Local Strategy does not detail the measures in terms of location, extent, and time. Therefore, the objectives and measures can be implemented at a location, time and extent that will not have a significant effect in combination with each other on any European Designated Site.

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5. REDUCING EFFECTS OF THE LOCAL STRATEGY AND MITIGATION MEASURES

At this high-tier strategy stage, without detailed proposals (no information is currently available on the magnitude, duration, location, size and extent of the works that will be undertaken under the Local Strategy) it is not possible to provide specific mitigation, avoidance or reduction measures. Mitigation measures will be dependent on the European Designated Sites conservation objectives and the type of impact the measure or objective will have. Therefore, this Appropriate Assessment should be considered precautionary and further HRAs will be conducted as more detailed plans become available. In these HRAs, detailed mitigation measures can be explored.

The main hazards of the Local Strategy on European Designated Sites are changes to surface water flows and ordinary watercourse flows. For example, the 'SuDs Approval Body' measure will contribute to these changes, whilst improving water quality simultaneously. It is generally expected that for the European Designated Sites screened in, the impact will not be significant due to the nature of the changes, and it is anticipated that many of the European Designated Sites will benefit from these affects. Alternative measures to construction of flood defences such as Natural Flood Management (NFM) will be considered and promoted through the Local Strategy; these measures are also likely to reduce detrimental effects on European Designated Sites.

It has been considered in this assessment if appropriate process is in place to ensure that potential negative effects on European Designated Sites can be identified and mitigated when the objectives and measures of the Local Strategy are implemented. HRAs of lower tier plans will ensure these negative effects are identified and managed.

It has also been considered if the 'screened in' objectives and measures should be altered to ensure no detrimental effect on European Designated Sites. However, it is likely that these 'screened in' objectives and measures will result in beneficial impacts on European Designated Sites.

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6. SUMMARY AND CONCLUSION

In line with the requirements of the Habitats Regulations, a second cycle Appropriate Assessment has been conducted to determine the potential impact of the revised Local Strategy on European Designated Sites.

This Appropriate assessment has found that several objectives and measures of the Local Strategy could affect the integrity of European Designated Sites. However, these objectives and measures provide no indication of what will be involved or the location of works. The objectives and measures that could potentially affect the integrity of European Designated Sites are likely to improve the status of these Sites.

At this high-level stage, it is not possible to conclude which, if any, sites will be affected or if the effects will be significant in regards to the conservation objectives of the European Designated Sites highlighted in this report. It is acknowledged that the Local Strategy sets out the strategic direction for managing flood risk in RCT and that no impacts will arise directly from the strategy itself.

The strategy, however, cannot be put into effect until lower-tier plans, projects or activities arising out of this Local Strategy are determined and implemented; therefore the potential impacts of the strategy cannot be fully determined until more detailed plans are confirmed. Subsequent plans and projects arising from this Local Strategy will be subject to another HRA if there is a potential to affect European Designated Sites, under the Habitats Regulations.

The Local Strategy does not constrain where or how the measures will take place, therefore the objectives and measures can go ahead somewhere or in some way that will not have a significant effect on any European Designated Site.

This Appropriate Assessment concludes that the Local Strategy is not likely to have any significant negative effects on any European sites, alone or in combination with other plans or projects. If there is a potential negative impact, further HRAs conducted on lower tier plans and projects will ensure that this is identified and managed. Given this conclusion, there is no requirement to progress to the next stage of the HRA (the Assessment of Alternative Options).

This conclusion does not remove the need further HRAs of any other plans, projects, or permissions related with, or arising from the Local Strategy .

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Flood and Water Management Act 2010

Local Flood Risk Management Strategy and Action Plan

Habitats Regulations Assessment
Annexes to the Appropriate Assessment

March 2024

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RHONDDA CYNON TAF

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ANNEX A

Identification and Descriptions of Relevant Sites

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1. INTRODUCTION

1.1. BACKGROUND

Habitats Regulations Assessments (HRA) are required by the Conservation of Habitats and Species Regulations (2010), to consider if a plan or project is likely to have a significant effect on a European designated site regarding its nature conservation interest. This report forms Annex A of the HRA, concluding sites to be included in the HRA for Rhondda Cynon Taf's (RCT) revised Local Flood Risk Management Strategy and Action Plan (Local Strategy).

1.2 STUDY AREA

The Local Strategy will include up to the administrative boundary of Rhondda Cynon Taf County Borough Council (RCTCBC) as indicated in Figure 1. This area is roughly 424km², containing parts of four European Designated sites.

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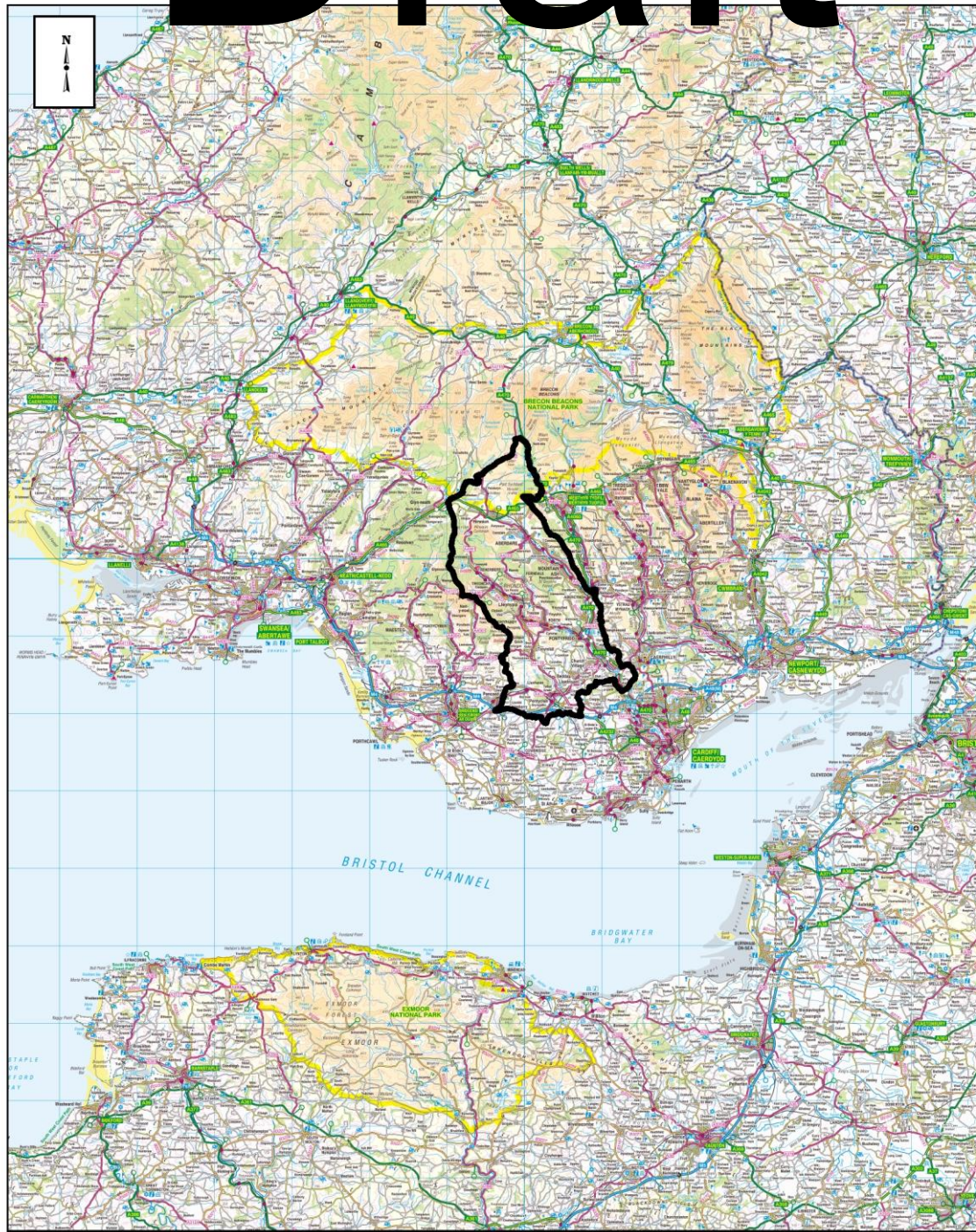


Figure 1: Map of the Administrative Boundary of RCTCBC

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2. IDENTIFYING RELEVANT NATURA 2000 SITES

Figure 2 overleaf shows the European Designated sites within the RCT boundary. Four sites have been identified and will be included in the HRA: -

- Blaen Cynon SAC;
- Cardiff Beech Woods SAC;
- Coedydd Nedd a Mellte SAC; and
- Cwm Cadlan SAC.

It is acknowledged that the Local Strategy will have implications that extend beyond the intended plan boundaries and that distance is not a definitive guide to the likelihood or severity of impacts on European Designated Sites. The HRA will need to encompass Natura 2000 sites outside of the RCT boundary if the sites integrity is at risk.

Following informal correspondence with the Countryside Council for Wales (CCW) (now Natural Resources Wales (NRW)), during the initial cycle of the Local Strategy in 2011-2013, a methodology has been developed that includes all sites within the RCT boundary and analyses the impact on European Designated Sites of sites within an overcautious, 15km buffer zone around RCT. This assessment has used factors such as surface water flows, ground water flows and mobile species to predict impact of the revised Local Strategy on the site.

Table 1 below lists the Natura 2000 sites found within the 15km buffer zone. Table 2 assesses each of the sites within the 15km buffer zone around RCT for relevance to the HRA assessment of the Local Strategy.

Table 1: Natura 2000 Sites Within a 15km buffer zone of RCT

Site Name	Designation	Distance from RCT boundary (km)
Brecon Beacons	SAC	4.1
Aberbargoed Grasslands	SAC	8.44
River Usk	SAC	8.77
Blackmill Woods	SAC	8.85
Cefn Cribwr Grasslands	SAC	10.05
Kenfig/ Cynffig	SAC	10.97
Severn Estuary	SAC	11.02
Severn Estuary	SPA	11.02
Severn Estuary	Ramsar	11.02
Dunraven Bay	SAC	12.07

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Usk Valley Bat Sites

SAC

183

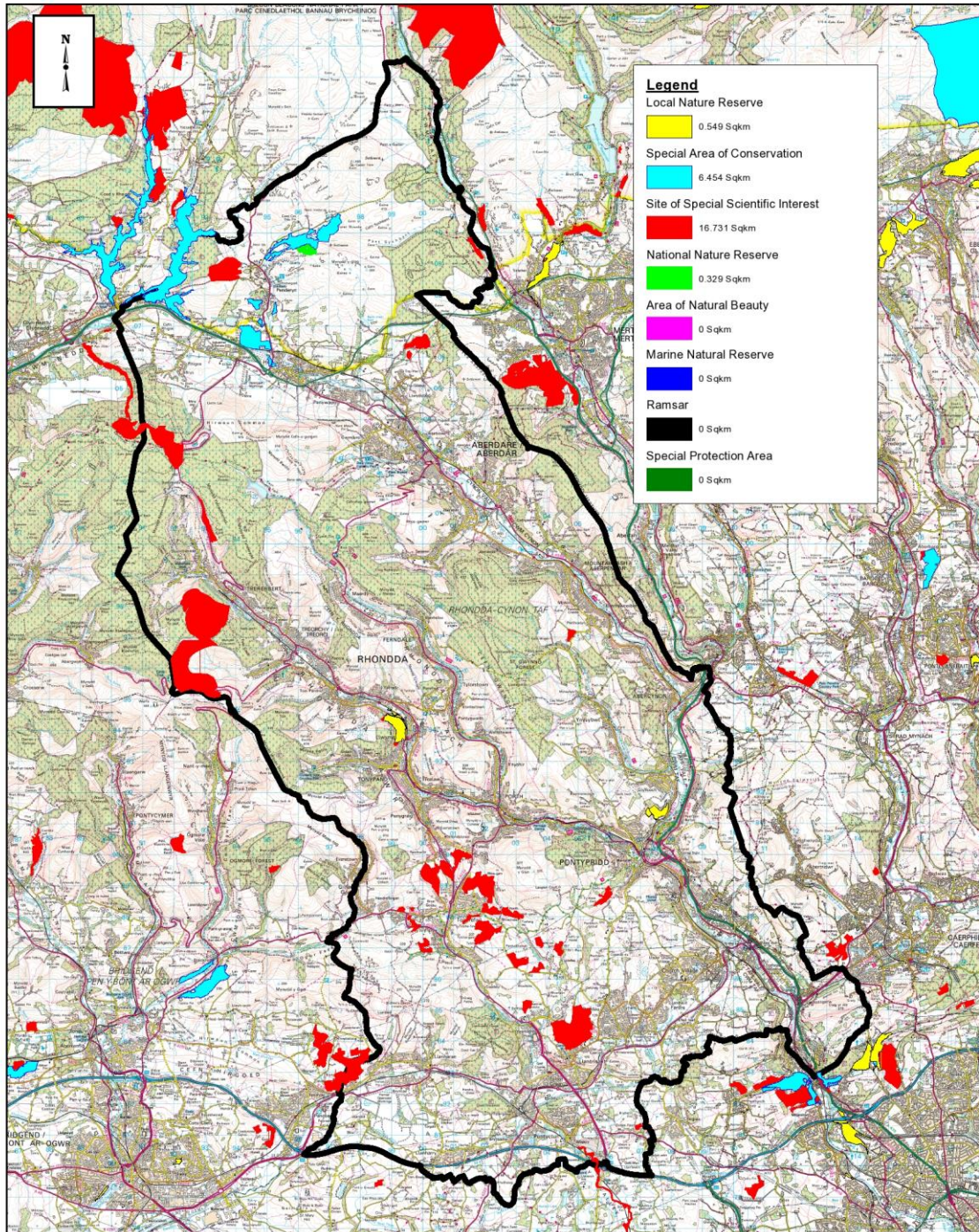


Figure 2: Map of Designated sites in Rhondda Cynon Taf

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Table 2: Assessment of each Natura 2000 site within the 15km buffer zone around RCT for relevance to the Local Strategy for HRA

