



River Frome

Reconnected Catchment Plan



Environment
Agency



River Frome Reconnected Catchment Plan

March 2021

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Our partners

The River Frome Reconnected (RFR) is a voluntary partnership of organisations. The RFR would like to thank the following partners for their continued support:



Avon
Wildlife Trust



West of England Nature Partnership
Joining up the dots for nature



1.0 Foreword

Challenges to human health and well-being, climate change, and biodiversity decline are the major defining issues of our time and the government, West of England Combined Authority (WECA) and local authorities including South Gloucestershire have declared health, climate and ecological emergencies. Never has there been a more important time to rebalance and enhance our relationship with the natural world. Restoring the quality of our rivers and river catchments and reconnecting them with nature, people and communities will be a vital part of this process.

Managing the river environment is complex, balancing the requirements of multiple users with the needs of the river itself. We need a thriving river ecosystem that is unpolluted, rich in wildlife and able to support society's priorities such as flood risk management, biodiversity, recreation and benefits to health and wellbeing. Solutions will involve multiple riparian owners, agencies, and organisations with a range of regulations, powers, duties, roles and responsibilities as well as local businesses and communities.

The River Frome Reconnected Partnership is committed to delivering improvements to the river and its catchment for the benefit of nature, people, and local communities.

1.1 Vision for the Bristol Frome Catchment

The River Frome Reconnected partnership would like to see a valued, healthy and resilient river and catchment; one which communities can access and enjoy and where nature thrives.

2.0 The River Frome Reconnected Partnership (RFRP)

The Bristol Frome is a sub-catchment of the wider Bristol Avon catchment. The Bristol Frome and its tributaries comprise 2,558 miles of river and 17,636 ha of agricultural and urban land.

The Frome Valley creates an important green corridor through the villages and farmland of South Gloucestershire and the dense housing of northeast Bristol. However, the quality of its environment is degraded, particularly in the river's lower reaches. Figure 1 shows the catchment outlined in red.

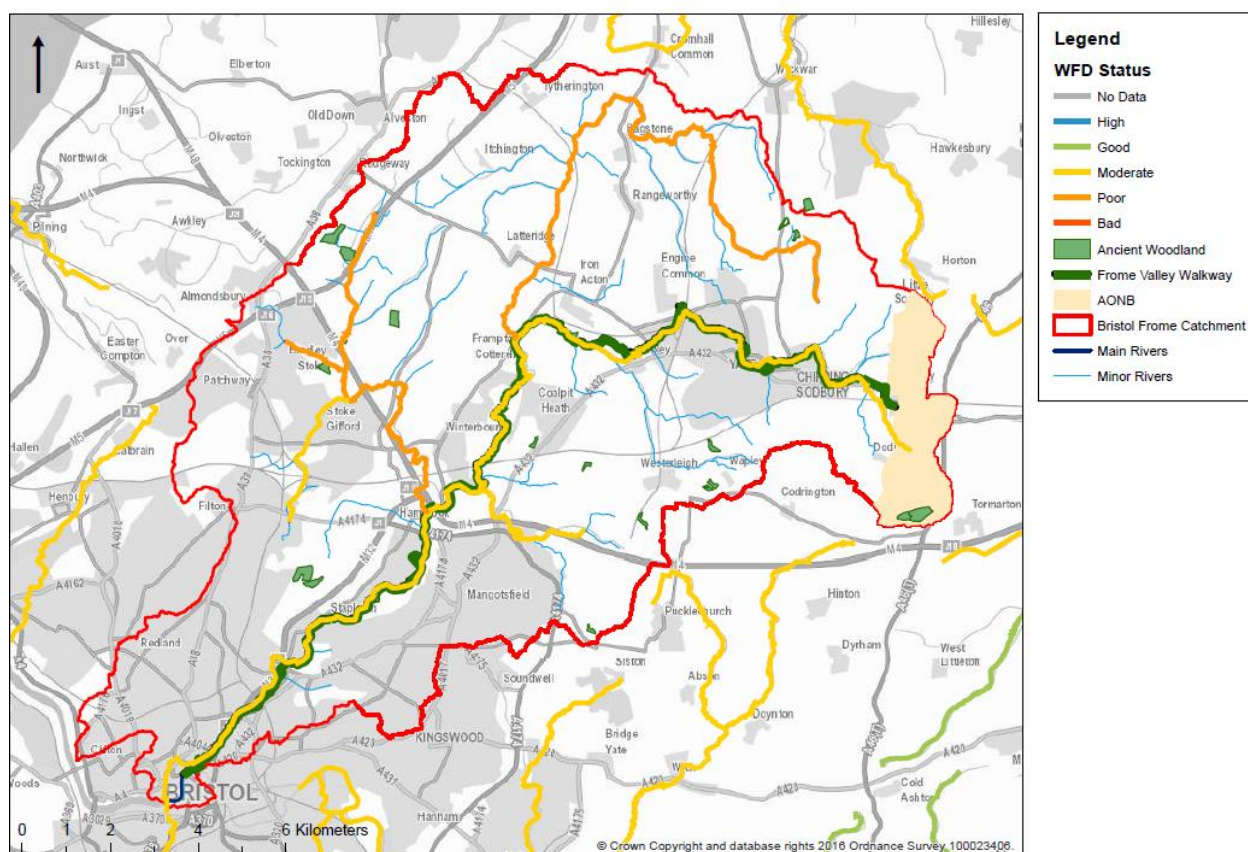


Figure 1 River Frome Catchment map showing Water Framework Directive (WFD) status

The River Frome Reconnected Partnership aims to help partners to deliver improvements and multiple benefits to the water environment through a more strategic and joined-up approach at a sub-catchment level. Funding partners include:

- South Gloucestershire Council (SGC)
- Bristol City Council (BCC)
- Wessex Water (WW)
- Environment Agency (EA)
- Bristol Avon Catchment Partnership (BACP)

The project is also working closely with other key delivery partners such as Avon Frome Partnership (AFP), Avon Wildlife Trust (AWT), Bristol Avon Rivers Trust (BART), Farming & Wildlife Advisory Group South West (FWAG SW), Natural England (NE) and others. The RFR partnership governance can be found in Appendix 1. Local community groups will also be encouraged to get involved, helping to join together existing resources and projects, reducing the duplication of time and resource.

The Partnership has employed a dedicated Project Officer who is scoping out the key issues for the Bristol Frome catchment and developing a business case to demonstrate how a strategic partnership project could deliver improvements to the Bristol Frome and its surrounding environment in the future. With the publication of the River Frome Reconnected Catchment Plan, this first stage is now complete, but the actions coming out of the plan will evolve and be updated in the future.

3.0 The River Frome Reconnected Plan

The Partnership has engaged with a range of stakeholders to agree a plan that will enable us to deliver healthy rivers with high quality local environments for people and wildlife. As a live document, the plan will be updated as new information becomes available. It will align with the national River Basin Management Planning process that produces the Severn River Basin Plan, and will complement other stakeholder plans, including Biodiversity 2020, flood risk management, drainage and wastewater management and green infrastructure. Designed at the river catchment scale, it requires partners to consider river processes both upstream and downstream of individual administrative boundaries for the benefit of the whole catchment.

Many people have already contributed their time, expertise and local knowledge to developing this plan. We are currently working on the engagement process to identify, prioritise and implement multi-beneficial actions across the catchment. If after reading this plan you, your local group, community or organisation would like to get involved in this work as it moves forward, please make contact through our website [River Frome Reconnected](#) or email the [River Frome Reconnected](#) Project Officer.

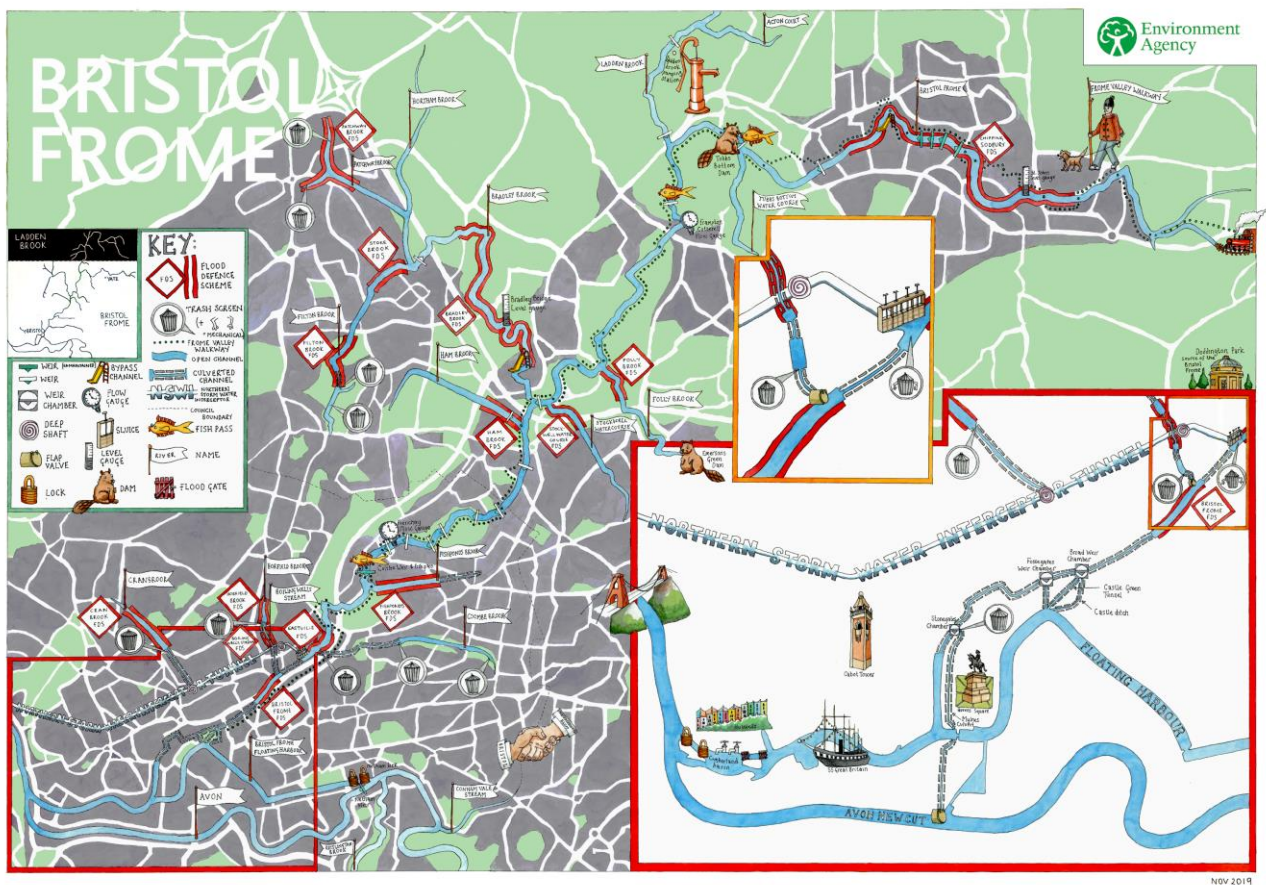


Figure 2 Schematic illustration indicating key features of the Bristol Frome (Source Environment Agency)

4.0 Goals for meeting the vision

The Partnership Steering Group (see Appendix 1) has identified four core goals to help meet the RFCP's vision.

1. Adaption and resilience to a changing climate

Work towards a resilient river catchment which protects existing infrastructure and underpins sustainable development, ensuring adequate provision of green infrastructure which supports adaptation to climate change and enhanced environmental and ecological quality.

Develop investment opportunities for partnership-led projects with multiple benefits within the catchment.

2. Responding to and managing flood risk and water quality

Improve water and flood risk management within the catchment. Advance our understanding of land management practices, flow pathways and natural processes in priority areas of the catchment to enable better flood risk management working with natural processes and nature-based solutions.

In association with the above goal, improve land management and sustainable agriculture to reduce soil erosion and nutrient loss. Address issues with urban drainage and misconnections of foul water systems to reduce polluted run-off and improve water quality.

3. Reconnecting people and communities

Improve the quality of access and recreational use of the Frome Valley Walkway and associated open spaces delivering wide ranging physical and mental health benefits.

Improve public understanding about the benefits provided to society and the local economy by the river and its wildlife.

4. Reconnecting the Frome to nature

Enhance and improve habitat and water quality, including the removal of artificial barriers where possible to support improved native fish migration and healthy wildlife through bigger, better, more connected habitat.

5.0 Describing the baseline - catchment facts and figures

5.1 Climate change and likely effects

In November 2018, Bristol City declared a [Climate Emergency](#), followed by an [Ecological Emergency](#) in February 2020, with strategies drawn up to address both. The Bristol One City Climate Strategy Preliminary Climate Resilience Assessment suggests the following range of climate hazards under a 'high emissions' (RCP8.5¹) scenario (Arup/Bristol One City Feb 2020). By the time today's school children retire in 2080, Bristol could see:

¹ An RCP 8.5 reflects future conditions under a scenario which assumes comparatively high greenhouse gas emissions brought about by rapid population growth and high energy demand from fossil fuel dominance. This scenario is the highest of the RCPs, assuming an increase in global temperature of 4.3°C above pre-industrial levels by 2100. This is

- Sea level on Bristol's coastline increase by up to 72cm
- Winter precipitation rate increase by up to 48%
- Summer maximum temperature increase by +9°C
- By 2080, summer precipitation rate in Bristol decreases by up to 68%.