Site Name	Is the site hydrologically connected to RCT territory?	Is the site home to mobile species that use sites in RCT?	Include in HRA?	Comments
Brecon Beacons SAC	RCT is downstream of the SAC site, hence alterations to the hydrology of RCT will not affect the SAC.	There are no qualifying mobile species associated with this SAC site.	No	N/A
Aberbargoed Grasslands SAC	RCT is downstream of the SAC site, hence alterations to the hydrology of RCT will not affect the Aberbargoed SAC.	The Marsh fritillary butterfly will not be affected by changes in RCT's hydrological regime.	No	N/A
River Usk SAC	This site is within a different river catchment	The Local Strategy will not affect migratory species associated with this SAC site.	No	N/A
Blackmill Woodlands SAC	This site is downstream of RCT territory hence alterations to the hydrology of RCT will affect the SAC.	There are no qualifying mobile species associated with this SAC site.	Yes	The Local Strategy could affect the velocity, quantity and quality of groundwater, surface water and watercourses affecting the SAC site.
Cefn Cribwr Grasslands SAC	This site is downstream of RCT territory, however, due to its distance from RCT and the small area within RCT that feeds into this catchment, the Local Strategy will not significantly affect this SAC.	There are no qualifying mobile species associated with this SAC site.	No	N/A
Kenfig/ Cynffig SAC	This site is not hydrologically connected to RCT.	There are no qualifying mobile species that will be affected by developments in RCT.	No	N/A
Severn Estuary SAC	This site is downstream of RCT territory hence	The Local Strategy could affect mobile species in this site	Yes	The Local Strategy could affect the quantity and quality of

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	alterations to the hydrology of RCT will affect the SAC.			water entering the SPA site. This in turn, could affect the mobile species associated with the site.
Severn Estuary SPA	This site is downstream of RCT territory hence alterations to the hydrology of RCT will affect the SAC.	The Local Strategy could affect mobile species in this site.	Yes	The Local Strategy could affect the quantity and quality of water entering the SPA site. This in turn, could affect the mobile species associated with the site.
Severn Estuary Ramsar	This site is downstream of RCT territory hence alterations to the hydrology of RCT will affect the SAC.	The Local Strategy could affect mobile species in this site.	Yes	The Local Strategy could affect the quantity and quality of water entering the Ramsar site. This in turn, could affect the mobile species associated with the site.
Dunraven Bay SAC	This site is not hydrologically connected to RCT.	There are no qualifying mobile species that will be affected by developments in RCT.	No	N/A
Usk Valley Bat Sites SAC	This site is not hydrologically connected to RCT.	There are no qualifying mobile species that will be affected by developments in RCT.	No	N/A

3. DESCRIPTION OF RELEVANT SITES

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Tables 3 to 8 that follow state for each European Designated Site that will be considered in the LFRMS: -

- The qualifying features of the site;
- The conservation objectives;
- The component Sites of Special Scientific Interest (SSSIs);
- The key environmental conditions;
- An assessment of the current condition;
- The vulnerabilities of the site; and
- Other AA and HRAs performed on the site.

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Table 3: Blaen Cynon Data Proforma

Blaen Cynon: Data Proforma	
Qualifying Features	<p>Annex II Species primary reason for selection:</p> <p>1) Marsh fritillary butterfly <i>Euphydryas (Eurodryas, Hypodryas) aurinia</i></p>
Conservation Objectives	<p>The vision for Feature 1:</p> <p>For it to be in a favourable conservation status, where all of the following conditions are satisfied:</p> <ul style="list-style-type: none"> • The site will contribute towards supporting a sustainable metapopulation of the marsh fritillary in the Penderyn/ Hirwaun area. This will require a minimum of 50ha of suitable habitat, of which at least 10ha must be in good condition, although not all is expected to be found within the SAC. Some will be on nearby land within a radius of about 2km. • The population will be viable in the long term, acknowledging the extreme population fluctuations of the species. • A minimum of 30% of the total site area will be grassland suitable for supporting marsh fritillary. (As the total area of the SAC is 66.62 ha, 30% represents approximately 20 ha.) • At least 40% of the suitable habitat (approximately 8 ha) must be in optimal condition for breeding marsh fritillary. • Suitable marsh fritillary habitat is defined as stands of grassland where <i>Succisa pratensis</i> is present and where scrub more than 1-metre-tall covers no more than 10% of the stands. • Optimal marsh fritillary breeding habitat will be characterised by grassland where the vegetation height is 10-20 cm, with abundant purple moor-grass <i>Molinia caerulea</i>, frequent “large-leaved” devil’s-bit scabious <i>Succisa pratensis</i> suitable for marsh fritillaries to lay their eggs and only occasional scrub. In peak years, a density of 200 larval webs per hectare of optimal habitat will be found across the site. <p>Performance Indicators for Feature 1:</p> <p>The performance indicators can be found at in The ‘Core Management Plan, Including Conservation Objectives For Blaen Cynon Special Area Of Conservation (SAC)’.</p>
Component SSSIs	<p>1) Cors Bryn-y-Gaer SSSI</p> <p>2) Woodland Park and Pontpren SSSI</p>
Key Environmental Conditions	<ul style="list-style-type: none"> • Without an appropriate grazing regime, the grassland will become rank and eventually turn to scrub and woodland. Conversely, overgrazing, or grazing by inappropriate stock (particularly sheep) will also lead to unwanted changes in species composition, through

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<p>(factors affecting site integrity)</p>	<p>selective grazing, increased nutrient inputs and poaching. Balancing grazing is the single most important issue in the management of this site.</p> <ul style="list-style-type: none"> • Extent and quality of the marshy grassland as habitat for marsh fritillary; approximately 50ha of habitat required to maintain the population in the long-term, with at least 10ha is good condition. Not all is expected to be within the SAC. The operational limits reflect the minimum contribution of the Blaen Cynon SAC towards the favourable conservation status of the species in the Hirwaun/ Penderyn area. • Maintain population of devil's-bit scabious; the Marsh Fritillary Butterfly's larval food plant. • Hydrological Regime - the drainage and hydrological conditions on the site should be maintained to favour the habitats that support the Marsh Fritillary and their management. Devil's-bit scabious prefers moist soils. • To conserve a cluster of sites within close proximity – the existing SAC boundary does not take in all areas of suitable habitat in the surrounding area.
<p>SAC condition Assessment</p>	<p>Counts of Marsh Fritillary larval webs have been undertaken regularly since 1999. Numbers of webs have not achieved the levels required by the performance indicators. Monitoring has also concluded that there is insufficient good and available habitat. The assessment for both component SSSIs was that they were in unfavourable condition, and in this case, we can give condition information at the unit level.</p>
<p>Vulnerabilities</p>	<p>1) Scrub encroachment</p> <p>Scrub encroachment is an issue, particularly on some wet grassland areas. A more-or-less continuous programme of scrub control is required at this site. It is clear from aerial photographs and from discussions with landowners, that many areas that are currently covered in alder and willow woodland were formerly wet pasture. Therefore, a long-term aim would be to investigate returning some of this to wet pasture that would likely increase the availability of Marsh Fritillary habitat.</p> <p>2) Grazing</p> <p>Some areas of grassland are overgrazed whereas other areas are under grazed.</p> <p>3) Inappropriate tree planting</p> <p>Areas of the SAC have been subject to improvement works in preparation for tree planting, such as draining, planting with trees and use of fertilisers.</p> <p>4) Parasites</p> <p>Larvae of Marsh Fritillaries can be parasitized by species of braconid wasp of the <i>Cotesia</i> genus. These parasites can have good years and infect many larval</p>

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	<p>webs, causing a crash in the subsequent adult population of Marsh Fritillary. This factor is outside human influence meaning there is little that can be done in the management of this site to reduce this.</p> <p>5) Weather conditions</p> <p>Weather conditions influence the breeding success of the Marsh Fritillary. Poor weather conditions during the adult flight period will reduce opportunities for mating, egg-laying and dispersal from core areas. Weather conditions during early spring influence the rate of larval development of the Marsh Fritillary and the effects of the parasitic wasp (see above). This site is situated in an area of relatively high rainfall, which will have a large influence on the population dynamics of the Marsh Fritillary. This factor is also outside of human influence.</p> <p>6) Owner/ occupier objectives</p> <p>The owners/ occupiers of the land typically have an interest in securing some financial/ agricultural benefit from the land. This return could be optimised by the agricultural improvement of the land, e.g., by installing new drainage, fertiliser application, or re-seeding. However, these operations would cause significant long-term damage to the Marsh Fritillary habitat, namely the marshy grassland. Additionally unimproved marshy grasslands that are waterlogged for much of the year are difficult to manage for many landowners, possibly resulting in a mixture of over and under grazing, with a tendency for scrub to spread. Because of the wet nature of some of the ground, some landowners may be reluctant to graze large stock. This factor will be controlled through management agreements and the SSSI legislation. An operational limit is not required.</p> <p>7) Management of surrounding habitats</p> <p>The SAC only includes the core of the Marsh Fritillary habitat (and hence core of the metapopulation). There are likely to be other small areas of habitat outside the SAC boundary which are used by the butterfly only occasionally, but which likely contribute to the long-term success of the metapopulation. Efforts should be made to encourage better management of these areas of land through schemes such as Tir Gofal or through specific grazing projects.</p>
<p>Other AA/ HRAs performed on this site</p>	<ul style="list-style-type: none"> • Rhondda Cynon Taf County Borough Council's Local Development Plan (2006-2021) • Rhondda Cynon Taf County Borough Council's Habitat Regulations Assessment of the Local Flood Risk Management Strategy, 2013 • Habitats Regulations Assessment of the River Basin Management Plan for the Severn River Basin District (November 2009) • Habitats Regulations Assessment of the River Basin Management Plan for the Severn River Basin District (2015) • Habitats Regulations Assessment of the River Basin Management Plan for the Severn River Basin District (2021)

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Table 1: Cardiff Beech Woods: Data Proforma

Cardiff Beech Woods: Data Proforma	
Qualifying Features	<p>Annex I Habitats reason for selection:</p> <ol style="list-style-type: none"> 1) Asperulo-Fagetum beech forests (primary reason for site selection) 2) Tilio-Acerion forests of slopes, screes, and ravines (priority feature, but not a primary reason for selection)
Conservation Objectives	<p>Vision for feature 1:</p> <p>The vision for this feature is for it to be in a favourable conservation status, where all the following conditions are satisfied:</p> <ul style="list-style-type: none"> • At least 85% of the site will continue to be covered by semi-natural broadleaved woodland. • The range of woodland communities within the site will be maintained, including both of the woodland types considered to be of international importance - Asperulo-Fagetum and Tilio Acerion. • At least 95% of canopy forming trees will be locally native species such as beech, ash, and oak. • The tree canopy will not be completely closed; approximately 10% of the canopy will include a dynamic shifting pattern of gaps encouraging natural regeneration of tree species of all ages. • Dead wood, standing and fallen, will be maintained where possible to provide habitat for invertebrates, fungi, and other woodland species. • The ground flora will comprise species typical of lime-rich beech wood including indicators of ancient woodland, such as wood anemone, ramsons and sanicle. • There is little evidence of browsing • Recreational use of the site will continue to be managed so it does not damage the wildlife interest of the site • All factors affecting the achievement of these conditions are under control. <p>Performance indicators for qualifying feature 1:</p> <p>Indicators can be found in the 'Core Management Plan (Including Conservation Objectives) for Cardiff Beech Woods Special Area of Conservation (SAC)' produced by CCW.</p>

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Vision for Feature 2

The vision for this feature is for it to be in a favourable conservation status, where all the following conditions are satisfied:

- At least 85% of the site will continue to be covered by semi-natural broadleaved woodland
- The range of woodland communities within the site will be maintained, as for feature 1
- At least 95% of canopy forming trees will be locally native species (sycamore included)
- The tree canopy will not be completely closed; approximately 10% of the canopy will include a dynamic shifting pattern of gaps encouraging natural regeneration of tree species of all ages.
- Dead wood, standing or fallen, will be maintained where possible to provide habitat for invertebrates, fungi, and other woodland species.
- The ground flora will comprise species typical of lime-rich beech wood including indicators of ancient woodland, such as wood anemone, ramsons and sanicle.
- There is little evidence of browsing
- Recreational use of the site will continue to be managed so it does not damage the wildlife interest of the site
- All factors affecting the achievement of these conditions are under control.

Performance indicators for qualifying feature 2:

Indicators can be found in the 'Core Management Plan (Including Conservation Objectives) for Cardiff Beech Woods Special Area of Conservation (SAC)' produced by CCW.

<p>Component SSSIs</p>	<ol style="list-style-type: none"> 1) Fforestganol, Tongwynlais a Cwm Nofydd (units 1-5)) 2) Castell Coch Woodlands and Road Section (units 6-9) 3) Garth Wood (units 10-12) <p>There are 12 management units of which numbers 1, 2, 3, 4, 8, 9 and 10 comprise to form the Cardiff Beech woods SAC. A map showing the management units can be viewed on the CCW website</p>
<p>Key Environmental Conditions (factors)</p>	<ul style="list-style-type: none"> • To maintain and manage the surrounding woodland- Commercial forestry in the vicinity of Castell Coch may have implications for surface water supply and quality. There are also several active and disused limestone quarries in the area. Garth Wood surrounds Taff's Well Quarry but there are other, smaller quarries in and around all component SSSIs. Quarrying can lead to direct loss of the feature

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<p>affecting site integrity)</p>	<p>together with direct impacts from issues such as access. There are also several impacts arising from the restoration at the end of a quarry's life.</p> <ul style="list-style-type: none"> • Manage public access - Management of the recreational use of the woodlands should focus on maintaining the network of public footpaths and access routes. Regular maintenance of the footpaths and bridleways is essential to stop them spreading onto adjacent woodland habitat. By restricting recreational use of the woodlands to certain areas and paths, natural woodland processes can be left to occur away from these areas of recreational use without the need for intervention from a public health and safety perspective.
<p>SAC condition Assessment</p>	<p>The sites were monitored in March 2004 to gather the extent or condition of the habitat. The current feature status for the <i>Asperulo-fagetum</i> beech forest is Unfavourable - Unclassified (March 2004).</p> <p>The sites were monitored in February 2004 to gather the extent or condition of the habitats and the species. The current feature status for the <i>Tilio-Acerion</i> forest of slopes, screes and ravines is Unfavourable - Recovering (February 2004).</p>
<p>Vulnerabilities</p>	<p>1) Recreational Pressure</p> <p>The woodlands, especially Castell Coch and Fforestganol a Chwm Nofydd, experience heavy recreational pressure and certain areas are managed for this purpose. Health and safety considerations are relevant here.</p> <p>2) Health and Safety</p> <p>In addition to general health and safety issues arising from woodland management for conservation purposes, site-specific safety issues need to be addressed by management. Such issues may arise from the presence of old quarry workings, and 'unsafe' trees in vicinity of public footpaths, access routes and car parks etc.</p> <p>3) Atmospheric Pollution</p> <p>The location of the woodland in industrialised South Wales, together with the presence of nearby quarrying and associated activities, means that there is the potential for localised atmospheric pollution.</p> <p>4) Development</p> <p>Its location in the populated South Wales area means that there is considerable development pressure in the vicinity including associated infrastructure on land adjacent to the site. There is the potential for a range of impacts arising from increasing urbanisation.</p> <p>5) Commercial Forestry</p> <p>Commercial forestry in the vicinity of Castell Coch may have implications for surface water supply and quality, and this needs to be kept under review.</p> <p>6) Mineral Extraction</p>

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	<p>a number of active and closed limestone quarries in the area. Garth Wood surrounds Taff's Well Quarry but there are other, smaller quarries in and around all</p> <p>7) Non-native species</p> <p>The presence of a number of species considered to be non-native e.g., sycamore and Japanese knotweed, is currently under review to determine any detrimental effects on the woodland communities of special interest.</p>
<p>Other AA/ HRAs performed on this site</p>	<ul style="list-style-type: none"> • AA Screening of the Vale of Glamorgan Local Development Plan Preferred Strategy Dec 07 • AA Screening of the Rhondda Cynon Taff County Borough Council's Local Development Plan (2006-2021) • HRA Screening of the County Council of the City and County of Cardiff Local Development Plan Preferred Strategy Sept 2007 • Rhondda Cynon Taf County Borough Council's Habitat Regulations Assessment of the Local Flood Risk Management Strategy, 2013 • Habitats Regulations Assessment of the River Basin Management Plan for the Severn River Basin District (November 2009) • Habitats Regulations Assessment of the River Basin Management Plan for the Severn River Basin District (2015) • Habitats Regulations Assessment of the River Basin Management Plan for the Severn River Basin District (2021)

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Table 1: Coedydd Nedd a Melte: Data Proforma

Coedydd Nedd a Melte: Data Proforma	
Qualifying Features	<p>Annex I Habitats primary reason for selection:</p> <ol style="list-style-type: none"> 1) Old sessile oak woods with Ilex and Blechnum in the British Isles 2) Tilio-Acerion forests of slopes, screes and ravines
Conservation Objectives	<p>Vision for Feature 1:</p> <p>The vision for this feature is for it to be in a favourable conservation status, where all the following conditions are satisfied:</p> <ul style="list-style-type: none"> • Upland ash woodland will occupy at least 18 ha of the total site area. • The canopy should be predominantly ash and the following trees will be common in the woodland: • Ferns will be common ground flora species. • Although they may be present in the canopy in small quantities, sycamore and beech should not become dominant at the expense of ash. • Introduced invasive species will be absent and any conifers seeding in from adjoining plantations will be removed whilst at the seedling/ sapling stage. • Damage to the ground flora and soil erosion due to public pressure will be at a minimum. • All factors affecting the achievement of these conditions are under control. <p>Performance indicators for Feature 1:</p> <p>Indicators can be found in the 'Core Management Plan (Including Conservation Objectives) for Coedydd Nedd a Melte Special Area of Conservation (SAC)' produced by CCW.</p> <p>Vision for feature 2:</p> <p>The vision for this feature is for it to be in a favourable conservation status, where all the following conditions are satisfied:</p> <ul style="list-style-type: none"> • Sessile oak woodland will occupy at least 175 ha of the total site area. • The canopy should be predominantly oak and locally native trees will be common in the woodland. • Ferns will be common ground flora species.

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	<ul style="list-style-type: none"> • Bryonytes will continue to be abundant, and the epiphyte flora will continue to include those of fern plantations. mark out this woodland type. A suite of rarer species and species at the edge of their geographical range will continue to be present. • Heathy species such as bilberry and common heather <i>Calluna vulgaris</i> will be common in some areas. • Introduced invasive species such as rhododendron will be absent and any conifers seeding in from adjoining plantations will be removed whilst at the seedling/sapling stage. • Damage to the ground flora and soil erosion due to public pressure will be at a minimum. • All factors affecting the achievement of these conditions are under control. <p>Performance indicators for Feature 2:</p> <p>Indicators can be found in the 'Core Management Plan (Including Conservation Objectives) for Coedydd Nedd a Melte Special Area of Conservation (SAC)' produced by CCW.</p>
<p>Component SSSIs</p>	<p>1) Blaen Nedd SSSI (units 1 to 13)</p> <p>2) Dyffrynnoedd Nedd a Mellte, a Moel Penderyn SSSI (units 14 to 29)</p> <p>The two SSSIs above are divided into 29 management units of which numbers 7, 8, 9, 15 to 29 comprise to form the Coedydd Nedd a Mellte SAC.</p>
<p>Key Environmental Conditions (factors affecting site integrity)</p>	<ul style="list-style-type: none"> • To manage grazing - grazing to the extent practiced routinely by the farming community prevents regeneration of woodland and damages the field layer. Cessation of all grazing over a long period, however, may be detrimental to the field layer as these may become shaded out. The ideal may be to mimic the very low level within a natural woodland ecosystem, or to periodically vary grazing pressure. • To manage non-native species - there will be low tolerance of non-native species. Although some sycamore will be tolerated, it should not be allowed to become dominant over ash. • To maintain/manage the surrounding woodland. <p>Manage public access - Throughout the site the cover of bare soil or denuded rocks due to footpaths, trampling and grazing and other activities undertaken by visitors (but not including natural landslips, naturally bare ground where leaf litter etc) can be detrimental to the field layers.</p>
<p>SAC condition Assessment</p>	<p>The conservation status of feature 1 within the site is Unfavourable (2006)</p> <p>The conservation status of feature 2 within the site is Unfavourable (2006)</p>
<p>Vulnerabilities</p>	<p>1) Air pollution including</p>

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	<p>acidification, photochemical oxidants (Ozone, wood smoke), eutrophication and particulate matter.</p> <p>2) Unchecked grazing</p> <p>Stray livestock still gain access in places and could pose a threat to tree and shrub regeneration</p> <p>3) Non-native species</p> <p>Sycamore should not be allowed to become dominant over ash</p> <p>4) Recreational pressure</p> <p>The wooded valleys, particularly within Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI ('the Waterfalls' area) are popular with tourists and increasingly so with recreational/outdoor groups. As a result of high levels visitor usage, erosional problems are widespread</p> <p>5) Fire risk</p> <p>During prolonged dry periods</p>
<p>Other AA/ HRAs performed on this site</p>	<ul style="list-style-type: none"> • AA Screening of the Rhondda Cynon Taff County Borough Council's Local Development Plan (2006-2021) • Rhondda Cynon Taf County Borough Council's Local Development Plan (2006-2021) • Rhondda Cynon Taf County Borough Council's Habitat Regulations Assessment of the Local Flood Risk Management Strategy, 2013 • Habitats Regulations Assessment of the River Basin Management Plan for the Severn River Basin District (November 2009) • Habitats Regulations Assessment of the River Basin Management Plan for the Severn River Basin District (2015) • Habitats Regulations Assessment of the River Basin Management Plan for the Severn River Basin District (2021)

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Table 6: Cwm Cadlan Data Proforma

Cwm Cadlan: Data Proforma	
Qualifying Features	<p>Annex I habitats reason for selection:</p> <ol style="list-style-type: none"> 1) Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) 2) Alkaline fens
Conservation Objectives	<p>Vision for Feature 1:</p> <p>The vision for this feature is for it to be in a favourable conservation status, where all the following conditions are satisfied:</p> <ul style="list-style-type: none"> • Fen-meadow will occupy at least 26 ha of a total area of marshy grassland habitat which itself will cover at least 42ha. • The remainder of the site will mainly consist of other semi-natural habitat, including alkaline fen. • Typical fen-meadow plants will be common. • Plants indicating agricultural modification or alteration to hydrology and drying of soils will be absent or present at only low cover. • Although rushes are frequent, the bulkier species will not exceed 33% cover. • Bare ground will generally not exceed 5% cover and vegetation litter 25%. • Dense scrub will be largely absent from the fen-meadow, but it is probably desirable for invertebrates and birds to have a sparse scattering of shrubs or trees. • All factors affecting the achievement of these conditions are under control. <p>Performance Indicators for feature 1:</p> <p>Indicators can be found in the 'Core Management Plan (Including Conservation Objectives) for Cwm Cadlan Special Area of Conservation (SAC)' produced by CCW.</p> <p>Vision for Feature 2:</p> <p>The vision for this feature is for it to be in a favourable conservation status, where all the following conditions are satisfied:</p> <ul style="list-style-type: none"> • Alkaline Fen will occupy about 11 ha or more.

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	<ul style="list-style-type: none"> • The remainder of the site will only consist of other semi-natural habitat including fen. • Typical alkaline fen plants will be common. • Plants indicating agricultural modification or alteration of hydrology and drying of soils will be absent or present only at low cover. • Although rushes are frequent, the bulkier species will not exceed 33% cover. • Bare ground will generally not exceed 5% cover and vegetation litter 10%. • Scrub species will be largely absent from the alkaline fen. • At selected springheads, water should flow in all but the most severe drought conditions. • All factors affecting the achievement of these conditions are under control. <p>Performance Indicators for feature 2:</p> <p>Indicators can be found in the 'Core Management Plan (Including Conservation Objectives) for Cwm Cadlan Special Area of Conservation (SAC)' produced by CCW.</p>
<p>Component SSSIs</p>	<p>1) Cwm Cadlan SSSI</p>
<p>Key Environmental Conditions (factors affecting site integrity)</p>	<ul style="list-style-type: none"> • Scrub control - Open wetland areas are prone to invasion by alder and willow scrub. Optimum grazing levels should help control spread of scrub, but occasionally active scrub eradication is necessary. Scrub and woodland is also a natural component of such wetland complexes and enhances the site both biologically and visually, therefore older well-established stands will be retained. • Hydrological regime - The marshy grassland communities are strongly influenced by the quantity and base status of the groundwater. Reductions in the quality and quantity of the water in the springs and watercourses feeding the site may lead to a loss of marshy grassland or changes in species composition. Conversely, reduced/ impeded drainage may lead to ground-water stagnation and a different change in species composition, e.g. increased abundance of rushes. Infilling some of the many ditches at the site is likely to lead to re-wetting of some marshy grassland. • Air Quality - Atmospheric deposition at this site has the potential to harm the alkaline fen feature. Dust deposition is likely to be high given the close proximity of Penderyn Quarry, and the absence of a published critical load for this pollutant against this habitat should be taken as indicating lack of impact. Atmospheric Nitrogen deposition in this area is estimated at 21.8 kg N/ha/yr which lies above the lower

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	<p>critical load limit for this pollutant (15-35 kg N / ha / yr). It's likely that the critical load for Nitrogen for M10 forms of alkaline fen is towards the lower end of this range.</p>
<p>SAC condition Assessment</p>	<p>The conservation status of feature 1 within the site is Unfavourable (2007). The conservation status of feature 2 within the site is Unfavourable (2007).</p>
<p>Vulnerabilities</p>	<p>1) Inappropriate grazing regime</p> <p>Without an appropriate grazing regime, the grassland would become rank and eventually turn to scrub and woodland. Any excessive grazing pressure would be expected to increase the frequency and cover of bare ground and agricultural species. Cessation of cattle farming could affect the vegetation, as sheep are more selective grazers.</p> <p>2) Scrub encroachment</p> <p>Woodland and scrub should not encroach further into the unimproved grassland, in particular the communities of highest conservation value (alkaline fen, fen-meadow, and neutral grassland).</p> <p>3) Changes to hydrological regime</p> <p>Activities that effect groundwater level and flow, such as mineral extraction. Dewatering of the adjacent quarry has potential to affect the hydrology of the site. Eutrophication - there has been concern about fertilizer run-off from some adjacent improved fields causing localised nutrient enrichment.</p> <p>4) Atmospheric Pollution</p> <p>Atmospheric deposition at this site has the potential to harm the alkaline fen feature. Dust deposition is likely to be high given the close proximity of Penderyn Quarry, and the absence of a published critical load for this pollutant against this habitat should be taken as indicating lack of impact. Atmospheric Nitrogen deposition in this area is estimated at 21.8 kg N/ha/yr which lies above the lower critical load limit for this pollutant (15-35 kg N / ha / yr). It's likely that the critical load for Nitrogen for M10 forms of alkaline fen is towards the lower end of this range.</p>
<p>Other AA/ HRAs performed on this site</p>	<ul style="list-style-type: none"> • AA Screening of the Rhondda Cynon Taff County Borough Council's Local Development Plan (2006-2021): Preferred Strategy January 2007 • Rhondda Cynon Taff County Borough Council's Local Development Plan (2006-2021) • Rhondda Cynon Taff County Borough Council's Habitat Regulations Assessment of the Local Flood Risk Management Strategy, 2013

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- Habitats Regulations Assessment of the River Basin Management Plan for the Severn River Basin District (November 2009)
- Habitats Regulations Assessment of the River Basin Management Plan for the Severn River Basin District (2015)
- Habitats Regulations Assessment of the River Basin Management Plan for the Severn River Basin District (2021)