The likelihood of other hazards, such as extreme cold, are projected to reduce, but it is still essential that we are prepared for them. Figure 3 and Figure 4 demonstrate what the fluvial and tidal flood risk might look like for Bristol city centre now and, in the future, (2080).

South Gloucestershire Council declared a [Climate Emergency](#) in July 2019 and publishes an annual Climate Emergency Action Plan to respond to the ecological crisis. It is likely the scenarios for South Gloucestershire will be similar to those presented for Bristol.

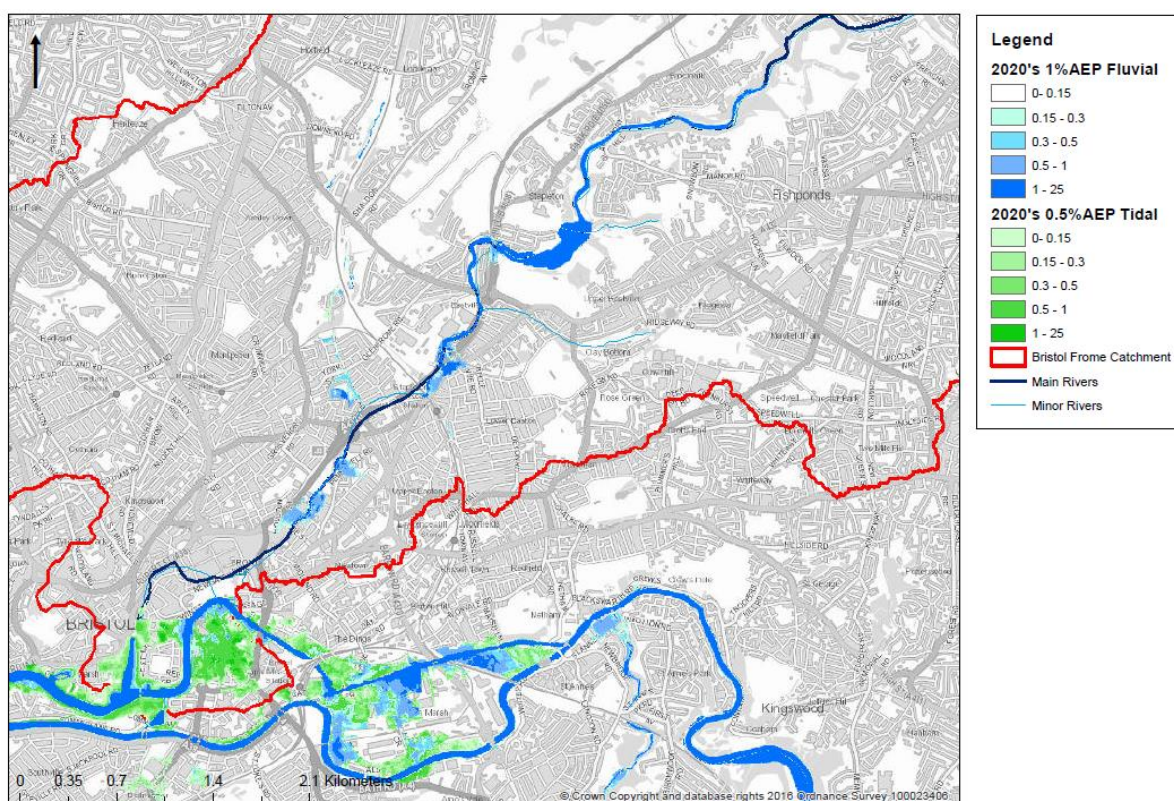


Figure 3 Bristol City likely impacts of flooding 2020. Annual Exceedance Probability is the chance or probability of a natural hazard event (usually a rainfall or flooding event).

characterised by 90th percentile UKCP18 data where there is a 10% chance climate conditions will be more extreme than those used in the UKCPs (Met Office 2019a).

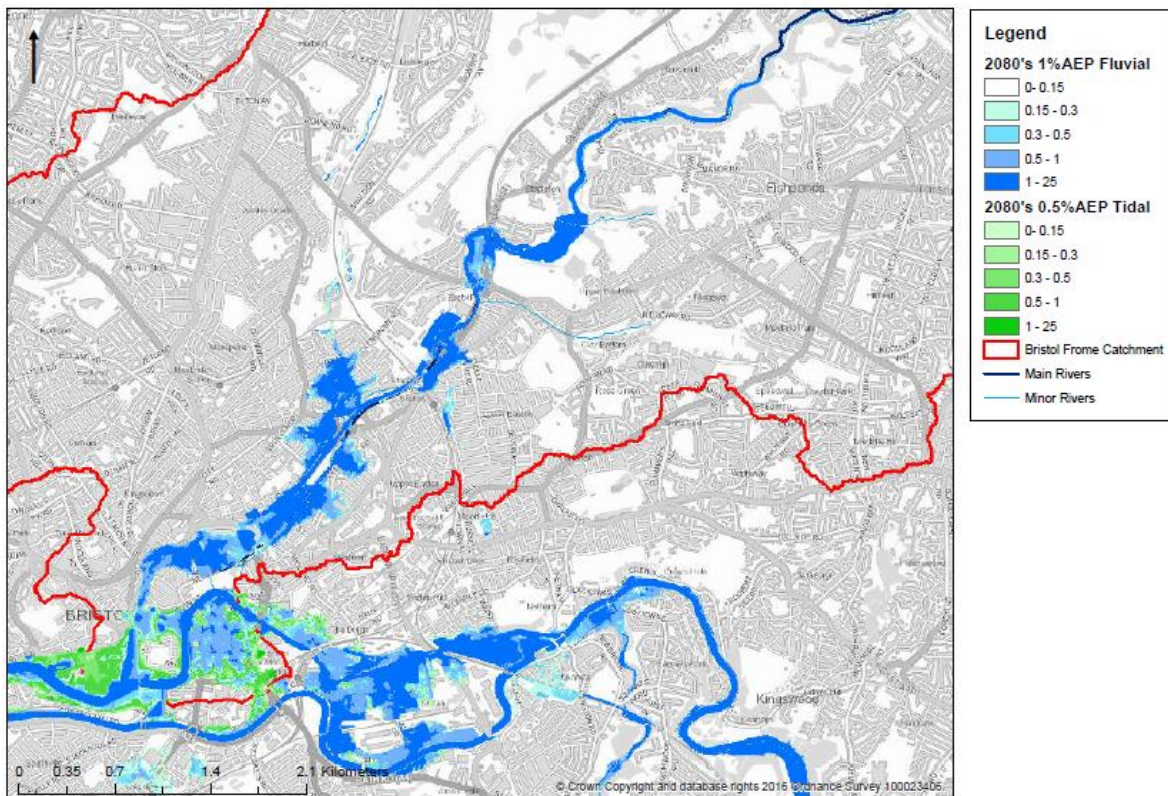


Figure 4 Bristol City likely future impacts of flooding 2080. Annual Exceedance Probability is the chance or probability of a natural hazard event (usually a rainfall or flooding event).

5.2 Population and economy

In 2018, the population of Bristol local authority was estimated to be around 463,400 (Bristol CC, 2020). South Gloucestershire has a population of 264,800 (SGC, 2013). Yate and Chipping Sodbury, the largest population centre in the Frome catchment and South Gloucestershire have a combined population of 34,500 (SGC, 2013).

The areas around the Bristol Frome are economically and culturally vibrant. The combined authorities of Bristol and South Gloucestershire encompass an economy generating £24 billion (Gross Value Added (GVA)) with high value aerospace, technology and service sector businesses, and a confluence of major transport links. The River Frome and the associated Frome Valley Walkway create a linear feature joining both South Gloucestershire and Bristol City council areas. The management of the upper catchment directly affects Bristol; the floodplain habitats and wider open spaces provided in the upper Frome catchment offer many important functions and services (e.g. flood management, recreation, carbon capture etc.) to those within the Bristol area. Improved management and enhancement of these natural resources will allow the natural assets to operate more effectively and efficiently, offering multi-benefit solutions supporting effective adaptation and resilience to climate change.

5.3 Wildlife and landscape designations

The Cotswold Area of Outstanding Natural Beauty (AONB) covers the eastern fringe of the catchment around Old Sodbury. It covers 2,038km² and was designated in 1966 to ensure the conservation and enhancement of the natural beauty of the Cotswolds. There is one

Site of Special Scientific Interest (SSSI) within the Frome catchment at Chipping Sodbury; this geological site at Barnhill Quarry is designated for its carboniferous limestone.

There are also the following Local Nature Reserves; Wapley Bushes, Bradley Brook, Monks Pool, Royate Hill, Winterbourne Viaduct, Narrowways Millenium Green and St. Werbergs (Figure 5). The River Frome is designated as a Site of Nature Conservation Importance (SNCI) along the main channel. Notable species within the River Frome SNCI are:

- Fennel pondweed *Potamogeton pectinatus*
- Stream water-crowfoot *Ranunculus penicillatus*
- Brown trout *Salmo trutta*
- Eel *Anguilla anguilla*
- Branched bur-reed *Sparganium erectum*
- Fool's water-cress *Apium nodiflorum*
- Hemlock water dropwort *Oenanthe crocata*
- Meadowsweet *Filipendula ulmaria*.

Various other popular sites near-by such as Coombe Brook, Frome Valley, Stoke Park and Oldbury Court are also designated as Sites of Nature Conservation Interest (SNCI).

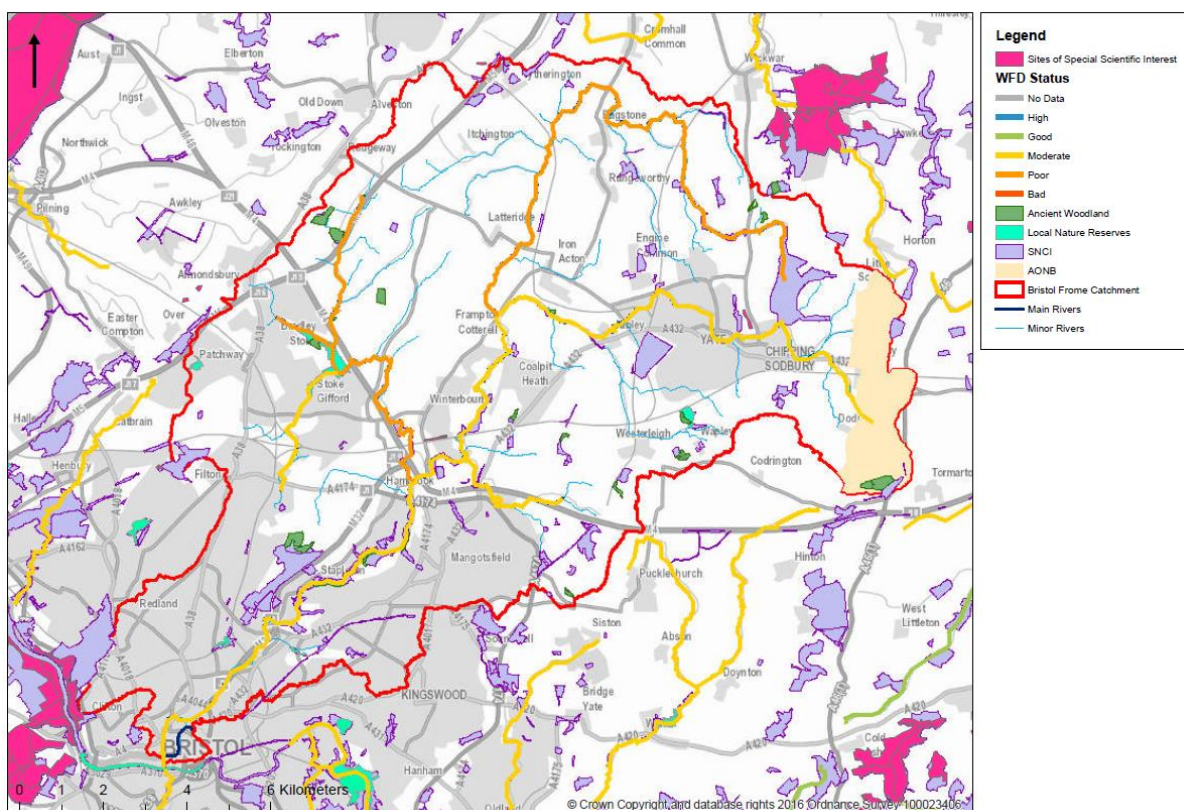


Figure 5 Baseline local designated sites and wildlife information.

Figure 6 shows existing greenspace within the catchment, highlighting whether this is ancient woodland, woodland, wetland, grassland or parks and greenspace. During the Covid-19 pandemic, the vital role of open spaces within our communities for health and well-being has been highlighted.

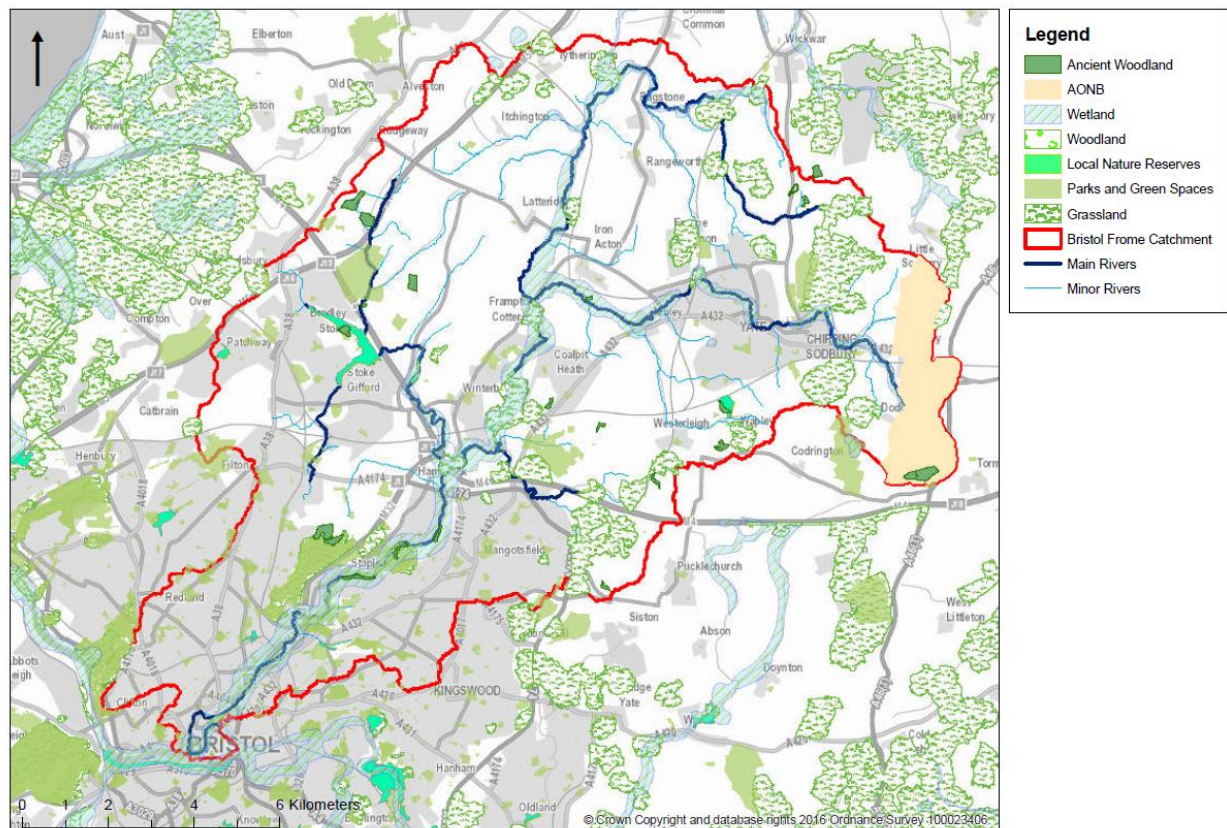


Figure 6 Baseline open spaces within the Frome catchment.



Figure 7 Walking the Frome Valley Walkway – the River Frome near Hambrook.

5.4 Water quality and Water Framework Directive (WFD)

The Water Framework Directive (WFD) is a piece of EU legislation that requires member states to make plans to protect and improve the water environment. The Directive was adopted in 2000 and provides a common framework for water management and protection in Europe. It remains law following the exit of the UK from the EU as it is 'retained EU law'.

Surface water status is measured by both its ecological and chemical status. It is assessed against the scale of high, good, moderate, poor and bad. Any waterbody that does not meet 'good ecological status' is classified as failing. The legislation requires waterbodies to

achieve 'Good' status (or Good Ecological Potential for those classed as Heavily Modified Water Bodies) or above by 2027. Currently all eight waterbodies in the Bristol Frome catchment are failing WFD status (i.e. not classified as Good - Figure 8). In general terms, the Bristol Frome is failing for indices covering:

- Macrophytes/phytobenthos (plants), invertebrates (river flies) and fish (diversity and abundance)
- Phosphate, ammonia and dissolved oxygen (water quality)
- Physical morphology (barriers and straightened rivers).

Further details of the failures and reasons can be found in Appendix 2 - Table 2.

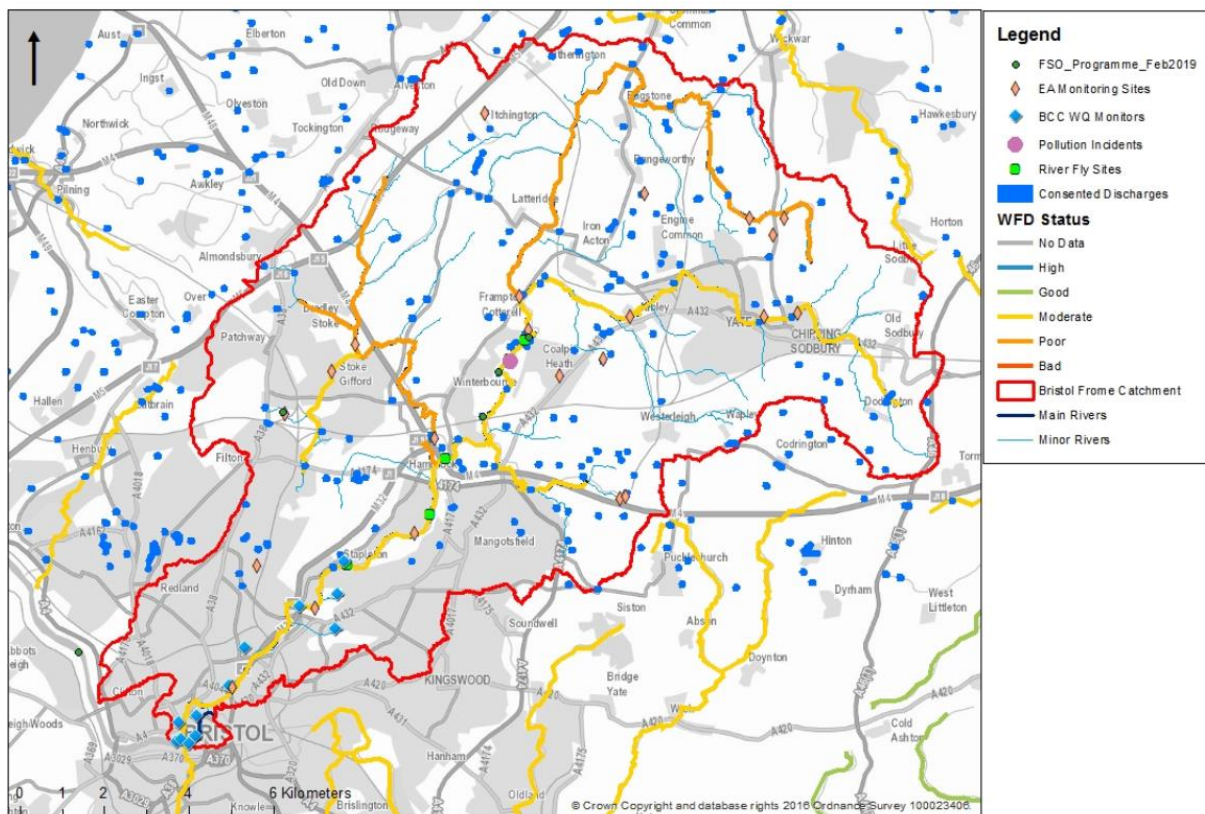


Figure 8 Baseline water quality data

5.5 Land use in Frome catchment

The Bristol Frome flows through significant agricultural rural and urban areas. From its headwaters in Old Sodbury towards the confluence with Ladden Brook, the river flows through predominantly agricultural land with a mix of livestock and to a lesser extent arable land. Ladden Brook and Bradley Brook to the north and west also flow through agricultural land. Sections of the main river from Nibley to Hambrook flow through areas used extensively for developments involving horses. Downstream of Frampton Cotterell the river becomes increasingly urbanised. Figure 9 demonstrates that under the Agricultural Land Classification (ALC) grade data (NE 2018) large amounts of the Frome headwaters are Grade 2 (very good) or Grade 3 (Good to Moderate) (Figure 8).

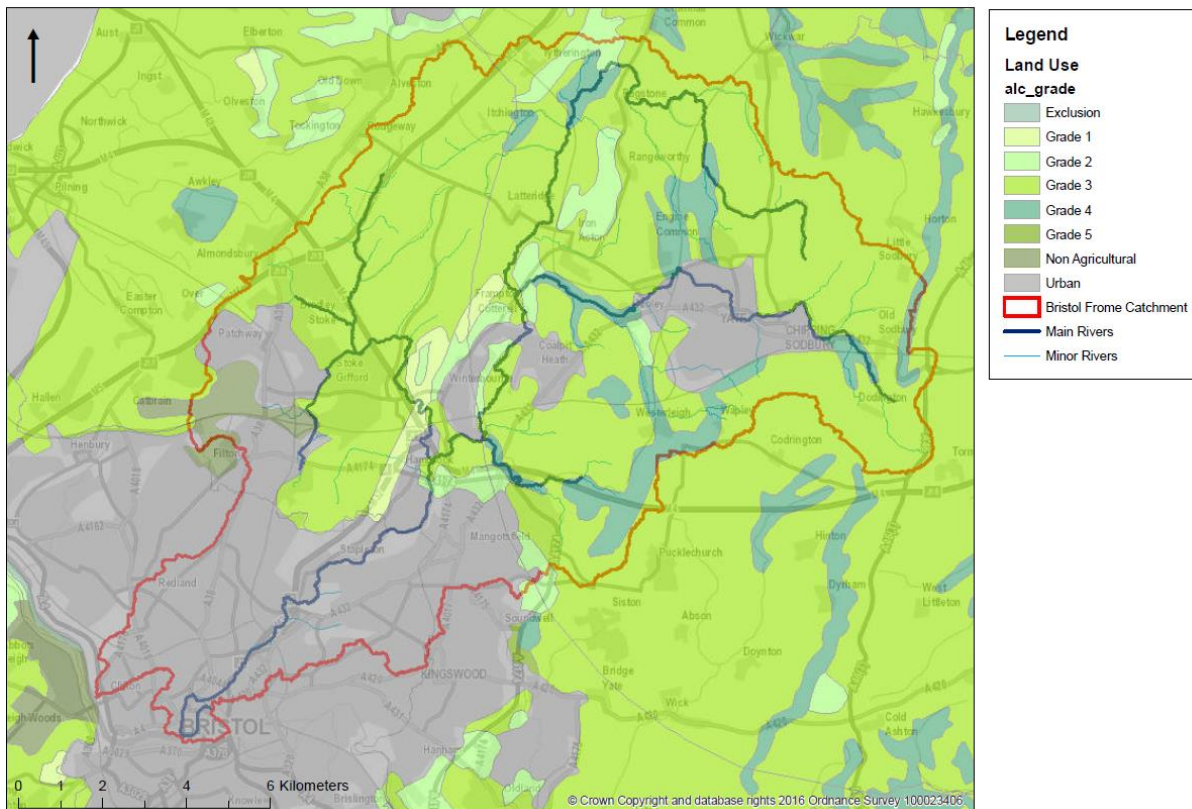


Figure 9 Baseline Agricultural Land Classification data for the Frome Catchment (based on Natural England data).

5.6 Recreation and active travel

The Frome Valley creates an important green corridor through the communities, villages and farmland of South Gloucestershire and on through the dense housing of northeast Bristol. The parks, open spaces, woodlands, meadows and waterways provide welcome recreational space for people and a valuable environment for wildlife. The Frome also supports activities such as nature-related pastimes, walking and angling.

In many places, relics of its historical use can be found. In the past, the Bristol Frome played an important role as a major source of waterpower for mills along the river valley and some of the original mill structures from this period can still be seen on the river such as the Snuff Mill at Stapleton. This mill was mostly used for grinding corn in the 17th and 18th century and later powered a large saw for cutting blocks of local Pennant Sandstone from the adjacent quarry.



Figure 10 Glenfrome weir is an important historical feature of the Frome.

The Bristol Frome is unusual in that the Frome Valley Walkway follows the river's entire 18-mile length, from its source in the Cotswold Hills in South Gloucestershire down to its confluence with the River Avon in Bristol. This public right of way is a vital asset, connecting people to the river and different communities and localities along its length.

In 2008, Bristol became England's first "cycling city" within a £100m government scheme aimed at encouraging cycling. Figure 12 shows main cycle and walking networks within the Frome. Aligned with the West of England Local Walking and Cycling Plan, the Frome Valley Walkway plays a key role in our public rights of way network to support the transition to active low carbon travel across the catchment area.

The Bristol Frome waterway is not navigable by anything other than small watercraft such as canoe and even then, opportunities are limited, e.g., a short stretch from Frenchay Bridge to Snuff Mills.

Angling on the Frome does occur with conditions perfect for coarse fish such as dace and chub, although bream, carp, roach, eels, minnow, and gudgeon have also been found. Occasional trout have been reported.



Figure 11 Anglers accessing the Frome near Oldbury Court from the Frome Valley Walkway.