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Table 1: Blackmill Woodlands: Data Proforma

Blackmill Woodlands: Data Proforma	
Qualifying Features	<p>Annex I Habitats primary reason for selection:</p> <p style="padding-left: 40px;">1) Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles</p>
Conservation Objectives	<p>Vision for feature 1</p> <p>There is only one feature for the site, and so the vision for this feature is the same as that for the site: At least 90% of the site will be covered by semi-natural broadleaved woodland. The trees will be locally native broadleaved species, with a dominance of oak in the canopy. In the long term, the canopy will include trees of a wide range of age classes, with particular attention given to retaining old or veteran trees and encouraging natural regeneration of tree species, in particular oak. Dead wood, standing and fallen, will be maintained where possible to provide habitat for invertebrates, fungi and other woodland species. The tree canopy will not be completely closed; approximately 10% of the woodland will include a naturally occurring dynamic, shifting pattern of gaps.</p> <p>It is required that the feature be in a favourable conservation status, where all of the conditions set out in the Performance Indicators table are satisfied, and all factors affecting the achievement of these conditions are under control.</p> <p>Performance indicators for Feature 1:</p> <p>The performance indicators can be found in the 'Core Management Plan (Including Conservation Objectives) for Blackmill Woodlands Special Area of Conservation (SAC)' produced by CCW.</p>
Component SSSIs	<p>Blackmill Woodlands is composed of 2 management units Allt Y Rhiw (Unit 1) and Craig Tal Y Fan (Unit 2), the SAC covers the same area. A map of the management units can be viewed on the CCW website.</p>
Key Environmental Conditions (factors affecting site integrity)	<p>Management of woodland - focus on restoring an uneven age structure and providing increased opportunity for natural regeneration through removal of grazing and gap creation/ maintenance.</p>
SAC condition Assessment	<p>Both woodland blocks failed to have sufficient seedlings and saplings within canopy gaps. To summarise, the feature within this site is in unfavourable condition. However, Unit 1 should be classified as unfavourable recovering and Unit 2 as unfavourable declining (March 2008).</p>

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<p>Vulnerabilities</p>	<p>1) Grazing</p> <p>Sheep grazing has, and continues to have, a major impact on the condition of the site with significant problems as a result of the heavy grazing in the Craig Tal-y-Fan (unit 2) woodland block. Excessive sheep grazing leads to a severely impoverished ground flora and severely inhibits the growth or recruitment of young seedlings and saplings for regeneration. Cessation of all grazing over a long period could be detrimental to the field layer, especially bryophytes, as they can become shaded out. The ideal is either to mimic the very low level within a natural woodland ecosystem, or to periodically vary grazing pressure.</p> <p>2) Air pollution</p> <p>Possible in-combination effect of EA permitted licences, currently under investigation (acidification, eutrophication. photochemical oxidants and particulate matter).</p>
<p>Other AA/ HRAs performed on this site</p>	<ul style="list-style-type: none"> • HRA Screening of the County Council of the City and County of Cardiff Local Development Plan Preferred Strategy Sept 2007. • AA Screening of the Vale of Glamorgan Local Development Plan Preferred Strategy Dec 07 • Rhondda Cynon Taf County Borough Council's Habitat Regulations Assessment of the Local Flood Risk Management Strategy, 2013 • Habitats Regulations Assessment of the River Basin Management Plan for the Severn River Basin District (November 2009) • Habitats Regulations Assessment of the River Basin Management Plan for the Severn River Basin District (2015) • Habitats Regulations Assessment of the River Basin Management Plan for the Severn River Basin District (2021)

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Table 1. Severn Estuary SAC: Data Proforma

Severn Estuary SAC: Data Proforma	
Qualifying Features	<p>Annex I Habitats primary reason for selection:</p> <ol style="list-style-type: none"> 1) Estuaries 2) Mudflats and sandflats not covered by seawater at low tide 3) Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) <p>Annex I Habitats qualifying feature:</p> <ul style="list-style-type: none"> • Sandbanks which are slightly covered by sea water all the time • Reefs • Annex II Species primary reason for selection: • Sea lamprey <i>Petromyzon marinus</i> • <input type="checkbox"/> River lamprey <i>Lampetra fluviatilis</i> • Twaite shad <i>Alosa fallax</i>
Conservation Objectives	<ul style="list-style-type: none"> • That the total extent of the estuary is maintained; • The characteristic physical form (tidal prism/cross sectional area) and flow (tidal regime) of the estuary is maintained; • The characteristic range and relative proportions of sediment sizes and sediment budget within the site is maintained; • The extent, variety and spatial distribution of estuarine habitat communities within the site is maintained; • The extent, variety, spatial distribution and community composition of hard substrate habitats and their notable communities is maintained; • The abundance of the notable estuarine species assemblages is maintained or increased; • The physic-chemical characteristics of the water column support the ecological objectives described above; • Toxic contaminants in water column and sediment are below levels which would pose a risk to the ecological objectives are defined in the "The Severn Estuary / Môr Hafren European Marine Site - Natural England & the Countryside Council for Wales' advice given under

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	<p>Regulation 33(2)(a) of the Conservation (Natural Habitats, &c.) Regulations 1994, as amended; and</p> <ul style="list-style-type: none"> Airborne nutrient and contaminant loads are below levels which would pose a risk to the ecological objectives described in the document referred to above.
<p>Component SSSIs</p>	<ol style="list-style-type: none"> 1) Flat Holm SSSI 2) Severn Estuary SSSI 3) Steep Holm SSSI 4) Sully Island SSSI 5) Upper Severn Estuary SSSI 6) Penarth Coast SSSI 7) Bridgwater Bay SSSI
<p>Key Environmental Conditions (factors affecting site integrity)</p>	<ul style="list-style-type: none"> Hydrodynamic and sedimentary regime - The conservation of the site features is dependent on the tidal regime. The tidal range in the Severn Estuary is the second highest in the world and the scouring of the seabed and strong tidal streams result in natural erosion of the habitats and the presence of high sediment loads. Maintain suitable distance between the site and development - to allow for managed retreat of intertidal habitats and avoid coastal squeeze. Manage public access and activities.
<p>SAC condition Assessment</p>	<p>Refer to 'The Severn Estuary / Môr Hafren European Marine Site Natural England & the Countryside Council for Wales' advice given under Regulation 33(2)(a) of the Conservation (Natural Habitats,&c.) Regulations 1994, as amended.' (June 2009) for condition statements.</p>
<p>Vulnerabilities</p>	<ol style="list-style-type: none"> 1) Physical loss of supporting habitats through removal <p>The physical loss of areas of intertidal habitats may be caused directly through change of land use or indirectly as a consequence of changes to sedimentation processes (e.g. coastal defences) as well as via the effects of smothering by artificial structures (e.g. jetties) or the disposal of spoils. The intertidal mudflats and sandflats and the saltmarsh are highly sensitive to removal by land reclamation and barrage construction. Information provided by NE and CCW states that large areas of the European marine site are not currently under threat, however when combined with a high level of sensitivity this leads to a moderate vulnerability.</p> <ol style="list-style-type: none"> 2) Contamination by synthetic and/or non-synthetic toxic compounds

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	<p>At the moment there is no evidence to show that this is the case on the Severn estuary, but the estuary is vulnerable to oil spills and there is a continuous discharge of toxins into the estuary, some of which bind to the sediments. NE and CCW identify this is an area which requires further assessment. The intertidal mudflats and sandflats and the saltmarsh are currently highly vulnerable to the introduction of synthetic and non-synthetic compounds.</p> <p>3) Damage by abrasion or selective extraction</p> <p>Saltmarsh may be physically damaged from overgrazing or eroded when boats are moored on it and when paths are worn through it to reach moored boats on foot or via vehicles. Currently all supporting habitats are moderately vulnerable to abrasion. Intertidal habitats are highly sensitive to damage by direct and indirect effects of aggregate dredging. The intertidal mudflats and sandflats and the shingle and rocky shore are therefore considered by NE and CCW to be highly vulnerable to selective extraction.</p> <p>4) Changes in nutrient and/ or organic loading</p> <p>Changes in organic or nutrient loading can change the species composition of the plants on the saltmarsh and thus the structure of the sward. Increases in nutrients can also cause excessive algal growth on the mudflats, denying the birds access to their invertebrate prey and changing the invertebrate species composition in the sediment. Though the water quality has been improved in recent years there are still local areas of concern and any increase in nutrient loading should be avoided. At present the intertidal mudflats and sandflats are moderately vulnerable to this category of operation.</p> <p>5) Inappropriate grazing</p> <p>Much of the saltmarsh is managed by grazing and changes in management can alter the availability of prey and suitability of roosting sites. The saltmarsh is currently highly vulnerable to the selective extraction of species.</p>
<p>Other AA/ HRAs performed on this site</p>	<ul style="list-style-type: none"> • Rhondda Cynon Taf County Borough Council's Habitat Regulations Assessment of the Local Flood Risk Management Strategy, 2013 • Habitats Regulations Assessment of the River Basin Management Plan for the Severn River Basin District (November 2009) • Habitats Regulations Assessment of the River Basin Management Plan for the Severn River Basin District (2015) • Habitats Regulations Assessment of the River Basin Management Plan for the Severn River Basin District (2021) • HRA Screening of the County Council of the City and County of Cardiff Local Development Plan Preferred Strategy Sept 2007. • HRA Screening of the Torfaen Local Development Plan (2006-2021) January 2008.

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	<ul style="list-style-type: none">• AA Screening of the Vale of Glamorgan Local Development Plan• Preferred Strategy Decisions
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Table 1. Severn Estuary SPA: Data Proforma

Severn Estuary SPA: Data Proforma	
Qualifying Features	<p>Article 4.1 Qualification:</p> <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none"> • Bewick's Swan <i>Cygnus columbianus bewickii</i> 3.9% of the GB population <p>Article 4.2 Qualification:</p> <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none"> • Gadwall <i>Anas strepera</i> 0.9% of the population • White-fronted Goose <i>Anser albifrons albifrons</i> 0.4% of the population • <input type="checkbox"/> Dunlin <i>Calidris alpina alpina</i> 3.3% of the population • Shelduck <i>Tadorna tadorna</i> 1.1% of the population • <input type="checkbox"/> Redshank <i>Tringa totanus</i> 1.3% of the population <p>Article 4.2 Qualification: Internationally Important Assemblage of Birds</p> <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none"> • An assemblage of waterfowl

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Conservation Objectives

Interest feature 1: Internationally important population of regularly occurring Annex 1 species: Bewick's swan

The interest feature Bewick's swan will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met:

- 1) The 5-year peak mean population size for the Bewick's swan population is no less than 289 individuals (i.e. the 5 year peak mean between 1988/9 - 1992/3)
- 2) The extent of saltmarsh at the Dumbles is maintained
- 3) The extent of intertidal mudflats and sandflats at Frampton Sands, Waveridge Sands and the Noose is maintained
- 4) The extent of vegetation with an effective field size of >6 ha and with unrestricted bird sightlines > 500m at feeding, roosting and refuge sites are maintained
- 5) Greater than 25% cover of suitable soft leaved herbs and grasses in winter season throughout the transitional saltmarsh at the Dumbles is maintained;
- 6) Aggregations of Bewick's swan at feeding, roosting and refuge sites are not subject to significant disturbance.

Interest feature 2: Internationally important population of regularly occurring migratory species: wintering dunlin

The interest feature dunlin will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met:

- 1) The 5-year peak mean population size for the wintering dunlin population is no less than 41,683 individuals (i.e. the 5 year peak mean between 1988/9 - 1992/3)
- 2) The extent of saltmarsh is maintained
- 3) The extent of intertidal mudflats and sandflats is maintained
- 4) The extent of shingle and rocky shore is maintained
- 5) The extent of vegetation with a sward height of <10cm is maintained throughout the saltmarsh
- 6) The distribution and abundance of suitable invertebrates in intertidal mudflats and sandflats is maintained
- 7) The distribution and abundance of suitable invertebrates in shingle and rocky shore is maintained
- 8) The extent of strandlines is maintained
- 9) Unrestricted bird sightlines of >200m at feeding and roosting sites are maintained
- 10) Aggregations of dunlin at feeding or roosting sites are not subject to significant disturbance

Interest feature 3: Internationally important population of regularly occurring migratory species: wintering European white-fronted goose

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The interest feature European white-fronted goose will be in favourable condition when, subject to natural processes (BODM), each of the following conditions are met:

- 1) The 5-year peak mean population size for the wintering European white fronted goose population is no less than 3,002 individuals (i.e., the 5-year peak mean between 1988/9-1992/3)
- 2) The extent of saltmarsh at the Dumbles is maintained
- 3) The extent of intertidal mudflats and sandflats at Frampton Sands, Waveridge Sands and the Noose is maintained
- 4) Greater than 25% cover of suitable soft-leaved herbs and grasses is maintained during the winter on saltmarsh areas
- 5) Unrestricted bird sightlines of >200m at feeding and roosting sites are maintained
- 6) Aggregations of European white-fronted goose at feeding or roosting sites are not subject to significant disturbance.

Interest feature 4: Internationally important population of regularly occurring migratory species: wintering redshank

The interest feature redshank will be in favourable condition when, subject to natural processes, each of the following conditions are met:

- 1) The 5-year peak mean population size for the wintering redshank population is no less than 2,013 individuals (ie the 5 year peak mean between 1988/9 - 1992/3)
- 2) The extent of saltmarsh is maintained
- 3) The extent of intertidal mudflats and sandflats is maintained
- 4) The extent of shingle and rocky shore is maintained
- 5) The extent of vegetation with a sward height of <10cm throughout the saltmarsh is maintained
- 6) The distribution and abundance of suitable invertebrates in intertidal mudflats and sandflats is maintained
- 7) The distribution and abundance of suitable invertebrates in shingle and rocky shore is maintained
- 8) Strandlines are not subject to significant disturbance
- 9) Unrestricted bird sightlines of >200m at feeding and roosting sites are maintained
- 10) Aggregations of redshank at feeding or roosting sites are not subject to significant disturbance.