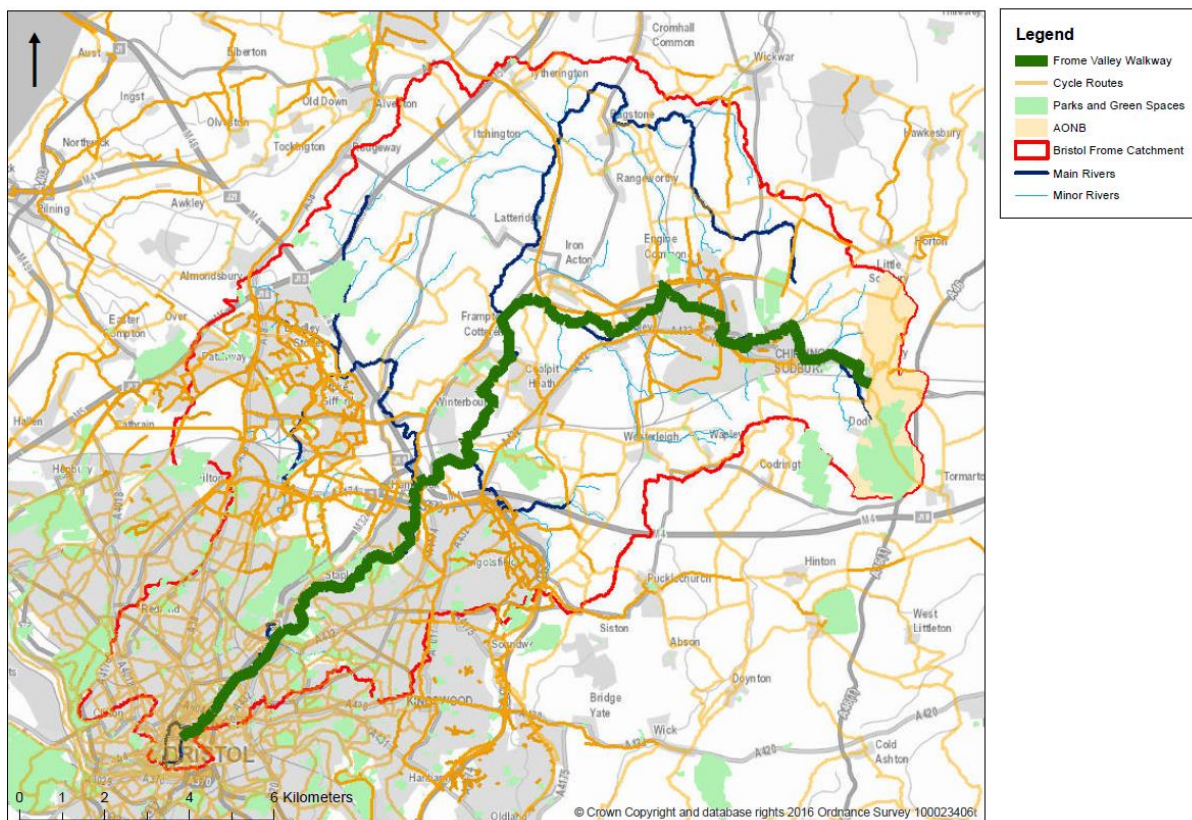


Figure 12 baseline recreation site within the Frome Catchment.

6.0 What are the challenges?

The following challenges have been highlighted by the steering group in consultation within partner organisations. These challenges form the basis of ongoing discussions, focussing on the development of a detailed programme of works and securing the funding for delivery.

6.1 Climate change

UK parliament declared a climate emergency in May 2019. Bristol City Council, South Gloucestershire Council and WECA declared Climate Emergencies (Bristol in Nov 2018, SGC and WECA in July 2019). In addition, Bristol City Council declared an Ecological Emergency in Feb 2020. It is likely, as a result of the changes outlined in the scenarios identified (see 4.1 Climate change and likely effects), the following challenges are likely to be exacerbated.

6.2 Flood risk

The Frome catchment has a history of flooding, the steep Cotswold slopes in the headwaters and the high proportion of urban land use within the Bristol Frome catchment promote a rapid response to rainfall. In 1947, Bristol flooded extensively, prompting the construction of the Northern Stormwater Interceptor sewer (NSWI) in 1962, running from Eastville Sluices to the River Avon downstream of Clifton Suspension Bridge. The NSWI provides flood relief to the centre of Bristol. The NSWI and the Eastville Flood Defence Scheme protect over 1,000 properties in the city centre from flooding (*Environment*

Agency briefing note, Jan 2019). During times of high flow, the NSWI is operated by the Environment Agency (EA) to send excess flood water from the Frome at Eastville under the city to a tidal outfall at Avon Gorge.



Figure 13 Northern Stormwater Interceptor at Eastville.

River flooding occurs in general because the channel capacity is inadequate to carry flood flows. The channels of the River Frome and its tributaries have been modified over the years, particularly as a result of its milling history, but also due to urban development adjacent to the river corridor. Figure 14 shows present day flood risk within the catchment.

Historically, there have been several flooding incidents in Bristol, usually resulting from prolonged or back-to-back rainfall events. However, since the construction of the NSWI, coupled with the adoption of appropriate operating procedures, there has been no significant flooding reported in Bristol city itself. Elsewhere in the Frome catchment, flooding has been recorded at a number of locations including St John's Way in Chipping Sodbury, Celestine Road in Yate and Broadmead in Bristol city centre. Longer term issues have centred upon the capacity and residual life of the Bristol Frome culverts (Atkins 2005); this is currently being investigated by the River Frome Catchment Investment Strategy (CIS) lead by the EA (see section 8.0) (Figure 15 shows existing flood risk assets within the catchment).

Without flood alleviation, flood risk is predicted to increase due to the larger flood flows and peaks that a changing climate could create (see 4.1 Climate change and likely effects). The EA wants to reduce fluvial flood risk in the Yate and Chipping Sodbury area by increasing the standard of protection. It is considering different options to achieve this, one of which is further flood attenuation at Chipping Sodbury (See Table 1). Further downstream in the Lower Frome the EA has also made the case for asset repairs to sustain defences in the lower River Frome including the NSWI at Eastville Sluices.

Flooding can be worsened by surface water run-off. During heavy rainfall events, there is potential for damage to properties and highways, and road flooding can cause traffic

disruption. The effects of surface water flooding within the Yate area are being examined in more detail. In parallel with this, natural flood management assessments within Ladden Brook and Bradley Brook and funding for implementation will help alleviate potential flooding concerns and could also improve water quality (see section 12.0).

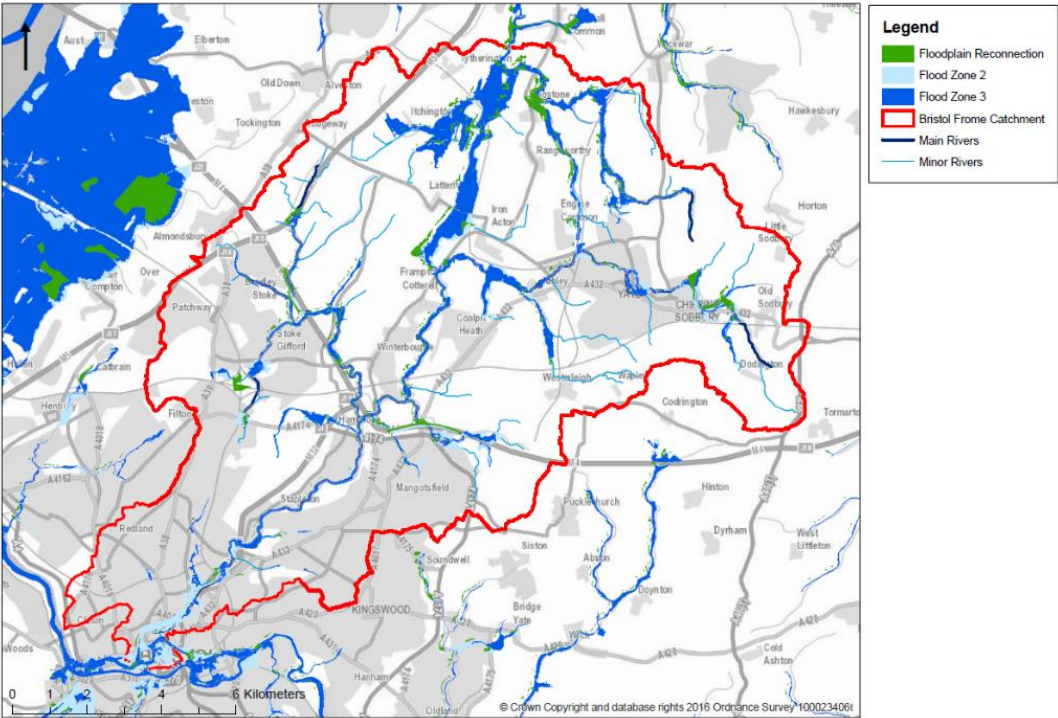


Figure 14 Present day River Frome Flood Risk. Flood Zone 3 indicates the greatest probability of flooding

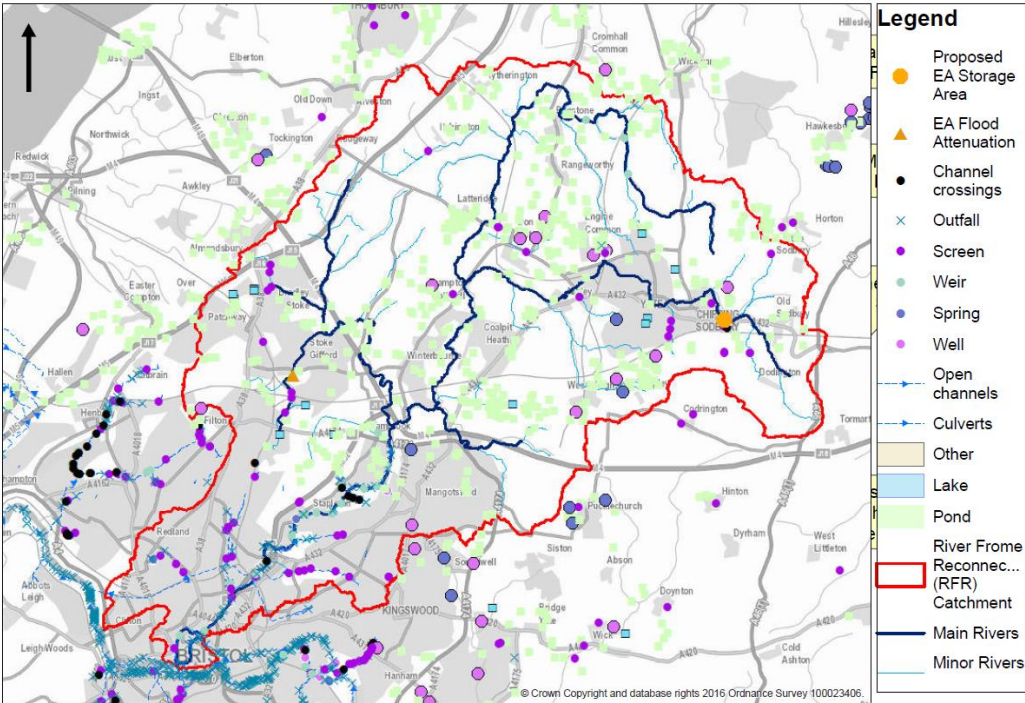


Figure 15 River Frome flood risk assets

The following challenges have been identified under the flooding theme.

- Yate and Chipping Sodbury Flood Defence Scheme – upstream flood storage proposal has £4m funding gap (See Table 1)
- Aligning with EA and Lead Local Flood Authorities pipeline for future flood risk schemes and the EA Catchment Investment Strategy
- Existing weirs limit fish passage and need modification to promote fish passage
- Natural flood management could be used more inclusively across the Frome catchment and the use of well-designed Sustainable Urban Drainage (SUD) sites can create multifunctional spaces
- Surface water flooding
 - Rail flooding e.g., Old Sodbury has largely been addressed
 - Surface water flooding on Ladden Brook and Bradley Brook including Old Gloucester Road/Earthcott where the public highway is regularly flooding from surface water inputs and high levels of groundwater infiltration into the sewer network in Ladden Brook can cause flooding during wet winter periods
 - River flooding such as low-lying properties at Yate including Bennetts Court, Station Road, Swan Field, Treeleaze, Orchard Close, Milton Road, Tyndale Avenue, Celestine Road, Blenheim Drive and Whitley Close. Also, Blanchards Farm area/ St Johns Way in Chipping Sodbury
- Development pressure and associated potential for greater flood risk further downstream in Bristol
- Management of the flood-drought continuum.

6.3 Health, wellbeing and education

There is strong evidence that spending time in natural ‘green/blue’ spaces is good for our health and wellbeing and enhances community ownership and being active outdoors. Being in contact with nature is also critical for reducing obesity, heart disease and helping to improve our mental health. Social prescribing is recognised in NHS strategies as an important way to reduce the costs of prescribing and primary care. Green prescribing can offer an alternative option for patients who suffer or at risk from a range of non-communicable diseases such as cardio-vascular disease, anxiety, depression and Type 2 diabetes. Green prescribing could offer a means of reducing a patient’s requirement for drugs such as anti-depressants; such interventions also have a positive impact on the environment by reducing the amount of pharmaceuticals entering the river environment. Within the wider Frome catchment there are opportunities to explore this further.

The River Frome provides a natural green infrastructure corridor for Yate, Bristol and the surrounding towns and villages. The Frome Valley Walkway (FVW) provides an excellent, but under-utilised, leisure resource. Access to high quality open space (especially areas of water) also provides thermal cooling during prolonged periods of hot weather.

The FVW route runs through a variety of attractive landscapes including the Cotswold Hills, open countryside and meadows as well as more urban environments; it is within these more urban areas where the opportunities to enhance the river corridor environment for the benefit of nearby communities are greatest (see Figure 16). There are significant opportunities to improve the condition, accessibility and signposting of the route. There are also opportunities for additional connections to cycling and walking networks to new

residential and commercial developments which would provide a high-quality experience for both utility and enjoyment. Greater access and use of the FVW would support active lifestyles and contribute to the health and wellbeing of local communities, a key benefit which assumes even greater importance since the outbreak of Covid-19.

There are 199 primary schools and 35 secondary schools within the catchment (Figure 16). This creates an opportunity to engage with local communities and schools within the study area and to empower the community to support nature-based objectives, e.g., improving surface water attenuation through installation of rain gardens.

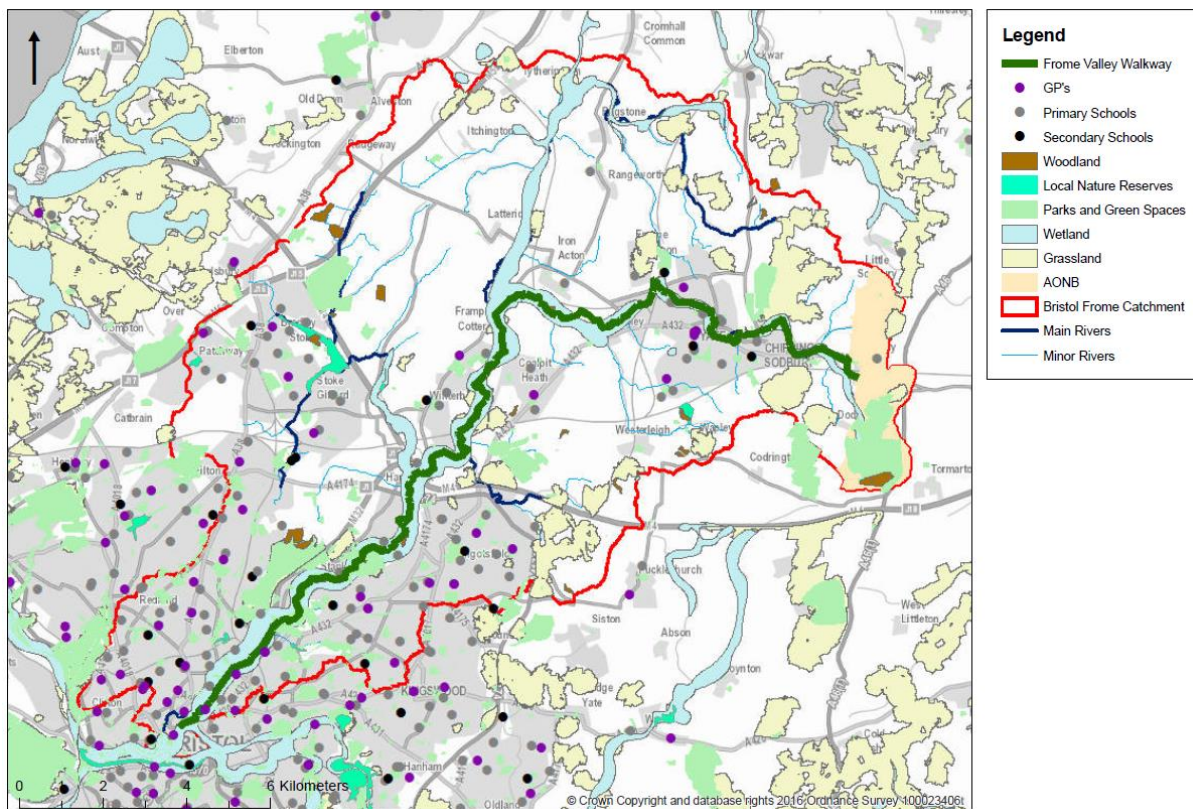


Figure 16 Community assets within the Frome.

The following challenges have been identified under the health, wellbeing and education theme.

- Frome Valley Walkway
 - Poor accessibility and links to the walkway
 - The riverside path is in poor repair and at risk from flooding in certain locations e.g., Winterbourne, Frampton Cotterell, Oldbury
 - Non-native species e.g., Himalayan balsam threaten native species
 - Litter
 - Lower reaches and some sections in Yate are considered 'unwelcoming'
 - Lower reaches from Wade Street to New Cut 'hidden' underground
 - In some locations the footpath is travels away from the river and could be re-aligned to be closer
 - Poor signage
 - The FVW needs promoting more widely as a useful active travel link between Bristol and South Gloucestershire

- Existing riverside development disregards the river in some urban locations. There is potential to develop new open spaces or enhance existing open spaces in both Yate and Bristol to improve the green infrastructure for local communities along the river
- Local concern over safe railway crossing point. Network Rail has a long-term aspiration to remove all existing crossings that entail the local community interacting with the railway line
- Potential need for additional upgraded footpath/cycle links
- Opportunities to enhance public wellbeing through social prescribing
- Quality angling locations are minimal. This could be enhanced if barriers to fish migration are removed
- Existing opportunities to engage with local communities and schools can be enhanced.

6.4 Declining biodiversity

In many places, the River Frome has been straightened and canalised; the channel retains the characteristic straightened cross-section associated with mid-late 19th/ 20th century land drainage practices. This significantly limits the diversity of plants and fish which inhabit these reaches. There are numerous opportunities to improve river form and function at various intervals (Figure 17). There are approximately 31 barriers to fish migration along the River Frome which impede the natural migration of native brown trout, eels and coarse fish (Figure 18 and Figure 20). In the upper reaches of the Frome, barriers to fish migration are understood to cause compliance failures under key legislative drivers such as the WFD and the Eel regulations (2009). A feasibility study assessing 12 structures covering the mid-section of the river is underway and further work on five structures within Yate and Nibley is in process. Figure 20 highlights two significant re-development projects within the Frome catchment, the Yate Masterplan and Frome Gateway in Bristol (8.0 Action plan). Water quality (5.4 Water quality and WFD) is moderate to poor which also limits species abundance and diversity (5.5 Poor Water Quality).

The catchment includes part of the Cotswolds AONB, various Local Nature Reserves including Monks Pool and Goose Green Local Nature Reserves, common land including Westerleigh and Sodbury Commons and the highly visited Oldbury Court and Snuff Mills open spaces. The full length of the main River Frome is designated as a Site of Nature Conservation Interest (SNCI).

The West of England Nature Partnership and the WoE Nature Recovery Network (NRN) advocates protecting and enhancing existing natural habitats; making them bigger, better, and more joined-up as advocated by the Lawton principle. The networks cover woodland, grassland, and wetlands (see Figure 21). The vision of a NRN is fundamental to providing nature with the space it needs to recover and thrive - improved water quality and flood management are needed to aid this recovery. The NRN will also support health and wellbeing through recreation, active travel and carbon capture.

One goal of the Bristol One City Ecological Emergency Strategy (Sept 2020) is for 100% of Bristol's waterways to have excellent water quality which supports healthy wildlife by 2030. South Gloucestershire Council's Environmental Policy will be updated in 2021 and objectives for water quality will be considered then.

A programme of riparian surveys is nearly complete. These surveys assess the river corridor for factors that may impact the quality of the river environment. By March 2021 the RFR partnership will have access to survey data covering the main river and all the main tributaries. This data will help delivery of a strategic, joined-up approach for improving the catchment and helping delivery of the NRN to maximise benefits for society and the wider environment.



Figure 17 Urban river habitat at the Frome Gateway



Figure 18 Fish barriers on the Frome prevent native fish moving up and down the river



Figure 19 Urban rivers can still provide good fish habitat – this stretch in Yate supported trout fry

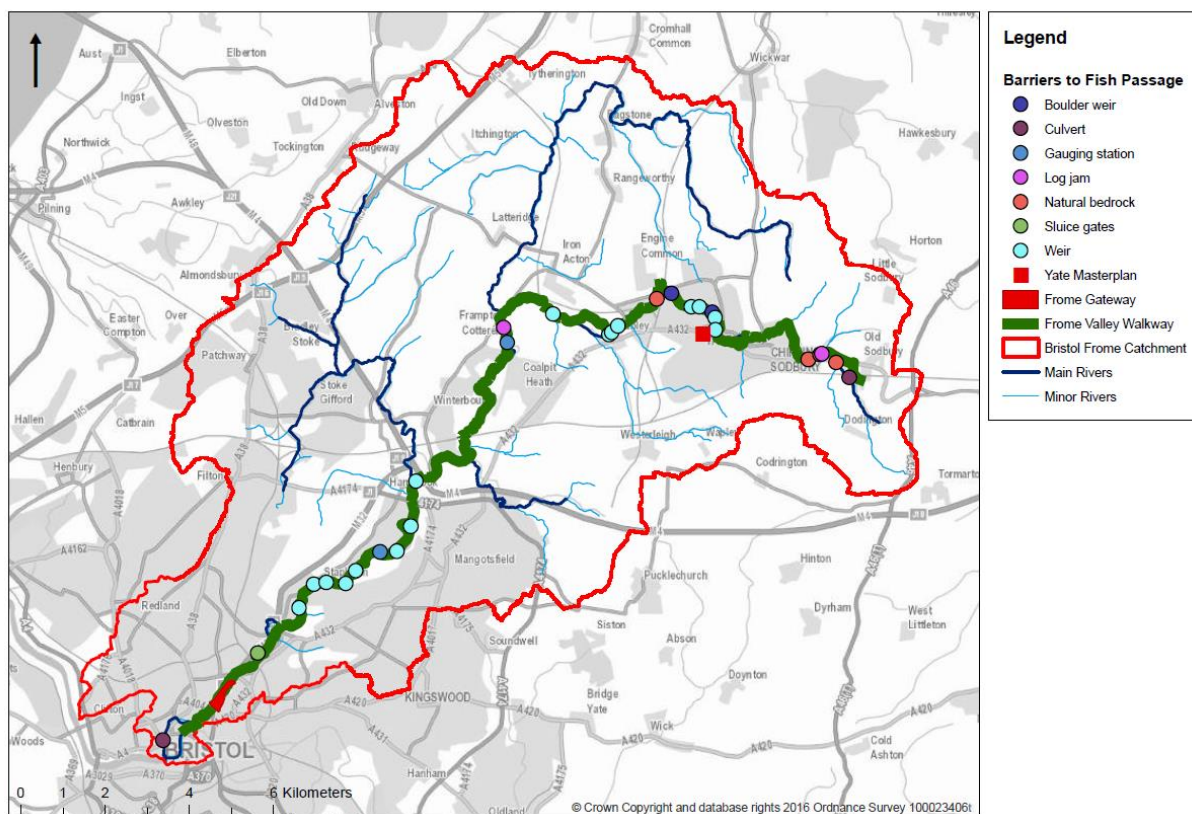


Figure 20 Main River Frome fish barriers information together with opportunities to enhance and restore river.

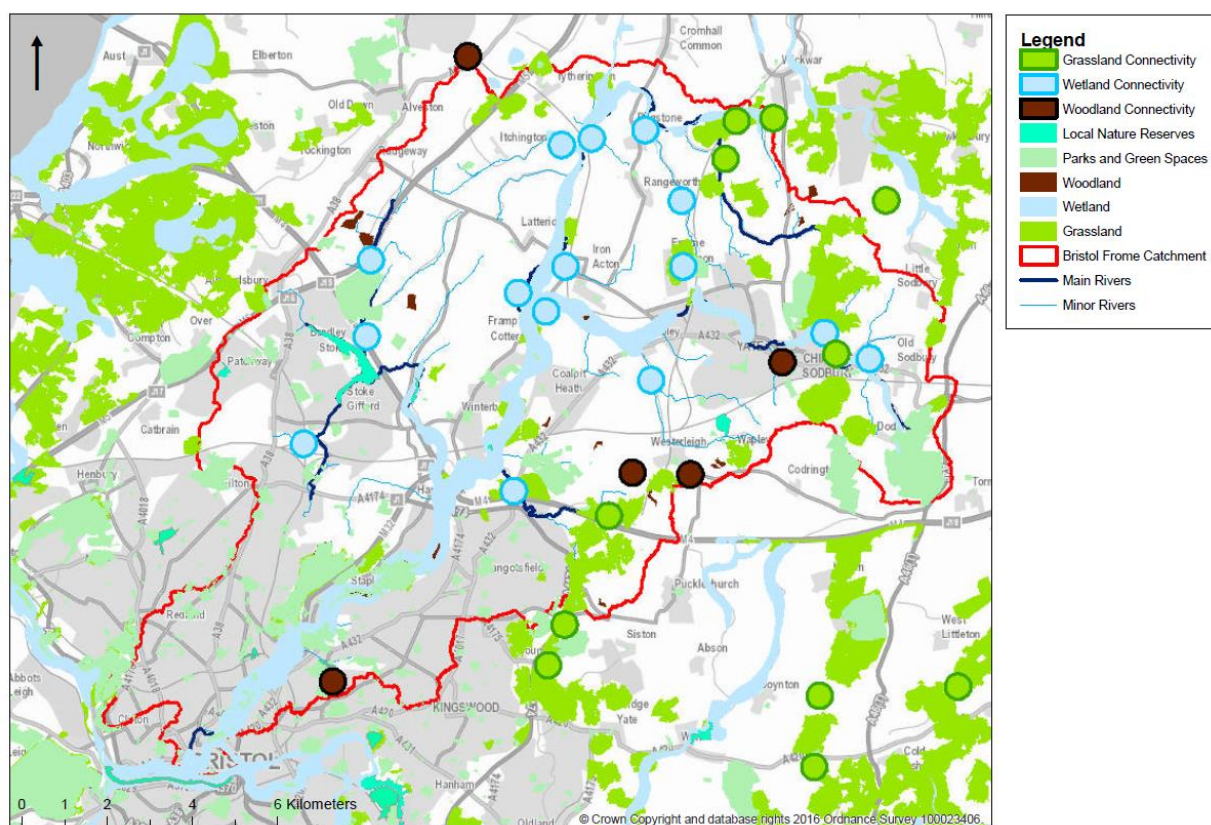


Figure 21 WOENP Nature Recovery Network sites within the Frome catchment.