Interest feature 5: Internationally important population of regularly occurring migratory species: wintering shelduck

The interest feature shelduck will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met:

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	<ol style="list-style-type: none"> 1) The 5-year peak mean population size for the wintering shelduck population is no less than 1,002 individuals (ie the 5-year peak mean between 1988/9 - 1992/3); 2) The extent of saltmarsh is maintained 3) The extent of intertidal mudflats and sandflats is maintained 4) The extent of shingle and rocky shore is maintained 5) The distribution and abundance of suitable invertebrates in intertidal mudflats and sandflats is maintained 6) Unrestricted bird sightlines of >200m at feeding and roosting sites are maintained; aggregations of shelduck at feeding or roosting sites are not subject to significant disturbance. <p>Interest feature 6: Internationally important assemblage of waterfowl</p> <p>The interest feature waterfowl assemblage will be considered to be in favourable condition when, subject to natural processes (Box1), each of the following conditions are met:</p> <ol style="list-style-type: none"> 1) The 5-year peak mean population size for the waterfowl assemblage is no less than 68,026 individuals (i.e., the 5-year peak mean between 1988/9 - 1992/3) 2) The extent of saltmarsh is maintained 3) The extent of intertidal mudflats and sandflats is maintained 4) The extent of shingle and rocky shore is maintained 5) Extent of vegetation of <10cm throughout the saltmarsh is maintained 6) The distribution and abundance of suitable invertebrates in intertidal mudflats and sandflats is maintained 7) The distribution and abundance of suitable invertebrates in shingle and rocky shore is maintained 8) Greater than 25% cover of suitable soft leaved herbs and grasses during the winter on saltmarsh areas is maintained 9) Strandlines are not subject to significant disturbance 10) Unrestricted bird sightlines of >500m at feeding and roosting sites are maintained 11) Waterfowl aggregations at feeding or roosting sites are not subject to significant disturbance.
<p>Component SSSIs</p>	<ol style="list-style-type: none"> 1) Severn Estuary SSSI 2) Flat Holm SSSI 3) Bridgwater Bay SSSI 4) Penarth Coast SSSI 5) Steep Holm SSSI 6) Sully Island SSSI 7) Upper Severn Estuary SSSI

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Key Environmental Conditions (factors that maintain site integrity)

Key supporting habitats for the Annex species:

Intertidal mudflats and sandflats:

- Habitat extent - The focal area for the Bewick's swans is the upper Severn Estuary in the vicinity of the New Grounds, Slimbridge area. The mudflats and sandflats exposed as the tide falls where the estuary widens in the upper reaches of the site at Waveridge Sands, Frampton Sands and The Noose are used as safe refuge areas when the birds are disturbed.
- Unimpeded sightlines at feeding and roosting sites - Bewick's swan require unrestricted views >500m to allow early detection of predators when feeding and roosting.

Saltmarsh communities:

- Habitat extent - The birds feed on the saltmarsh and the transition from saltmarsh to coastal grazing marsh in front of the sea defences in the upper estuary at The Dumbles, where areas of the high marsh are mainly affected only by brackish water during tidal inundation.
- Vegetation characteristics - Bewick's swan graze on a range of 'soft' meadow grasses such as *Agrostis stolonifera* and *Alopecurus geniculatus* found in wet meadows which are outwith the European marine site boundary.
- Unimpeded sightlines at feeding and roosting sites - Bewick's swan require unrestricted views >500m to allow early detection of predators when feeding and roosting.

Key supporting habitats for populations of regularly occurring migratory species and assemblage of waterfowl:

Intertidal mudflats and sandflats:

- Habitat extent - Intertidal mudflats and sandflats and their communities are important habitats as they provide both roosting and feeding areas. The European white-fronted geese roost at night on estuarine sandbanks and usually fly less than 10km to the daytime feeding grounds. Therefore, conservation of traditional roosting sites is necessary to enable the population to exploit potential feeding habitats.
- Food availability - Most of the waders and waterfowl within the assemblage including the internationally important regularly occurring migratory birds feed on invertebrates within and on the sediments.

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- Unimpeded sightlines at feeding and roosting sites - Waterfowl require unrestricted views >500m to allow early detection of predators when feeding and roosting.

Saltmarsh:

- Habitat extent - Saltmarsh and their communities are important habitats as they provide both roosting and feeding areas. Upper and lower saltmarsh provide important feeding and roosting areas for the internationally important migratory birds throughout the estuary.
- Food availability - The saltmarshes provide a rich feeding habitat for redshank and shelduck, which feed on invertebrate species in the sediments, such as the mudsnail *Hydrobia*. The European white-fronted geese graze on a range of saltmarsh grasses and herbs such as common saltmarsh grass *Puccinellia maritime* and sea barley *Hordeum marinum*. The birds feed on the saltmarsh and the transition to coastal grazing marsh in front of the sea defences in the upper estuary and particularly at the The Dumbles.
- Vegetation characteristics - Vegetation of <10 cm is required throughout areas used by roosting waders. This is managed by grazing.
- Unimpeded sightlines at feeding and roosting sites - Waterfowl require unrestricted views >500m to allow early detection of predators when feeding and roosting. The saltmarshes also have an important function providing a safe haven from the tides that flood the mudflats twice a day. The low-growing dense vegetation provides a suitable roosting habitat for redshank and dunlin, which prefer to roost on areas of short vegetation ensuring good visibility.

Shingle and rocky shore:

- Habitat extent - the shingle and rocks in the estuary provide feeding areas for dunlin and redshank and some limited foraging at high tide. It is also provides important roost sites at high tide particularly for the dunlin and redshank. Many of the rocks are off shore and are therefore generally free from human disturbance. These include Guscar Rocks in the upper reaches, Blackstone Rocks at Clevedon and Stert Island in Bridgwater Bay.
- Food availability - see above.
- Unimpeded sightlines at feeding and roosting sites - Waterfowl require unrestricted views >500m to allow early detection of predators when feeding and roosting.

Wet coastal grazing marsh, improved grassland and open standing waters:

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	<ul style="list-style-type: none"> the supporting habitats lie outside the European marine site boundary but within the SPA. They provide key areas for feeding and roosting for all the migratory species particularly at high tide. <p>Key environmental conditions for the supporting habitats:</p> <p>Hydrodynamic and sedimentary regime</p> <ul style="list-style-type: none"> the tidal range in the Severn Estuary is the second highest in the world and the scouring of the seabed and strong tidal streams result in natural erosion of the habitats and the presence of high sediment loads. <p>Maintain suitable distance between the site and development</p> <ul style="list-style-type: none"> to allow for managed retreat of intertidal habitats and avoid coastal squeeze. <p>Other key conditions:</p> <p>Manage/ restrict public access</p> <ul style="list-style-type: none"> at certain times of the year. Significant disturbance attributable to human activities can result in reduced food intake and/or increased energy expenditure. <p>Maintain levels of prey</p>
<p>SAC condition Assessment</p>	<p>Refer to 'The Severn Estuary / Môr Hafren European Marine Site Natural England & the Countryside Council for Wales' advice given under Regulation 33(2)(a) of the Conservation (Natural Habitats,&c.) Regulations 1994, as amended.' (June 2009) for condition statements.</p>
<p>Vulnerabilities</p>	<p><u>Internationally important populations of regularly occurring Annex 1 species:</u></p> <ol style="list-style-type: none"> Physical loss of supporting habitats through removal - The physical loss of areas of intertidal habitats may be caused directly through change of land use or indirectly because of changes to sedimentation processes (e.g., coastal defences) as well as via the effects of smothering by artificial structures (e.g., jetties) or the disposal of spoils. Activities or developments resulting in physical loss of the intertidal supporting habitats are likely to reduce the availability of feeding and roosting habitat and thus be detrimental to the favourable condition of the SPA interest features including the Annex 1 species, Bewick's swan. The intertidal mudflats and sandflats and the saltmarsh are highly sensitive to removal by land reclamation and barrage construction. Information provided by NE and CCW states that large areas of the European marine site are not currently under threat, however when combined with a high level of sensitivity this

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lead to a moderate vulnerability

- 2) Noise or visual disturbance - Overwintering birds are disturbed by sudden movements and sudden noises. This can displace the birds from their feeding grounds. Disturbance can prevent the birds from feeding and in response they either a) decrease their energy intake at their present (disturbed) feeding site through displacement activity, or b) move to an alternative less favoured feeding site. Such a response affects energy budgets and thus survival. There is intermittent disturbance from both the landward and seaward side of the site. Bewick's swans are mainly affected by disturbance from the landward side and any increase in disturbance should be avoided. At present NE and CCW assess that the Annex 1 species are moderately vulnerable to noise and visual disturbance on the intertidal mudflats and sandflats and highly vulnerable to this category of operation on the saltmarsh.
- 3) Contamination by synthetic and/or non-synthetic toxic compounds - Waterfowl are subject to the accumulation of toxins through the food chain or through direct contact with toxic substances when roosting or feeding. Their ability to feed can also be affected by the abundance or change in palatability of their prey caused by toxic contamination. There is no evidence to show that this is the case, but the estuary is vulnerable to oil spills and there is a continuous discharge of toxins into the estuary, some of which bind to the sediments. NE and CCW identify this is an area which requires further assessment. They also identify Bewick's swans as currently moderately vulnerable to toxic contamination.
- 4) Suitability of roosting sites. The saltmarsh is currently highly vulnerable to the selective extraction of species.

Internationally important waterfowl assemblage including populations of regularly occurring migratory species:

- 1) Physical loss through removal - The physical loss of areas of intertidal habitats may be caused directly through change of land use or indirectly because of changes to sedimentation processes (e.g., coastal defences) as well as via the effects of smothering by artificial structures (e.g., jetties) or the disposal of spoils. Eelgrass beds are being affected by siltation due to changes in sediment movement after construction of the Second Severn Crossing which has resulted in smothering. Activities or developments resulting in physical loss of the intertidal supporting habitats are likely to reduce the availability of food and roosting habitat and thus be detrimental to the favourable condition of the SPA interest features including all the migratory species and waterfowl assemblage. All three supporting habitats are highly sensitive to removal by land reclamation and barrage construction. Information provided by NE and CCW states that large

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parts of the European marine shore are not currently under threat, however when combined with a high level of sensitivity this leads to a moderate vulnerability.

- 2) Damage by abrasion or selective extraction - Saltmarsh may be physically damaged from overgrazing or eroded when boats are moored on it and when paths are worn through it to reach moored boats on foot or via vehicles. Currently all supporting habitats are moderately vulnerable to abrasion. Intertidal habitats are highly sensitive to damage by direct and indirect effects of aggregate dredging. The intertidal mudflats and sandflats and the shingle and rocky shore are therefore considered by NE and CCW to be highly vulnerable to selective extraction.
- 3) Noise or visual disturbance - Overwintering birds are disturbed by sudden movements and sudden noises. This can have the effect of displacing the birds from their feeding grounds. Disturbance can prevent the birds from feeding and in response they either a) decrease their energy intake at their present (disturbed) feeding site through displacement activity, or b) move to an alternative less favoured feeding site. Such a response affects energy budgets and thus survival. There is intermittent disturbance to the internationally important migratory species and the waterfowl assemblage from both the landward and seaward side of the site which has increased in recent years, due to the estuary becoming more populated and the development of all-weather recreational pursuits. All supporting habitats are currently highly vulnerable to noise and visual disturbance.
- 4) Contamination by synthetic and/or non-synthetic toxic compounds - Waterfowl are subject to the accumulation of toxins through the food chain or through direct contact with toxic substances when roosting or feeding. Their ability to feed can also be affected by the abundance or change in palatability of their prey caused by toxic contamination. At the moment there is no evidence to show that this is the case on the Severn Estuary, but the estuary is vulnerable to oil spills and there is a continuous discharge of toxins into the estuary, some of which bind to the sediments. NE and CCW identify this is an area which requires further assessment. The intertidal mudflats and sandflats and the saltmarsh are currently highly vulnerable to the introduction of synthetic and non-synthetic compounds.
- 5) Changes in nutrient and/or organic loading - Changes in organic or nutrient loading can change the species composition of the plants on the saltmarsh and thus the structure of the sward. Increases in nutrients can also cause excessive algal growth on the mudflats, denying the birds access to their invertebrate prey and changing the invertebrate species composition in the sediment. Though the water

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	<p>quality has been improved in recent years, there are still local areas of concern and any increase in nutrient loading should be avoided. At present the intertidal mudflats and sandflats are moderately vulnerable to this category of operation.</p> <p>6) Biological disturbance through the selective extraction of species - Wildfowling is carried out all around the estuary. NE and CCW have not established that it has a detrimental effect on the overall bird populations but state that wildfowling needs to be exercised in a managed and sustainable manner preferably by a British Association of Shooting and Conservation (BASC) affiliated association, applying the BASC wildfowling code of conduct. Bait digging is also carried out around the estuary. If too large an area is regularly dug over, it can change the availability of prey in the sediment as the area needs a period of recovery and recolonisation. The removal of strandline vegetation by beach cleaning removes an important habitat for invertebrates, as well as many of the invertebrates themselves, reducing the quantity and variety of prey available to the birds. Much of the saltmarsh is managed by grazing and changes in management can alter the availability of prey and suitability of roosting sites. The saltmarsh is currently highly vulnerable to the selective extraction of species.</p>
<p>Other AA/ HRAs performed on this site</p>	<p>See Table 8</p>

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Table 1: Severn Estuary Ramsar: Data Proforma

Severn Estuary SAC: Data Proforma	
Qualifying Features	<p>Ramsar interest feature 1:</p> <p>Estuaries:</p> <ul style="list-style-type: none"> • characteristic physical form and flow, estuarine habitat communities and species assemblages • estuarine habitat communities and species assemblages <p>Ramsar interest feature 2:</p> <p>Assemblage of migratory fish species:</p> <ul style="list-style-type: none"> • Sea Lamprey • River Lamprey • Twaite Shad • Allis Shad • Salmon • Sea Trout • Eel <p>Ramsar interest feature 3:</p> <ul style="list-style-type: none"> • Bewick's Swan <p>Ramsar interest feature 4:</p> <ul style="list-style-type: none"> • European white-fronted goose <p>Ramsar interest feature 5:</p> <ul style="list-style-type: none"> • Dunlin <p>Ramsar interest feature 6:</p> <ul style="list-style-type: none"> • Redshank