The following challenges have been identified within the biodiversity theme:

- Heavily modified river channel
- Declining fish populations
- Modification to existing barriers to fish migration
- Declining wildlife habitats and biodiversity (in part resulting from poor water quality – see section 6.5 below)
- Delivery of wetland NRN sites
- Non-native invasive species such as the American Crayfish and Himalayan Balsam.

6.5 Poor water quality

The Bristol Frome flows through significant agricultural and urban areas.

Agriculture plays an important role within the headwaters of the Frome, primarily around the Ladden Brook and Bradley Brook areas. Some landowners are losing valuable topsoil, nutrients and pesticides due to erosion, run-off or leaching, often linked to poor soil structure and compaction. It is currently estimated that 2.2 million tonnes of topsoil are eroded in the UK annually (POST, 2006). This is not only a problem for farmers themselves, but also creates a source of suspended solids which end up in the river system or even on public highways. Loose sediments can transport chemicals such as pesticides and toxins including heavy metals. They can also clog up spawning gravels used by fish species such as trout. Figure 23 maps the erosion risk in the Frome catchment and demonstrates there is much opportunity around the Frome headwaters, Ladden Brook, Bradley Brook and Folly Brook to work with farmers and support them in

their use of more sustainable land management techniques. Ongoing work within the catchment to address this is identified in section 8.5.

Nutrient enrichment of UK freshwaters is a concern, with pollution from agriculture a cause of poor water quality. Within the headwaters, the river is currently failing WFD standards for water quality (phosphate). Eutrophication, resulting from excessive inputs of nitrogen and phosphorus to water bodies, results in changes in species' abundance and diversity, as well as problematic algal blooms that result in lower oxygen levels and turbid waters. Excessive nutrient concentrations in rivers can also promote eutrophication in receiving coastal waters. These ecological changes can cause a loss of biodiversity and have negative impacts on the use of water for human consumption and other purposes. This has implications for the provision of ecosystem services such as drinking water, fisheries, and recreation opportunities, and can be costly to remediate.

On the Ladden Brook, phosphates, pesticides, nitrates and sediment are all highlighted as issues caused by diffuse water pollution from agriculture pressures in the CSF Strategy for the South West (Catchment Sensitive Farming – SW River Basin District Strategy 2016-2021).



Figure 22 River pollution caused from significant surface water run-off within Frome catchment.

Downstream of Frampton Cotterell, the river becomes increasingly urbanised and large sections of the river are heavily modified and are sometimes culverted completely. Water quality at this point is mainly influenced by the urban nature of the catchment which leads to pollution from point source (a single pipe or outfall location) and surface run-off (Figure 22). Storm overflows within the catchment are designed to only operate during periods of intense rainfall to protect properties from flooding. Any foul water released from the storm overflows will be very dilute because of the large volumes of rainwater within the system at that time.

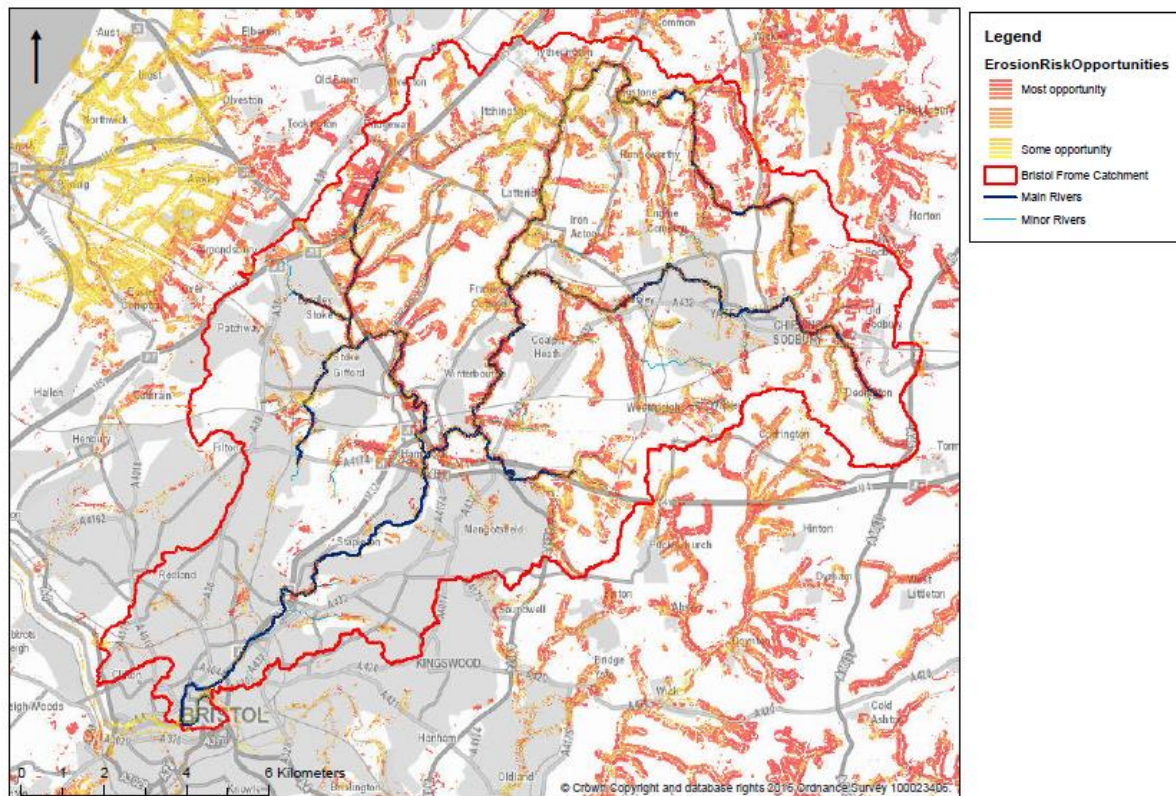


Figure 23 Erosion risk – map shows where on the ground interventions may have the greatest opportunities to reduce sediment transport to watercourses enhancing biodiversity of the area and delivering multiple benefits.

The following challenges have been identified within the water quality-theme:

- Heavily modified river channel
- Diffuse pollution – rural (surface water management and agricultural run-off). (See 6.2 Flood risk).
- Point source pollution - rural
- Diffuse pollution - urban run-off (misconnections and surface water run-off). Walkover surveys carried out within the Frome catchment have also identified the Folly Brook as having unexpectedly high levels of flow and sediment
- Point source pollution - urban
- Litter and debris
- Soil erosion
- Identification of multi benefit land uses including Natural Flood Management
- Reduction of biodiversity.



Figure 24 Waterblitz – a community engagement programme run by BART encouraging volunteers to sample water quality at rivers in their community.

6.6 Transport and development pressure

The Bristol Frome catchment rises in rural Old Sodbury, flows through Chipping Sodbury and then Yate (the largest town of South Gloucestershire). It goes on to flow through increasingly urbanised areas of Frampton Cotterell and into Bristol City, which has the tenth largest population in the UK. There is increasing demand to re-develop sites to accommodate increasing housing need in the Yate area and in Bristol. Redevelopment and transport are key challenges. Up to £350m is lost to the economy each year due to time spent in congestion. There is also an increasing development pressures to meet the needs of the growing population. The Frome catchment has a high density of motorway and rail links, including the M4, M5 and M32 and the London to Bristol rail link. The Joint Local Transport Plan (JLTP) highlights the need for further 'greenways' linking open spaces and development areas.

A network of other travel options also exists, with Bristol being an important area for cycling. The Frome Valley Walkway is an 18-mile path that follows the River Frome from its source in Old Sodbury down to its junction with the River Avon in the centre of Bristol.

The following challenges have been identified under the transport and development theme:

- Significant re-development and growth in Yate and Bristol city (including the development of brownfield sites) and the need to ensure Biodiversity Net Gain
- Urban river fronts - opportunities to showcase the river and ensure improvements to the river environment through planning e.g., Yate and Bristol City (Yate Masterplan and Frome Gateway)
- Rail links and opportunities to enhance existing pedestrian crossings and Old Sodbury new woodland
- Possible enhancements around motorway or links with HE Designated Funds.
- Fly tipping
- Flood water attenuation / SUDS
- Modifications to existing weirs to promote fish passage.

7.0 What needs to happen - suggested high level goals

7.1 Adaption to climate change

- Develop investment opportunities for partnership-led projects with multiple benefits within the catchment
- Promote the creation of a resilient river catchment to ensure sustainable economic growth within the catchment which contributes to climate adaptation projects or projects delivering multiple benefit
- Encourage development to respond to local plan policies and strategies including climate and ecological emergency action plans, green infrastructure guidance and Biodiversity Net Gain requirements (including ensuring mandatory Biodiversity Net Gain 10% requirement under the Environment Bill when passed)
- Encourage use of WoE Joint Green Infrastructure principles and Building with Nature standards)

7.2 Improve water and flood management

- Advance our understanding of land management practices, flow pathways and natural processes in priority areas of the catchment to enable wider flood management working with natural processes and nature-based solutions.
- Review existing data to identify areas of high flows and where measures to increase in-catchment storage and reduce the supply of sediment and flow would be most beneficial
- Identify and understand where strategic, landscape-scale solutions could be delivered to mitigate the impact of development and deliver multiple benefits beyond the development site, such as biodiversity gain, health and wellbeing, improved access and sustainable land management and improved water quality
- Identify and undertake evaluation of options to understand where smaller local flood risk schemes could be delivered to deliver small scale flood attenuation as well as also delivering water quality and biodiversity improvements at a community level e.g., rain gardens or other sustainable urban drainage systems
- All Sustainable Urban Drainage (SUD) solutions to be self-sustaining or requiring minimal management and offer multiple benefits creating better places for people and wildlife through enhanced integration with green infrastructure features

7.4 Improve land management

In association with improving water and flood management, in some areas, we need to improve land management through sustainable agriculture and prevention of urban run-off/misconnections to reduce soil erosion, nutrient loss and improve water quality.

- Understand and map the sources of nutrient contributions from all sectors within the catchment including development and agriculture. Review the evidence and identify areas where there are serious issues with soil compaction and leaching
- All land to be sustainably managed i.e. management to enable good soil structure and reduced compaction to minimise erosion or leaching of topsoil
- Help farmers and land managers to set up local 'Farm cluster groups' to enable them to access advice and support and collectively deliver greater benefits for soil, water and wildlife at a landscape scale
- Work up a programme of measures to remedy soil erosion issues
- Improve understanding of where industrial/urban waste contributions are affecting water quality within the catchment and identify opportunities to work in partnership to reduce these pollution sources

7.5 Improve access

Improve access, active travel and recreational use of the Frome Valley Walkway and associated open spaces delivering wide-ranging physical and mental health benefits.

- Improve public understanding and engagement relating to the value and services provided to society and the local economy by the river catchment and its wildlife
- Identify and understand where resources can be targeted to achieve maximum benefit for improving access and recreational opportunities within the catchment e.g., assessing quality of route on the Frome Valley Walkway
- Promote sustainable modes of travel to access the FVW and green spaces and encourage the linking up and strengthening of the Public Rights of Way network to access neighbourhoods with the water environment

7.7 Enhance and improve habitat quality and river connectivity

- Support a 'fish passage task group' to continue to collate relevant information and identify the most effective locations to target resources to improve in channel habitat and morphology and bankside habitat to improve habitat connectivity for riparian animals and plants
- Identify and undertake evaluation of options to understand cost benefit and priority of barrier removal
- Support WENP with delivery of the ambitions of the NRN
- Align with and support SGC/BCC with their delivery of climate/ecological emergency and green infrastructure strategies

7.8 Co-ordinate investment opportunities

Working with partner organisations improve communications and co-ordination to attract funding to deliver projects e.g., the Local Enterprise Partnership or Landscape Enterprise Networks and deliver multiple benefits for the catchment.

8.0 Action plan – Existing key plans and strategies

Key plans are in place as highlighted below, but timescales and objectives are not always joined up. Both Bristol and South Gloucestershire councils have declared Climate Emergencies, recognising the need for action to address climate change and to prepare for the impacts of climate change and committing to carbon neutrality by 2030. The following strategic policies, plans and projects are likely to have a direct impact on the management of the River Frome catchment.

8.1 Strategic plans and strategies

National Planning Policy Framework sets out government's planning policies for England and how these are expected to be applied.

Defra 25-year Environment Plan and the Environment Bill (including mandatory Biodiversity Net Gain, Local Nature Recovery Strategies) - sets out government goals and requirements to protect and improve the natural environment in the UK. Biodiversity Net Gain aims to leave the natural environment in a measurably better state than beforehand.