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	<p>Ramsar interest feature 7:</p> <ul style="list-style-type: none"> • Shelduck <p>Ramsar interest feature 8:</p> <ul style="list-style-type: none"> • Gadwall <p>Ramsar interest feature 9:</p> <p>Internationally important assemblage of waterfowl. This feature incorporates:</p> <ul style="list-style-type: none"> • waterfowl which contribute to the total peak winter count (criterion 3a) • the above internationally important wintering populations (qualifying under criterion 3c) • the migratory passage species (qualifying under criterion 2c) • the nationally important populations (identified under other notable features of the Ramsar Site citation)
<p>Conservation Objectives</p>	<p>Interest Feature 1:</p> <p>Defined by the relevant SAC objective</p> <p>Interest Feature 2:</p> <p>The feature will be in favourable condition when, subject to natural processes, each of the following conditions are met:</p> <ol style="list-style-type: none"> 1) The migratory passage of both adults and juveniles of the assemblage of migratory fish species through the Severn Estuary between the Bristol Channel and any of their spawning rivers is not obstructed or impeded by physical barriers, changes in flows, or poor water quality 2) The size of the populations of the assemblage species in the Severn Estuary and the rivers which drain into it, is at least maintained and is at a level that is sustainable in the long term 3) The abundance of prey species forming the principle food resources for the assemblage species within the estuary, is maintained 4) Toxic contaminants in the water column⁴ and sediment are below levels which would pose a risk to the ecological objectives described above. <p>Interest Feature 3:</p> <p>Defined by the relevant SPA objective</p>

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	<p>Interest Feature 4: Defined by the relevant SPA objective</p> <p>Interest Feature 5: Defined by the relevant SPA objective</p> <p>Interest Feature 6: Defined by the relevant SPA objective</p> <p>Interest Feature 7: Defined by the relevant SPA objective</p> <p>Interest Feature 8: Defined by the relevant SPA objective</p> <p>Interest Feature 9: Defined by the relevant SPA objective</p>
<p>Component SSSIs</p>	<ol style="list-style-type: none"> 1) Sully Island SSSI 2) Steep Holm SSSI 3) Bridgwater Bay SSSI 4) Flat Holm SSSI 5) Severn Estuary SSSI 6) Severn Estuary SSSI 7) Flat Holm SSSI 8) Upper Severn Estuary SSSI 9) Bridgwater Bay SSSI 10) Penarth Coast SSSI 11) Steep Holm SSSI 12) Sully Island SSSI

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13) Upper Severn Estuary SSSI

<p>Key Environmental Conditions (factors that maintain site integrity)</p>	<p>Intertidal mudflats and sandflats:</p> <ul style="list-style-type: none"> Habitat extent - The focal area for the Bewick's swans is the upper Severn Estuary in the vicinity of the New Grounds, Slimbridge area. The mudflats and sandflats exposed as the tide falls where the estuary widens in the upper reaches of the site at Waveridge Sands, Frampton Sands and The Noose are used as safe refuge areas when the birds are disturbed. Unimpeded sightlines at feeding and roosting sites - Bewick's swan require unrestricted views >500m to allow early detection of predators when feeding and roosting. <p>Saltmarsh communities:</p> <ul style="list-style-type: none"> Habitat extent - The birds feed on the saltmarsh and the transition from saltmarsh to coastal grazing marsh in front of the sea defences in the upper estuary at The Dumbles, where areas of the high marsh are mainly affected only by brackish water during tidal inundation. Vegetation characteristics - Bewick's swan graze on a range of 'soft' meadow grasses such as <i>Agrostis stolonifera</i> and <i>Alopecurus geniculatus</i> found in wet meadows which are out with the European marine site boundary. Unimpeded sightlines at feeding and roosting sites - Bewick's swan require unrestricted views >500m to allow early detection of predators when feeding and roosting. <p>Shingle and rocky shore:</p> <ul style="list-style-type: none"> Habitat extent - the shingle and rocks in the estuary provide feeding areas for dunlin and redshank and some limited foraging at high tide. It is also providing important roost sites at high tide particularly for the dunlin and redshank. Many of the rocks are offshore and are therefore generally free from human disturbance. These include Guscar Rocks in the upper reaches, Blackstone Rocks at Clevedon and Stert Island in Bridgwater Bay. Food availability Unimpeded sightlines at feeding and roosting sites - Waterfowl require unrestricted views >500m to allow early detection of predators when feeding and roosting. <p>Wet coastal grazing marsh, improved grassland, and open standing waters</p>
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	<ul style="list-style-type: none"> The supporting habitats lie outside the European marine site boundary but within the estuary. They provide key areas for feeding and roosting for all the migratory species particularly at high tide. <p>Hydrodynamic and sedimentary regime</p> <ul style="list-style-type: none"> the tidal range in the Severn Estuary is the second highest in the world and the scouring of the seabed and strong tidal streams result in natural erosion of the habitats and the presence of high sediment loads. <p>Maintain suitable distance between the site and development</p> <ul style="list-style-type: none"> to allow for managed retreat of intertidal habitats and avoid coastal squeeze. <p>Manage/restrict public access</p> <ul style="list-style-type: none"> at certain times of the year. Significant disturbance attributable to human activities can result in reduced food intake and/or increased energy expenditure. <p>Maintain levels of prey</p>
<p>Ramsar Condition Assessment</p>	<p>Refer to 'The Severn Estuary / Môr Hafren European Marine Site Natural England & the Countryside Council for Wales' advice given under Regulation 33(2)(a) of the Conservation (Natural Habitats, &c.) Regulations 1994, as amended.' (June 2009) for condition statements.</p>
<p>Vulnerabilities (includes existing pressures and trends)</p>	<p>Physical loss of supporting habitats through removal</p> <p>The physical loss of areas of intertidal habitats may be caused directly through change of land use or indirectly because of changes to sedimentation processes (e.g., coastal defences) as well as via the effects of smothering by artificial structures (e.g., jetties) or the disposal of spoils. Activities or developments resulting in physical loss of the intertidal supporting habitats are likely to reduce the availability of feeding and roosting habitats. The intertidal mudflats and sandflats and the saltmarsh are highly sensitive to removal by land reclamation and barrage construction.</p>
<p>HRA/AA Studies undertaken that address this site</p>	<p>See Table 8</p>

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4. CONCLUSIONS

Table 11 below summarises the European Designated Sites that will be considered in the HRA of RCTs revised Local Strategy.

Table 11: Sites included in the HRA of the LFRMS

Name	Designation	EU Code
Blaen Cynon	SAC	UK 0030092
Cardiff Beech Woods	SAC	UK 0030109
Coedydd Nedd a Melte	SAC	UK 0030141
Cwm Cadlan	SAC	UK 0013585
Blackmill Woodlands	SAC	UK 0030090
Severn Estuary suite of sites	SAC, SPA and Ramsar	UK0013030 (SAC) UK9015022 (SPA) UK14006 (Ramsar)

The information found in section 3 will be used to assess the impact the Local Strategy on the sites listed above in Table 11.

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ANNEX B

Review of LFRMS Objectives and Measures

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1. INTRODUCTION

1.1 BACKGROUND

A Habitats Regulations Assessment (HRA) is required by the Conservation of Habitats and Species Regulations (2010) to consider if a plan or project is likely to have a significant effect on a European designated site in regard to its nature conservation interest. This report forms Annex B of the HRA, concluding objectives, and measures of the Local Flood Risk Management Strategy (Local Strategy) that could have an effect on Natura 2000 Sites, requiring further analysis in the Local Strategy HRA.

1.2 ABOUT THE LOCAL FLOOD RISK MANAGEMENT STRATEGY

RCTCBC as a Lead Local Flood Authority (LLFA) is required to develop, maintain, apply and monitor a Local Strategy for their particular territory to enable more effective flood risk management.

The Local Strategy aims to address local flood risk (defined as flooding from surface water, groundwater, and ordinary watercourse flooding such as small rivers, ditches, and streams) and the risk associated with climate change. The Local Strategy aims to achieve more effective flood risk management by:

- Ensuring a clear understanding of the risks of flooding, nationally and locally, so that investment in risk management can be prioritised more effectively
- Setting out clear and consistent plans for risk management so that communities and businesses can make informed decisions about the management of the residual risk
- Encouraging innovative management of flood risks, taking account of the needs of communities and the environment
- Forming links between the LFRMS and local spatial planning
- Ensuring that emergency plans and responses to flood incidents are effective and that communities can respond properly to flood warnings
- Helping communities to recover more quickly and effectively after incident.

The Local Strategy report contains objectives for managing local flooding along with measures to achieve these. The roles and responsibilities of those involved in managing the risk of flooding and the functions that may be exercised by them are

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stated. The Local Strategy will become publicly available on the RCTCBC website (<http://www.rctcbc.gov.uk>) following consultation with statutory bodies and the public.

The Local Strategy objectives and measures will improve the management of flood risk. It is considered that the overall effect of implementing the measures will be positive for European Designated sites; however, it is possible that in their implementation, there could be direct or indirect negative effects, alone or in combination, on European Designated Sites.

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2. SCREENING OF OBJECTIVES AND MEASURES THAT COULD HAVE AN EFFECT ON DESIGNATED SITES

2.1 OVERVIEW OF ASSESSMENT PROCESS

An initial screening exercise was applied to the Local Strategy, to at a broad level:

- Identify objectives, and measures that, because of their nature, could not have an adverse effect on a European Designated Site
- Identify objectives and measures that are not suitable for assessment
- Identify objectives and measures that are necessary for the conservation management of Natura 2000 sites (these measures do not require assessment under the Habitats Regulations).

The Local Strategy is a high-level document that states measures to achieve objectives. How the measures will be implemented, the location and details of these works however have not yet been developed. For the purpose of this screening, a 'precautionary principle' has been taken, assuming that the works could take place at any reasonable location, time and extent.

An objective or measure is likely to have a significant effect if it can be reasonably predicted to affect conservation objectives of the European Designated Site. These conservation objectives protect the sites features for which the site was designated for. Assessing a 'likely significant effect' does not suggest that there will be such an effect or that the effect is more likely than not.

Table 12 outlines the criteria used to screen objectives and measures of the Local Strategy. In Tables 13 to 14 a score is given to each objective, and measure to indicate the potential effect on European Designated sites. The reduced list of objectives and measures is then further assessed in section 3.0.

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Table 12: Scoring system for assessing potential effect of Local Flood Strategy on European Designated Sites

Score	Criteria
Category A: Objective/ Measure has no likely effect	
A1	The measure or objective itself will not lead to physical actions/ General policies or statements that only express general intentions or political aspirations/ It will be implemented by measures that are assessed in the following table.
A2	The measure or objective intends to protect the natural environment, including biodiversity.
A3	Whether physical actions will take place, or the location of the physical actions is unknown. Decisions will be made following the consideration of options in lower tier plans, programmes and policies that are subject to further HRAs. Not suitable for this assessment.
Category B: Objective/Measure may have an effect	
B1	The measure or objective could steer physical actions towards or encourage physical actions in, an area that includes a European site or an area where physical actions may indirectly affect a European site.
Category C: Objective/Measure is likely to have an effect	
C1	The measure or objective makes a provision for a proposed physical action that would be likely to have a significant effect on a European site.

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2.2 LOCAL FLOOD RISK MANAGEMENT STRATEGY OBJECTIVES

Table 13: Screening of Objectives for potential impacts on European Designated Sites

LFRMS Objective	Score	Comments	Likely Significant Effect: (Yes-Y/ No-N/ Uncertain-?)
Reduce distress by decreasing the number of people exposed to the risk of flooding	A1	General statements that only express general intentions or political aspirations/ It will be implemented by measures that are assessed in Table 14.	N
Reduce community disruption by reducing the number of residential and commercial properties exposed to the risk of flooding	A1	General statements that only express general intentions or political aspirations/ It will be implemented by measures that are assessed in the following table/ It is unlikely to affect European Designated Sites integrity, as it affects residential and commercial property.	N
Reduce risk to life by reducing the number of people exposed to risk of flooding of significant depth and velocity.	A1	This objective will be implemented by measures that are assessed in the following table.	N
Reduce disruption caused by severe weather to critical infrastructure and essential services	A1/A3	It will be implemented by measures that are assessed in the following table and whether physical action will take place is dependent on other plans and programmes, subject to a further HRA.	N
Improve or not detrimentally affect water quality	A2	The objective is intended to protect the natural environment, including biodiversity, enhancing the natural, environment. Such enhancements are unlikely to affect a European Designated Site detrimentally.	N
Identify opportunities that work with natural	A2/B1	The objective is intended to protect the natural environment, including	?

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LFRMS Objective	Scope	Comments	Likely Significant Effect: (Yes-Y/ No-N/ Uncertain-?)
processes to reduce the risk of flooding		<p>biodiversity, enhancing the natural, environment. Such enhancements are unlikely to affect a European Designated Site detrimentally.</p> <p>The objective could, however, steer physical actions towards or encourage physical actions in an area that includes a European site or an area where physical actions may indirectly affect a European site.</p>	
Maintain, or where possible, improve the status of Special Areas of Conservation (SACs), Sites of Special Scientific Interest (SSSIs), Sites of Importance for Nature and Conservation (SINC) sites and contribute to the RCT's 'Action for Nature' (Local Nature Recovery Plan) plan.	A2	<p>The objective is intended to protect the natural environment, including biodiversity, enhancing the natural environment. Such enhancements are unlikely to affect a European Designated Site detrimentally.</p>	N
Improve our understanding of local flood risk in RCT and how this risk may be impacted by climate change in the future.	A2	<p>This measure is intangible and will improve management actions, making them better informed and based on more reliable evidence. Whether physical actions will take place or the location of the physical actions will be made in subsequent plans that are subject to further HRAs</p>	N
Develop effective communication tools to share information and improve individual and community awareness of local flood risks and how they can be managed proactively	A1	<p>The objective itself will not directly result in physical action.</p>	N
Improve individual and communities' ability to	A1	<p>The objective itself will not directly lead to physical action.</p>	N

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LFRMS Objective	Scope	Comments	Likely Significant Effect: (Yes-Y/ No-N/ Uncertain-?)
prepare, respond and recover to the impacts of flooding			
Ensure that RCT work in partnership with Risk Management Authorities and other stakeholders to holistically manage the risk of flooding	A1	This objective describes ways of working rather than physical action and is therefore not suitable for assessment.	N
Ensure flood risk management functions are considered and delivered in a sustainable way	A3	Whether physical actions will take place, the magnitude or the location of the physical actions is unknown. Decisions will be made following the consideration of options in lower tier plans, programmes and policies that are subject to further HRAs	N
Ensure that investment decisions for flood risk management schemes are prioritised utilising a risk-based approach	A1	The measure is concerned with investment decisions and itself will not lead to physical action.	N

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2.3 LOCAL FLOOD RISK MANAGEMENT STRATEGY MEASURES

Table 14: Screening of Measures for potential impacts on European Designated Sites

LFMRS Measure	Score	Comments	Likely Significant Effect: (Yes-Y/ No-N/ Uncertain-?)
Consultee to the Local Planning Authority	A1	This measure is intangible in its nature and will not lead to physical action.	N
SuDS Approval Body	A1	This measure will not directly lead to physical actions that could potentially affect European Designated Sites. Any potential affects will be assessed though the measure “SuDS Approval Body (SAB) Enforcement” that follows further down this table.	N
Communications	A1	This measure is intangible in its nature and will not lead to physical action.	N
Warning and informing	A1	This measure is intangible in its nature and will not lead to physical action.	N
Emergency Response Plans	A1	This measure is unlikely to lead to physical actions affecting the integrity of European Designated Sites.	N
Community Adaption & Resilience	A1	Physical actions are likely to be situated in or close to residential property i.e. flood doors on properties. Therefore this measure is unlikely to adversely affect European Designated Sites.	N
Partnership Working	A1	This measure will not lead to physical actions; this measure describe ways of working rather than physical actions and is not suitable for assessment.	N
Public Engagement & Consultation	A1	This measure itself will not lead to physical action.	N
Investigation of Flooding Incidents	A1	This measure will not lead to development, it improves our understanding of the environment and involves data gathering.	N
Flood Alleviation Scheme Business Case Development	A2	This measure is intended to increase the sustainability (including social, economic and environmental factors, hence accounting for biodiversity) of development planning.	N

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LFRMS Measure	Score	Comments	Likely Significant Effect: (Yes-Y/ No-N/ Uncertain-?)
Strategic Flood Risk Area Assessment	A1	This measure will not directly lead to physical actions. It will however improve management actions, making them better informed and based on more reliable evidence.	N
Flood Risk & Hazard Methodology	A1/A2	This measure will not directly lead to physical action and is intended to protect the environment.	N
Flood Action Plan	A1	It is unlikely that physical actions will arise from this measure that affect European designated sites.	N
Natural Flood Management	B1/ A3	<p>The measure could steer physical actions towards or encourage physical actions in, an area that includes a European site or an area where physical actions may indirectly affect a European site. However, the measure provides no indication of the physical actions that will be involved, including location, magnitude and extent.</p> <p>Any further plans arise as a result of this measure will be subject to a further HRA.</p>	?
Environmental Enhancement & Habitat Creation	B1/ A2/ A3	<p>The measure could steer physical actions towards or encourage physical actions in, an area that includes a European site or an area where physical actions may indirectly affect a European site. The measure provides no indication of the physical actions that will be involved, including location, magnitude, and extent.</p> <p>However, by its nature, the measure intends to enhance the environment, including biodiversity, so adverse effects are unlikely to occur.</p>	?
RMA Coordination	A3	Whether physical actions will take place or the location of the physical actions is unknown. Decisions will be made following the consideration of the full	N

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LFMRS Measure	Score	Comments	Likely Significant Effect: (Yes-Y/ No-N/ Uncertain-?)
		plan. Not suitable for assessment at this stage.	
Spatial Mapping of Drainage Assets	A1	This measure will not result in physical action	N
Catchment Asset Management Plans	A1	This measure will not lead directly to physical actions. It will improve our understanding of assets in the region.	N
Asset Register and Records	A1	This measure will not result in physical action. It will improve the information RCTCBC has access to.	N
Designation of Structures	A1	This stops physical action on structures that are beneficial in regard to flood risk management.	N
Land Drainage Consenting & Byelaws	A2	This measure aims to protect the natural environment, including biodiversity. In issuing consents, the Habitats Regulations are considered and if an adverse effect is likely, consent will be denied.	?
Land Drainage Enforcement	A1	This measure will not lead to detrimental physical action, it gives RCT powers to maintain the current condition of watercourses.	N
SuDS Approval Body Enforcement	A1	This measure will not directly lead to physical actions that could potentially affect European Designated Sites. Any potential affects will be assessed though the measure "SuDS Approval Body (SAB) Enforcement" that follows further down this table.	N
Construction of Flood Alleviation Schemes	B1/ A3	The measure or objective could steer physical actions towards or encourage physical actions in, an area that includes a European site or an area where physical actions may indirectly affect a European site. Whether physical actions will take place, or the location of the physical actions is unknown. Decisions will be made following the consideration of options in lower tier plans, programmes and policies that are subject to further HRAs.	?

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LFRMS Measure	Score	Comments	Likely Significant Effect: (Yes-Y/ No-N/ Uncertain-?)
Powers of entry upon land	A3	Whether physical actions will take place or the location of the physical actions is unknown. Decisions will be made following the consideration of the full plan. Not suitable for assessment at this stage.	N
Powers to request information and civil sanctions	A1	This measure will not result in physical action. It will improve the information RCTCBC has access to.	N
Cause incidental flooding for purpose of flood risk management	A2	This measure intends to protect the environment, including biodiversity. It is highly unlikely that this activity will take place if it has potential to affect a European Designated Site.	N
Enforcement on Private Surface Water Sewers	A2	This measure intends to protect the natural environment.	N
Monitoring the Reduction of Risk to People and Property	A1	This measure will not lead to physical actions	N
Hydrological Monitoring & Assessment	A1	This measure will not lead to physical actions	N
Monitoring the Delivery of Wider Benefits	A2	The measure is intended to protect the natural environment, including biodiversity.	N

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3. IDENTIFICATION OF HAZARDS TO EUROPEAN DESIGNATED SITES

This section of the report considers the remaining objectives and measures in further detail to identify the hazards that implementation of the Local Strategy measures could have on European Designated Sites. Table 15 summarises the objectives and measures identified in Section 2.

Table 15: Summary of Objectives, and Measures of the LFRMS that have a likely significant effect

Objective/ Measure	
Objective	Identify opportunities that work with natural processes to reduce the risk of flooding
Measure	Natural Flood Management
Measure	Environmental Enhancement & Habitat Creation
Measure	SuDS Approval Body
Measure	Construction of Flood Alleviation Schemes
Measure	Land Drainage Consenting and Byelaws

Table 16 shows the potential hazards each objective and measure could have, affecting the integrity of European Designated Sites.

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Table 16: Possible Hazards of the LFRMS Objectives and Measures

LFRMS Objective/ Measure	Possible Effects of Measure on Natura 2000 sites
Identify opportunities that work with natural processes to reduce the risk of flooding	Possible effects include: - <ul style="list-style-type: none"> • Creation of, loss of, fragmentation or physical damage/ enhancement to habitats • Changes in the hydro morphology of channels (for example, the wetted perimeter of channels, affecting biodiversity). • Changes in turbidity and velocity of water • water quality (including ecological and physio-chemical aspects) • Visual or noise disturbance • Reduced surface water flooding • Potential increase in the connectivity of water bodies, which could lead to increases of non-native invasive species
Natural Flood Management	
Environmental Enhancement & Habitat Creation	
SuDS Approval Body (SAB)	Possible effects include: - <ul style="list-style-type: none"> • Reducing run-off rates • Reducing downstream flooding • Encouraging natural groundwater recharge • Reducing pollutant concentrations in stormwater and improving water quality (both chemical and biological) • Creation of habitats for wildlife. • Changes in the physical regime • Noise or visual disturbance • Changes to turbidity
Construction of Flood Alleviation Schemes	Possible effects include: - <ul style="list-style-type: none"> • Changes in water levels • Changes in flow velocity • Changes to the physical regime • Loss of, fragmentation or physical damage to habitats • Changes in the physical regime • Changes in turbidity • Simplification of habitats/ communities • Visual or Noise disturbance • Potential changes to water chemistry • Killing/injury or removal of fauna

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<p>Land Drainage Consenting and Byelaws</p>	<p>Possible effects include: -</p> <ul style="list-style-type: none">• Creation of, loss of, fragmentation or physical damage/ enhancement to habitats• Changes in the hydro morphology of channels (for example, the wetted perimeter of channels, affecting biodiversity).• Changes in turbidity and velocity of water• water quality (including ecological and physio-chemical aspects)• Reduced surface water flooding• Potential increase in the connectivity of water bodies, which could lead to increases of non-native invasive species• Encouraging natural groundwater recharge• Improving water quality• Creation of habitats for wildlife.
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4. CONCLUSIONS

Many of the measures and objectives of the Local Strategy could affect the integrity of European Designated Sites. However, at this stage, there is insufficient detail on the physical works that will arise from the Strategy.

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ANNEX C

In Combination Assessment with other Plans, Policies and Programmes

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1. INTRODUCTION

1.1 BACKGROUND

A Habitats Regulations Assessment (HRA) is required by the Conservation of Habitats and Species Regulations (2017) to consider if a plan or project is likely to have a significant effect on a European Designated Site regarding its nature conservation interest. This report forms Annex C of the HRA, identifying the effects of the Local Flood Risk Management Strategy (Local Strategy) in combination with existing Plans, Programmes and Policies (PPPs).

1.2 ABOUT THE LOCAL FLOOD RISK MANAGEMENT STRATEGY

RCTCBC as a Lead Local Flood Authority (LLFA) is required to develop, maintain, apply, and monitor a Local Strategy for their territory to enable more effective flood risk management.

The Local Strategy aims to address local flood risk (defined as flooding from surface water, groundwater, and ordinary watercourse flooding such as small rivers, ditches and streams) and the risk associated with climate change. The Local Strategy aims to achieve more effective flood risk management by:

- Ensuring a clear understanding of the risks of flooding, nationally and locally, so that investment in risk management can be prioritised more effectively
- Setting out clear and consistent plans for risk management so that communities and businesses can make informed decisions about the management of the residual risk
- Encouraging innovative management of flood risks, taking account of the needs of communities and the environment
- Forming links between the Local Strategy and local spatial planning
- Ensuring that emergency plans and responses to flood incidents are effective and that communities can respond properly to flood warnings
- Helping communities to recover more quickly and effectively after incident.

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The Local Strategy report contains objectives for managing local flooding along with measures to achieve these. The roles and responsibilities of those involved in managing the risk of flooding and the functions that may be exercised by them are stated. The Local Strategy will become publicly available on the RCTCBC website (<http://www.rctcbc.gov.uk>) following consultation with statutory bodies and the public.

The Local Strategy objectives and measures will improve the management of flood risk. It is considered that the overall effect of implementing the measures will be positive for European Designated sites; however, it is possible that in their implementation, there could be direct or indirect negative effects in combination with other PPPs on European Designated Sites.

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2. IDENTIFICATION OF OTHER PLANS, PROGRAMMES AND POLICES

2.1 OVERVIEW OF ASSESSMENT PROCESS

Due to the wide range of PPPs that may affect European Designated Sites within the plan area and requirement of location specific information to acquire definitive conclusions, a reasonable approach to the in-combination assessment has taken. To ensure this in combination assessment doesn't duplicate work already carried out in the Strategic Environmental Assessment (SEA) and is concentrated on European Designated Sites, only PPPs that have a significant interaction with the Local Strategy regarding biodiversity, flora and fauna have been considered.

A more detailed and holistic analysis of relevant PPPs to the Local Strategy can be found in 'Annex A: Plans and Programmes' of the Local Strategy SEA.

2.2 INTERNATIONAL PLANS, PROGRAMMES AND POLICES

Table 17 below lists the International PPPs relevant to the Local Strategy regarding biodiversity, flora, and fauna.

Table 17: International Plans Identified in the SEA as Having Significant Interactions for Biodiversity, Flora and Fauna

International Plans/Programmes
EU Biodiversity Strategy 1998
EU Birds Directive 2009/47/EC on the conservation of wild birds
EU Habitats Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora
Ramsar Convention on wetlands of international importance 1971
EU Water Framework Directive 2000/60/EC on community action in the field of water policy

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2.3 NATIONAL PLANS, PROGRAMMES AND POLICIES

Table 18 below lists the National PPPs relevant to the Local Strategy regarding biodiversity, flora, and fauna.

Table 18: National Plans Identified in the SEA as Having Significant Interactions for Biodiversity, Flora, and Fauna

National Plans/ Programmes
Environment Act 1995
Wildlife and Countryside Act 1981 (As amended)
NERC Act 2006
Salmon and Freshwater Fisheries Act 1975
The Flood and Water Management Act 2010
Countryside and Rights of Way Act 2000
Land Drainage Act 1991
The Water Act 2003
Water Resources Act 1991 (Amended 2009)
The Water Environment (England and Wales) Regulations 2003
WAG: Environment Strategy for Wales 2006
WAG: Natural Environmental Framework: 'A living Wales - a new framework for our environment, our countryside and our seas'
Climate Change Strategy for Wales, 2010
Conservation of Habitats and Species Regulations 2017
Technical Advice Note TAN15: Development and Flood Risk 2004
TAN 5: Nature Conservation and Planning 2009
The Water Environment (England and Wales) Regulations 2003
The Eels (England and Wales) Regulations 2009
Planning Policy Wales, Edition 4, 2011

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2.4 SUB-NATIONAL PLANS, PROGRAMMES AND POLICES

Table 19 below lists the sub-national PPPs relevant to the Local Strategy regarding biodiversity, flora, and fauna.