Water Framework Directive European legislation which commits member states to achieve good qualitative and quantitative status of all waterbodies through integrated river basin management (see section 5.4).

Severn River Basin Management Plans (RBMP) - published by the EA outlines work that a range of organisations will undertake within the region, including the Bristol Frome Catchment, to comply with the WFD, based on status and reasons for failures. A draft plan for the period 2015-2021 was published in September 2014. The RFR partnership will help to deliver some of the objectives in the current Severn River Basin Flood Risk management plan and the Severn RBMP to improve the water environment. Measures from both include working with communities and partners to encourage land management to reduce flood risk and reducing diffuse pollution.

West of England Local Enterprise Partnerships (LEP) - The West of England LEP works to bring funding to the West of England region to support economic growth, either by bidding to government on behalf of the area or supporting other organisations' bids. It works with local partner organisations to deliver sustainable growth and development that protects and enhances the local environment.

West of England plans and strategies:

- **Joint Local Transport Plan** – looks at transport up to 2036 and sets out how the Bath and North East Somerset, Bristol, North Somerset and South Gloucestershire aim to achieve a sustainable transport network
- **Joint Green Infrastructure Strategy (JGIS)** 2020-2030 - helps identify strategic GI programmes and projects and assists preparation of joint funding bids to secure funding

for strategic green infrastructure and ensure GI is integrated into transport and housing schemes

- **Tree and Woodland Strategy**, led by WENP - assists delivery of NRN, JGIS and joint funding bids
- **Biodiversity Net Gain (BNG) Guidance and Implementation Plan** – assists local authorities deliver the Environment Bill requirements for BNG
- **Emerging WECA [Spatial development strategy](#)** (SDS) which includes Bath and North East Somerset, Bristol and South Gloucestershire Councils, will provide a framework for the local plans, setting out the vision of how people will live, work and play in the West of England over the next 20 years. It will influence where the homes and jobs in each local area will go and will be important in shaping future decisions on development.

Water company business plans:

- Bristol Water supplies drinking water to people in the Frome catchment as well as the rest of Bristol and the surrounding area. Water sourced from springs and reservoirs in the Mendips and the Gloucester and Sharpness Canal is made drinkable at water treatment works around the region. Bristol Water's [Water Resources Management Plan](#) sets out how water demands of the region will be met over the 25-year period (2020 to 2045). The current version was published in August 2019. Bristol Water's Drought Plan sets out how plans for managing water supply in a drought.
- Wessex Water is the sole public sewerage provider in the catchment and provides public drinking water supply to part of the catchment's population. Wessex Water's [Business Plan](#) (2020-2025) was submitted to Ofwat, the Economic Regulator, in 2019 following an in-depth customer consultation exercise. It sets out how Wessex Water expects to perform against nine long-term promises developed in consultation with customers. Their business plan includes actions to maintain and improve their services.
- Wessex Water's [Drainage and Wastewater Management Plan](#) (DWMP) is under development and sets out plans for the future of drainage, wastewater and environmental water quality. They also provide the basis for more collaborative and integrated long-term planning by organisations with interests and/or responsibilities relating to drainage, flooding and protection of the environment. RFR is working with Wessex Water at a strategic level to support the development of a more localised understanding and approach to drainage and wastewater management that is appropriate for the Frome.

Environment Agency - Catchment Investment Strategy (for flood risk) is under development and will define how EA and partner Risk Management Authorities will manage flood risk over the short, medium and longer term within the Bristol Frome catchment area. Currently proposed flood and coastal risk management schemes will be reviewed, taking into account increased flood risk in the future from climate change, likely partnership funding sources and potential development sites.

8.2 Bristol City Council and South Gloucestershire Council Plans

Local Plans, prepared by the Local Planning Authority (LPA), set out a positive vision for the future of each area and a framework for addressing housing needs and other economic, social and environmental priorities. They guide the location, design and delivery of new developments.

[Bristol City Council](#) and [South Gloucestershire Council](#) have existing, adopted local plans which are being reviewed alongside a new Spatial Development Strategy (SDS mentioned above) which will cover the West of England area and provide the framework for the local plans. The new local plans will be in line with this strategy and set out how they will develop over the next 15- 20 years.

These plans will help deliver the additional homes and jobs that are needed and safeguard the environmental assets we value. The SDS and Local Plans will cover the overall housing and employment land requirements and the supporting strategic and detailed planning policies to guide that growth. They will include the provision of green and blue infrastructure, support commitment to nature recovery, sustainable urban drainage and biodiversity net gain required in new developments as well as protecting areas of flood risk and high ecological value, expressing the objectives of the West of England Joint Green Infrastructure Strategy. All these improvements will benefit the water and the land environment and help to provide health and wellbeing benefits. The River Frome Reconnected is keen to work with WECA and local authorities to identify opportunities to further enhance these projects to deliver multiple benefits for the environment, people and the economy.

Climate Emergency Strategies set out targets for [WECA](#), [Bristol City](#) and [South Gloucestershire Council](#) to become carbon neutral by 2030 and to restore nature. These documents respectively set out a shared vision addressing both the direct and indirect sources of emissions that are responsible for climate change, as well as addressing climate adaptation. The documents outline some of the necessary actions to reduce emissions and to adapt to extreme weather events as a result of climate change, which are expected to increase in the future.

[Bristol One City Ecological Emergency Strategy](#) for an ecologically resilient, wildlife rich city by 2030 includes four key strategic goals to be achieved by 2030, including one for water quality to support healthy wildlife. South Gloucestershire Council recognises and actions the Ecological Emergency as a key part of the Climate Emergency Action Plan.

South Gloucestershire Council Local Flood Risk Management Strategies (LFRMS). The LFRMS 2015-2020 (SGC 2015) identifies the River Frome catchment (including its tributaries) as an area at increased risk of flooding, as a result of predicted climate change. In partnership with the EA, they are working with the West of England Flood Risk Partnership and Parish and Town Councils in the catchment to agree a strategy for improving flood storage capacity within the River Frome catchment and tributaries to cope with the projected impacts of climate change. High priority sites are Yate East and South, Chipping Sodbury (East) Filton and Emersons Green. The council will shortly be updating its Strategic Flood Risk Assessment Level 1, which should influence all new development in relation to flood risk along the catchment.

The Draft Bristol Avon Flood Strategy (BCC 2020) identifies that levels in the river Avon have a backwater effect on the Frome, causing an increased flood risk to properties in the lower River Frome area. The strategy also notes the case for asset repairs to sustain defences in the lower River Frome, and the need for a Bristol Frome Catchment Investment Strategy to identify the case for short, medium and long-term interventions to reduce flood risk and deliver wider benefits.

South Gloucestershire 'Greener Places' Green Infrastructure Strategy sets out how SGC will implement the West of England Joint Green Infrastructure Strategy and bring together the council and our partners', ambitions, commitments, obligations and priorities for green infrastructure. This includes the planning and design of green infrastructure within new developments, as set out in our planning policies, as well as the approach the council will take to managing green spaces for which it has responsibility.

8.3 Significant Redevelopment/infrastructure projects

Yate and Chipping Sodbury Flood attenuation project

The EA are considering various options for flood alleviation in Yate and Chipping Sodbury with an objective to reduce flood risk, improving climate change resilience and seek multiple benefits (wider environmental improvements). This work underpins growth potential in Yate and across East Bristol to reduce rising flood risks and costs for new and existing transport infrastructure, commercial and private property. The EA have identified an area within Chipping Sodbury on the river Frome where it would be feasible to temporarily store water in a large flood event. For most of the time site conditions would not change and the land could continue to be farmed.

Yate Masterplan

The council's Local Plan and Yate Masterplan (YM) will deliver a vision for future growth and development. The EA have scoped a strategic flood storage project for the river Frome to reduce flood risk and improve climate change resilience underpinning future economic growth potential. Working with EA, WW and partners, the RFR will be supporting the development of the temporary flood storage area which will identify and develop the preferred option based on economic analysis, physical and environmental factors. In addition, the RFR will be exploring options for surface water attenuation through the town and restoration of reaches of the main River Frome through Yate town.

Frome Gateway Masterplan – The Frome Gateway is a new neighbourhood regeneration scheme being devised within Bristol city (next to the M32). The Frome Gateway Masterplan is being developed in parallel with an options assessment for development and river restoration, the EA Frome Catchment Investment Strategy and the BCC Flood Risk Management Scheme and Local Plans. The mixed-use redevelopment of this area could provide opportunities for restoring the river corridor and enhancing accessibility, nature conservation value and recreational potential of Riverside Park and the wider River Frome corridor.

Filton (Brabazon) creating a major new neighbourhood and a premier live entertainment arena complex on the former Brabazon Airfield site. There are opportunities to work with the project and developers to maximise the benefits of joint working and partnership investment.

Metrobus – The new metrobus service is a public transport system for the greater Bristol area which has been designed to link with existing rail and bus services.

8.4 Wildlife and water-related projects and initiatives

West of England Nature Partnership Nature Recovery Network advocates protecting and enhancing existing natural habitats; making them bigger, creating new areas of species-rich habitat, and ensuring they join up to create functional and resilient ecological networks. The networks cover woodland, grassland and wetlands (see Figure 21).

Bristol Avon Catchment Partnership (BACP) identifies the RFR project as a Strategic/Priority Project. The BACP continues to support the development of the RFR with both working towards delivering improvements in the water environment.

EA River Frome Natural Capital Pilot aims to understand ‘what is different as a result of a natural capital approach?’ compared with EA current planning for water and flood risk.

Catchment Sensitive Farming offers training, advice and grant support for farmers and land managers to reduce water and air pollution from agriculture.

Environmental Land Management Scheme (ELMS) is a scheme where farmers are paid for work that enhances the environment, such as tree or hedge planting, river management to mitigate flooding, or creating or restoring habitats for wildlife.

WoE Green Infrastructure Working Group has identified seven strategic GI projects including the River Frome Reconnected to evidence, promote and develop, assisting where possible with joint funding bids and ensure integrated and recognised in strategic planning and local plans.

8.5 Ongoing projects

The table below collates projects which are ongoing or planned within the Frome Catchment and links with an online [storymap](#) (9.0 Data and Evidence). Together these provide information on the scope of work already happening as well as projects which may be more aspirational. This section will be reviewed and updated regularly to ensure it is kept up to date.

Project	Partners	Description	Key themes addressed				Delivery Status	Timescale	Approximate costs	Potential funding mechanism	Overall Priority
Current projects			Climate	Flood	People	Nature					High (H) Medium (M) Low (L)
Responding to and managing flood risk											
Reconnected tributaries	WW, FWAG, EA, SGC, BART	Aims to define a vision for the Frome headwaters for people and wildlife and deliver it using a catchment-based approach. It will: Identify restoration potential delivering enhancements on the ground. Support more sustainable land management advising farmers and implementing 'Working with Natural Processes' (WwNP) interventions, addressing flood issues affecting infrastructure through improved land management. Engage with local and farming communities to improve awareness of the environmental challenges facing this sub-catchment.	✓	✓	✓	✓	Project is defined but funding dependent. Project can be delivered in phases.	2020-25	Project is modular with schemes being addressed as small funding pots available or as part of more strategic project. Phase I surveys and some WwNP delivery already funded. Looking for £15-£25k per year for 5 years plus delivery.	EA Local Levy/SGC Climate Emergency fund to drive forward smaller elements to keep momentum. A larger Defra based fund would be able to deliver the whole scheme.	H
Natural Flood Management surveys Bradley and Folly Brooks	EA, FWAG	The RFR has been working with the EA and FWAG to co-ordinate and align separate WwNP walkover studies on Bradley Brook and Folly Brook.		✓		✓	In progress	Complete by March 21	Funded	Funded by EA Local Levy	H

Riparian Surveys Bradley and Folly Brooks	BART, EA	Co-ordinate and align separate riparian walkover studies on Bradley Brook and Folly Brook.				✓	In progress	Complete by March 21	Funded	Funded by EA Water Environment Fund	H
Highway Flooding NFM interventions	SGC	Implementing Natural Flood Management interventions/ land management measures identified from wet weather investigations at five sites where repeat road flooding incidents occur within the Frome catchment.	✓	✓		✓	In progress	Complete by March 21	Funded	SGC Local Highways Challenge Fund	H
Only Rain down the Drain	BART, EA, WW, Streamclean	Begin addressing some of the urban inputs of pollution through advisory visits and engagement.		✓	✓	✓	In progress	Wider delivery to continue as funding available	Funded	EA Water Environment Fund	M
WW Constructed Wetland	EA, WW	Exploring potential constructed wetland project within the Ladden Brook catchment where high levels of groundwater infiltration can overload the WW pumping station during wet winter periods. The ambition of the wetland is to go above and beyond basic solutions and maximise benefits to natural capital.	✓	✓	✓	✓	Initial design phase 1 to be delivered by 2025	2020-25	Funded	WW Asset Management Programme	H
Retrofit for Nature	SGC	Pilot project delivering exemplar sites that achieve and showcase an increase in biodiversity within urban environments. The sites will be used to train, inspire, and enable other organisations in South Gloucestershire to take action to stop the decline of biodiversity.	✓	✓	✓	✓	Pilot project - A portfolio of 'Retrofit for Nature' projects is being prepared across a range of built assets including raingardens.	Pilot delivery 2020-21	Pilot funded but project has the potential to be extended across the whole of the Frome catchment	Pilot funded through SGC Climate Emergency. A larger Defra based fund would deliver wider scheme.	H