Table 19: Sub- national Plans Identified in the SEA as Having Significant Interactions for Biodiversity, Flora, and Fauna

Sub-National Plans/Programmes
Taff and Ely Salmon Action Plan Dec 2003
Eel Management plans for the United Kingdom (Severn River Basin District) March 2010

2.5 LOCAL PLANS, PROGRAMMES AND POLICES

Table 20 below lists the local PPPs relevant to the Local Strategy regarding biodiversity, flora, and fauna.

Table 20: Local Plans Identified in the SEA as Having Significant Interactions for Biodiversity, Flora, and Fauna

Plans/ Programmes
Action for Nature: A Local Biodiversity Action Plan for Rhondda Cynon Taf (LBAP)
RCT Sites of Importance for Nature Conservation

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3. IDENTIFICATION OF HAZARDS TO EUROPEAN DESIGNATED SITES

3.1 INTERACTION OF INDIVIDUAL MEASURES WITHIN THE LOCAL STRATEGY

There is a risk of possible objectives and measures in Local Strategy having a detrimental effect on the conservation objectives of European Designated Sites when acting in combination with each other. The Local Strategy does not detail the measures in terms of location, extent, and time. Therefore, the objectives and measures can be implemented at a location, time and extent that will not have a significant effect on any European Designated Site.

3.2 IN-COMBINATION ASSESSMENT WITH OTHER PLANS, POLICES AND PROGRAMMES

Tables 21 to 24 list and describe the interactions of the plans identified in the SEA as having significant interactions for biodiversity, flora, and fauna.

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Table 21: In combination assessment of International Conventions, Policies and Programmes

Plan/ Programme	Description of Interaction
EU Biodiversity Strategy 1998	<p>This strategy lays down a general framework for developing Community policies and instruments to fulfil the Community's obligations under the Rio de Janeiro Convention on Biological Diversity. It is developed around four major themes, with specific objectives being determined and implemented for each by means of action plans.</p> <p>The Local Strategy will reinforce the objectives of the EU Biodiversity Strategy.</p>
EU Birds Directive 2009/47/EC on the conservation of wild birds	<p>The objectives of the Birds Directive include providing a framework for the conservation, protection, control and management of wild birds. The Local Strategy should avoid having a detrimental impact on sites indicated within the Directive.</p>
EU Habitats Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora	<p>The principal aim of the Habitats Directive is to promote the maintenance of biodiversity by requiring Member States to maintain or restore natural habitats and species at an appropriate conservation status as well as introducing habitat and species protection.</p> <p>The Local Strategy should avoid having a detrimental impact on sites indicated within the Directive.</p>
EU Water Framework Directive 2000/60/EC of on the establishment a framework for the Community action in the field of water policy "	<p>The Local Strategy should avoid compromising the objectives of the WFD, and where possible, explore options that complement the Directive.</p>
Ramsar Convention on wetlands of international importance 1971	<p>The Ramsar Convention's broad aims are to halt the worldwide loss of wetlands and to conserve, through wise use and management, those that remain. The Local Strategy will not adversely affect designated Ramsar Sites.</p>

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Table 22: The combination of assessment of National Plans, Policies and Programmes

Plan/Programme	Description of Interaction
<p>TAN 5: Nature Conservation and Planning 2009</p>	<p>TAN 5 provides advice for local planning authorities on:</p> <ul style="list-style-type: none"> • The key principles of positive planning for nature conservation; • Nature conservation and Local Development Plans; • Nature conservation in development management procedures; • Development affecting protected internationally and nationally designated sites and habitats; and • Development affecting protected and priority habitats and species <p>This, in combination with the Local Strategy will have a positive effect on European Designated Sites.</p>
<p>WAG: Environment Strategy for Wales 2006</p>	<p>The Environment Strategy is a long term strategy for the environment of Wales, setting the strategic direction for the following 20 years after its publication. It provides the framework within which to achieve our vision for the environment of Wales. The Strategy has five main environmental themes:</p> <ul style="list-style-type: none"> • Addressing climate change – covers climate change mitigation and adaptation; • Sustainable resource use – covers material consumption and waste, water, soils, minerals and aggregates; • Distinctive biodiversity, landscapes and seascapes – covers biodiversity, the marine environment, landscapes and seascapes and their historic component; • Our local environment – covers the built environment and access to green space, environmental nuisances, walkability in urban areas and access to the countryside and coast, and flood risk management; and • Environmental hazards – covers pollution and chemicals and radioactivity. <p>The Environment Strategy and the Local Strategy will reinforce each other aims in regards to European Designated Sites; to ensure no adverse</p>

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	<p>effect on the conservation objectives of these sites.</p>
<p>WAG: Natural Environmental Framework: 'A living Wales - a new framework for our environment, our countryside and our seas'</p>	<p>The Living Wales Programme consists of the following work streams:</p> <ul style="list-style-type: none"> A. Ecosystem Health B. Valuing Ecosystems C. Geographical Information Systems D. Regulatory and Management Approaches E. Refreshing Partnership Mechanisms <p>It aims to improve and expand ecosystems. This will have a positive interaction with the LFRMS.</p>
<p>The Eels (England and Wales) Regulations 2009</p>	<p>The Eels Regulations require Eel Management Plans to set out how to improve eel habitat, reduce obstacles to migration and regulate eel fishing. The Local Strategy will comply with the Eels Regulations.</p>
<p>Wildlife and Countryside Act 1981 (As amended)</p>	<p>The Wildlife and Countryside Act 1981 (as amended) is the principle mechanism for the legislative protection of wildlife in Wales. This legislation is the means by which the Convention on the Conservation of European Wildlife and Natural Habitats (the 'Bern Convention') and the European Union Directives on the Conservation of Wild Birds (79/409/EEC) and Natural Habitats and Wild Fauna and Flora (92/43/FFC) are implemented.</p> <p>The Wildlife and Countryside Act is divided into four parts. Part I is concerned with the protection of wildlife, Part II relates to the countryside and national parks (and the designation of protected areas), Part III covers public rights of way and Part IV deals with miscellaneous provisions of the Act.</p> <p>The Local Strategy will comply with the Wildlife and Countryside Act, and will have a positive interaction with relevant parts of the Act, including parts concerning European Designated Sites.</p>

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<p>Environment Act 1995</p>	<p>The Environment Act 1995 updates much of the earlier legislation on the areas that it extends to. The Act consists of 5 parts:</p> <ul style="list-style-type: none"> • Part 1 the Environment Agency and the Scottish Environmental Protection Agency, • Part II Contaminated Land and Abandoned Mines, • Part III National Parks, • Part IV Air Quality, • Part V Miscellaneous, General and Supplemental Provisions (e.g. waste, mineral planning permissions, hedgerows, drainage, fisheries etc.). <p>This Act in combination with the Local Strategy will not have a negative effect on European Designated Sites.</p>
<p>NERC Act 2006</p>	<p>Section 40(1) of the Natural Environment and Rural Communities Act 2006 ("the NERC Act") places a duty on every public authority, in exercising its functions, to "have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity". The duty affects all public authorities.</p> <p>Section 42 of the NERC Act requires the National Assembly for Wales in consultation with The Countryside Council for Wales to publish, review, revise and act on lists of organisms of principal importance in Wales. This list is known as the Section 42 (S42) list of species and habitats of principal importance in Wales.</p> <p>The NERC Act in combination with the Local Strategy will have a positive effect on European Designated Sites.</p>
<p>Countryside and Rights of Way Act 2000</p>	<p>The 'CROW' Act, containing five Parts and 16 Schedules, provides for public access on foot to certain types of land, amends the law relating to public rights of way, increases measures for the management and protection for Sites of Special Scientific Interest (SSSI) and strengthens wildlife enforcement legislation, and provides for better</p>

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	<p>management Areas Outstanding Natural Beauty (ONB).</p> <p>The CROW Act in combination with the Local Strategy will have a positive effect of European Designated Sites.</p>
Salmon and Freshwater Fisheries Act 1975	<p>This Act is concerned with the management and regulation of fishing. The Local Strategy will comply with this Act, resulting in no adverse effect on European Designated Sites.</p>
Conservation of Habitats and Species Regulations 2017	<p>The Conservation of Habitats and Species Regulations 2017 (which are the principal means by which the Habitats Directive is transposed in England and Wales) update the legislation and consolidate all the many amendments which have been made to the regulations since they were first made in 1994.</p> <p>The Local Strategy in combination with these regulations will have a positive effect on European Designated Sites.</p>
The Water Environment (England and Wales) Regulations 2003	<p>These regulations implement the Water Framework Directive in England and Wales.</p> <p>The Local Strategy, in combination with the Water Environment Regulations will have a positive effect on European Designated Sites.</p>
The Flood and Water Management Act (2010)	<p>The Flood and Water Management Act sets out the requirement and scope for Local Flood Risk Management Strategies, essentially acting as the overarching driver for Local Flood Risk Management Strategies. Both the National Strategy and the Local Strategy have been subject to a HRA to ensure no detrimental affect on a European Designated Sites.</p>
Land Drainage Act 1991	<p>The Land Drainage Act gives riparian owners both rights and responsibilities, if you own land or property adjacent to a watercourse, the legislation will apply to you.</p> <p>The Local Strategy, in combination with the Land Drainage Act will have a positive effect on European Designated Sites.</p>
The Water Act 2003	<p>The Water Act 2003 aims to increase environmental protection and ensure the</p>

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	<p>sustainable use of water resources. This will have a positive effect on European Designated Sites.</p>
The Water Resources Act 1991	<p>The Water Resources Act 1991 (WRA) is an Act of the Parliament of the United Kingdom that regulates water resources, water quality and pollution, and flood defence.</p> <p>The Water Resources Act 1991 in combination with the Local Strategy will have a positive effect on European Designated Sites.</p>
Climate Change Strategy for Wales, 2010	<p>The Climate Strategy for Wales, 2010 aims to reduce greenhouse gas emissions and enable effective adaptation in Wales.</p> <p>The Local Strategy in combination with the Climate Strategy for Wales 2010 will have a positive effect on European Designated Sites.</p>
TAN15: Development and Flood Risk 2004	<p>This TAN provides technical guidance which supplements the policies set out in Planning Policy Wales (PPW) in relation to flooding and coastal erosion. It provides a framework within which the flood risks arising from rivers, 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.</p> <p>This, in combination with the Local Strategy will have a positive effect on European Designated Sites.</p>
The Water Environment (England and Wales) Regulations 2003	<p>The Water Environment (England and Wales) Regulations 2003 provide specific powers for the designation of transitional and coastal waters where shellfish are harvested to contribute to a high-quality shellfish product for human consumption and to place requirements regarding the monitoring of any designated waters.</p> <p>This, in combination with the Local Strategy will have a positive effect on European Designated Sites.</p>
Planning Policy Wales, Edition 4, 2011	<p>Planning Policy Wales, Edition 4, 2011 sets out the current land use planning policy for Wales. It provides the policy framework for the effective</p>

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	<p>preparation of local planning authorities' development plans.</p> <p>This, in combination with the Local Strategy will have a positive effect on European Designated Sites.</p>
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Table 23: In-combination assessment of sub-national Plans, Policies and Programmes

Plan/Programme	Description of Interaction
<p>Taff and Ely Salmon Action Plan Dec 2003</p>	<p>The Action Plan has four objectives:</p> <ul style="list-style-type: none"> (i) Optimise the number of salmon returning to home-water fisheries; (ii) Maintain and improve fitness and diversity of salmon stocks; (iii) Optimise the total economic value of surplus stocks; and (iv) Ensure beneficiaries meet necessary costs. <p>The Local Strategy will adhere to applicable actions in the plan and will have no negative effect on European Designated Sites in combination with this plan.</p>
<p>Eel Management plans for the United Kingdom (Severn River Basin District) March 2010</p>	<p>The Eel Management Plan for the Severn River Basin District aims to describe the current status of eel populations, assess compliance with the target set out in Council Regulation No 1100/2007, and detail management measures to increase silver eel escapement. This will contribute to the recovery of the stock of European eel.</p> <p>The Local Strategy will adhere to applicable actions in the plan and will have no negative effect on European Designated Sites in combination with this plan.</p>

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Table 24 Non-combined assessment of local Plans, Policies and Programmes

Plan/Programme	Description of Interaction
<p>Action for Nature: A Local Biodiversity Action Plan for Rhondda Cynon Taf (January, 2008)</p>	<p>Action for Nature is a plan to conserve our wildlife sites and species. The Plan includes actions to:</p> <ul style="list-style-type: none"> • Raise awareness of wildlife and its importance in Rhondda Cynon Taf; • Recording and monitoring wildlife; • Protecting sites of wildlife value; and • Managing land and buildings for wildlife. <p>The Local Strategy will aim to enhance biodiversity where possible, reinforcing the Local Action Plan and having a positive interaction with European Designated Sites.</p>
<p>RCT Sites of Importance for Nature Conservation</p>	<p>Sites of Importance for Nature Conservation (SINCs) are planning designations used by RCT Council to identify non-statutory sites of County Borough nature conservation importance.</p> <p>The Local Strategy aim to protect sites of importance for nature conservation where possible having a possible interaction with European Designated Sites.</p>

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4. CONCLUSION

The risk of negative effects in combination is very low as the measures in the Local Strategy are intended to maintain or improve the status of European Designated Sites, to improve or detrimentally effect water quality and where possible, to improve naturalness.

At this high-tier level, no PPPs have been identified to have a negative effect in combination with the Local Strategy. It is not appropriate to consider the effects of PPPs at each European site as there is insufficient information on the location of works to arise from the Local Strategy.

The information considered in this in combination assessment may help inform Habitats Regulations assessments of individual measures undertaken at later plan, project, or permission stages, however later assessments will require their own in combination assessments.

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