EA Flood attenuation Yate and Chipping Sodbury	EA, SGC	Considering various options for flood alleviation in Yate and Chipping Sodbury with an objective to reduce flood risk and improve climate change resilience. The EA have identified an area in Chipping Sodbury where it may be possible to store water during a large flood event. EA also looking for opportunities to deliver wider nature recovery through work.	✓	✓	✓	✓	No funding at present. EA are bidding for Defra Grant in Aid funds to progress the scheme towards Outline Business Case.	Uncertain if Grant in Aid funding available in 2020 delivery likely mid 2021-27.	£2-4m shortfall at present.	Developer contribution SGC/ EA and Defra Grant in Aid.	H
Yate Surface Water Modelling	SGC	Undertaking surface water modelling of the Yate area to update evidence and better understand priorities for future investment.	✓				In progress – delivery March 21	Complete March 21	NA	Funded by SGC	H
EA Catchment Investment Strategy	EA	Working on a Catchment Investment Strategy (for flood risk) to define how EA and partner Risk Management Authorities will manage flood risk over the short, medium, and longer term within the Bristol Frome catchment.	✓	✓	✓	✓	In progress – phase 1 delivery March 21	2020 onwards	NA	NA	H
Reconnecting people and communities											
Frome Valley Walkway	BCC, SGC, Avon Frome Partnership	Create a high-quality active travel and recreational route following the 18-mile course of the Frome to reconnect communities with nature, local green spaces, services and existing promoted routes. The project will particularly benefit urban areas, prioritising communities with poor access to quality open space, reducing inequalities and optimising health and wellbeing. The FVW will boost local recreation, tourism,	✓		✓		An audit of the FVW to be carried out 2021. The extent and detail of the survey is funding dependent. As a minimum the survey will identify priority reaches for enhancement to allow development of designs and	2020-25	Development – £200,000 Delivery – £2m	JGIS, BCC and SGC climate emergency funds, Heritage Lottery Funding, WECA	H

		active travel connectivity and the natural environment.					consultation on implementation.				
Yate Masterplan	SGC, EA, WW	Deliver a vision for future growth and development. Working with partners, the RFR will support the development of measures to mitigate future flood risk from surface and river waters and improve climate change resilience underpinning future economic growth potential. In addition, the RFR will explore options for possible restoration of reaches of the main River Frome through Yate town.	✓	✓	✓	✓	Project being developed in parallel with SGC surface water modelling of Yate and EA Frome Catchment Investment Strategy (including Chipping Sodbury Flood Attenuation area). Opportunities and Constraints report in progress with report due early 2021.	Development 2021- 2025 Implementation uncertain, phased delivery between 2025-35 as funding becomes available	Initial pre-feasibility study - £5k. Future feasibility work not costed. Survey and optioneering and consultation to deliver outline proposals - £350,000	Developer contribution/ JGIS/ private enterprise/ SGC.	H
Frome Gateway	BCC, EA, WW	The Frome Gateway is a new neighbourhood within Bristol city currently being considered. The mixed-use redevelopment of this area could provide opportunities for enhancing accessibility, nature conservation value and recreational potential of Riverside Park and the wider River Frome corridor.	✓	✓	✓	✓	Opportunity and constraints river restoration report completed for river Frome at Riverside Park. The Frome Gateway Masterplan is being developed in parallel with an options assessment for development and river restoration, the EA Frome Catchment Investment Strategy and BCC Flood Risk Management Scheme and Local Plans.	Development of spatial regeneration framework document and BCC Cabinet endorsement: spring 2021– spring 22 Framework delivery: summer 22 onwards Delivery phased over 10 years as funding and plots become available.	Initial survey/ optioneering and consultation to delivery outline proposals for river enhancement approx. £350,000	Developer contribution/ JGIS/ private enterprise/ BCC etc.	H

Landscape Enterprise Networks (LENs)	EA, SGC, BCC, WENP, WW	Develop a pilot on the Bristol Frome using the Landscape Enterprise Networks approach. This aims to link the improvement of land and landscapes to the long-term needs of business and society. If successful, this could identify new funding streams from private enterprise.	✓	✓	✓	✓	2019-20 pilot in progress developing areas of interest around Filton and Bristol City Centre.	2019/20	£15,000	Commercial contribution required to ensure project is sustained.	M
Improved water management on construction sites.	EA, SGC, WW, BCC	Delivery programme of engagement with local developers to improve good water management on construction sites to minimise point source and diffuse pollution from construction sites.				✓	New project – being developed and delivered	2021/22	No costs identified at present - this project focusses on partnership delivery	At this point no additional funding sought. Initial delivery through enhanced core delivery.	M
River Frome Festival	EA, SGC, BCC, WW, BACP, BART, AWT	Collate and deliver a digital or face to face programme of Frome focussed educational resources for streaming or download by local communities for a Rivers festival.			✓		New project – being developed potentially requiring additional support in the form of part time engagement officer.	2021/22	Indicative costings including staff time £40-50,000. This project will require partnership delivery.	Initial scoping through enhanced core delivery.	M
Schools outreach programme	EA, SGC, BCC, WW, BACP, BART, AWT	Collate and deliver a digital programme of Frome focussed educational resources for streaming or download by local primary (yrs 5/6) and secondary schools (yrs 7-8). The resource will be piloted with one or two schools initially with further schools engaged following evaluation and feedback.			✓					This element can be included in relevant grant fund applications e.g., Defra funds.	
Reconnecting the Frome to nature											
Nibley Avulsion	WW, SGC, EA	A structure associated with Nibley Mill is being assessed to identify	✓	✓		✓	Development of preferred option in progress working with EA, SGC and WW and	Funding dependent but aim to complete	£40,000	Partnership project with contribution from EA, WW	H

		potential options to enable fish passage.					landowners towards final design.	work on site by end of 2021.		and SGC climate emergency fund, or developer fund through Nibley Park and Ride Scheme.	
Fish barriers	EA	In the Bristol Frome catchment, there are 31 known structures that may impede the passage of fish. A feasibility study assessing 12 structures covering the mid-section of the river is in progress to identify a preferred fish pass option for each structure.	✓	✓		✓	Feasibility study is in progress.	Funding dependent. RBMP objective sets out target of 2027 for achieving good status.	£60,000 (£5k to develop preferred option for each of 12 fish passes). Implementation phased and dependent on funding.	Developer contribution/ private enterprise.	M
Yate fish barrier notching x4	EA	Four EA owned small scale weirs related to the Yate Flood Conveyance scheme will have notches cut to enable coarse, salmonid and eel passage.	✓		✓	✓	Each of 4 EA barriers in Yate now have a preferred option. Engineering designs in progress. Looking to identify relevant funding to implement.	2021-2022	?	EA Water Environment Fund.	M
3 Brooks LNR enhancements	SGC, EA	A range of biodiversity and access projects to enhance the wetland environment within the LNR.	✓	✓	✓	✓	1, 2, & 3 Fish passes: to be discussed with EA. 4, 5 & 10 Reed beds: planned as part of desilting works in winter 2020/21. 6 Swan nest: willows pollarded in Feb 2019. Volunteers to monitor. 7 & 8 Otter holts: install two holts on	Ongoing delivery into 2021/2022.	Still to be defined SGC has funded implementation of reed bed attenuation and pollarded willows WW have funded water vole habitat creation work.	EA Water Environment Fund/ SGC Climate Emergency	M

						islands in Feb 2019. (Completed) 9 Water voles: open 100m banksides on Stoke Brook (Completed) 11 Removal of culvert - to be discussed with the EA. 12 Overspill area: to be discussed with the EA. 13 To be followed up by EA who own asset. 14 River surveys to be undertaken by BART (March 21).		River surveys funded by EA Water Environment funds		
Nature Recovery Network sites	Multiple partners	The RFR is supporting West of England Nature Partnership and BACP with the task of identifying opportunities to contribute towards the delivery of NRN within the Frome catchment.	✓	✓	✓	✓ WWT carrying out desktop review of wetland network within SGC boundary to identify priority areas. Nature recovery is a key objective of the RFR Partnership which will look to identify and connect nature recovery sites where possible e.g., through reconnected tributaries, fish passage, Yate masterplan etc.	Ongoing	Still to be defined	SGC/BCC climate emergency funds/ WECA funds/ EA and WW funding	M

S106 enhancements at Goose Green and Lincombe Barn (to be defined)	SGC	Opportunities for habitat enhancement and creation are being explored at these two sites.		✓	✓	✓	Wildfowl and Wetlands Trust options appraisal in process.	2020-25	To be defined upon completion of options appraisal	S106 funds	M
EA Stoke Brook biodiversity enhancements of flood attenuation area	EA	Assessment of opportunities to enhance Stoke Gifford Flood Attenuation Area for biodiversity gain.	✓			✓	This project has been delayed due to Covid-19.	2020-25	To be defined upon completion of options appraisal		M
AWT river reserve	SGC, AWT and others	Working with partners to establish a publicly accessible flagship river reserve on the Frome as an exemplar site for conservation, public engagement, and tourism in South Gloucestershire. This multi-benefit project would deliver river restoration and wetland habitat connectivity as well as forming a base for environmental education. The preferred location is likely to be on the main river, forming a destination along the FVW promoted route enhancing the green economy through eco-tourism. Once established the reserve would also deliver health and wellbeing benefits for the local community and visitors alike.	✓	✓	✓	✓	RFR is currently working with SGC to develop proposals for the reserve. Initial concept diagram and supporting illustrations will be undertaken in 2021.	Longer-term aspirational project which will take some years to develop.	To be defined	Likely to be partner funded. Developer contributions are also likely.	M

Table 1 Projects being developed with the support of the River Frome Reconnected Partnership September 2020 (to be updated annually).

9.0 Data and evidence

This review was commissioned by the River Frome Reconnected Partnership Steering Group in November 2018 to help all relevant partners and stakeholders make more informed decisions about the key water-based issues that have been previously identified in the Bristol Frome Catchment. The [storymap](#) for the River Frome Reconnected can be accessed here.

We hope this provides useful information for both technical specialist and local stakeholders. The maps are intended to help all relevant partners and stakeholders make better informed decisions about the key water-based issues within the Frome catchment to enable strategic level decision making.

10.0 Investment opportunities

The River Frome Reconnected aims to increase and better co-ordinate investment opportunities for partnership led projects that deliver multiple benefits within the catchment (see possible funding sources set out below). With support from delivery partners the River Frome Reconnected aims to facilitate integration and efficient use of existing funding. The RFR project officer will also help secure project development funding to deliver the priority actions identified above.

The following potential funding sources are set out below:

10.1 Government funds

A number of funds are available direct from government departments e.g. Challenge Funds - The local highways maintenance challenge fund enables local highway authorities in England to bid for major maintenance projects that are otherwise difficult to fund through the usual formula funding allocations they receive from government.

10.2 Land management funds

Catchment Sensitive Farming (CSF) is a partnership between Defra, the EA and NE. It works with farmers and a range of other partners to improve water and air quality in high priority areas. CSF offers farmers free training, advice and support for grant applications.

Environmental land management scheme (ELMs) replacing the bulk of funding farmers get from the Common Agriculture Policy it replaces existing agri-environment schemes. The details of this scheme are still uncertain, but pilot schemes launch from 2021 with wider roll out from 2024.

10.3 National Heritage Lottery Funds

The National Lottery Heritage Fund (HLF) is the largest dedicated grant funder of the UK's heritage. Within the Frome catchment the river has played an important role in the development of Bristol and South Gloucestershire. The River Frome

Reconnected hopes, through HLF funding in some cases, to be able to work with local communities and delivery partners to help support grass roots and more strategic projects.

10.4 West of England Local Enterprise Zone

The West of England Local Enterprise Partnership (LEP) works to bring funding to the West of England region to support economic growth, either by bidding to government on behalf of the area or supporting other organisations' bids.

The funds are matched by additional investment from local partners and the private sector, building on the strength of the region to create more jobs and a skilled workforce in the West of England. The River Frome Reconnected already works well with key delivery partners and aims to be able to co-ordinate opportunities for the benefit of the Frome environment, the local economy and the health and wellbeing of residents.

10.5 West of England Joint Green Infrastructure

The West of England Joint Green Infrastructure Strategy (JGIS) was approved by the WoE joint committee on 19 June 2020. The RFR Partnership project is one of seven projects the WoE Working Group has identified to support. The Partnership is currently working with SGC, BCC, BACP and WECA lead officers to complete the programme assessment and individual projects forms as required for submitting to WECA Infrastructure Delivery Programme funding and other funding sources identified. The WoE GI Working Group. Success securing funding will be based upon how well a project meets the individual funding scheme objectives.

10.6 Council Climate Emergency funds

Both Bristol City and South Gloucestershire councils have allocated funds towards developing and implementing projects which will help the councils meet their target to become carbon neutral by 2030. It is likely that some of the priority actions and future measures identified in this plan could help achieve the aspirations of the Climate Emergencies. The River Frome Reconnected partnership can help identify appropriate measures.

10.7 Environment Agency funding

The EA has several different funding streams which align with RFR priorities.

Water Environment Improvement Fund (WEIF)

The objectives of the Water Environment Investment Fund are:

- To contribute to achieving statutory water body objectives, focusing on RBMP measures without an owner
- To increase stakeholder engagement to ensure local needs and priorities for water natural capital are met

- To increase natural carbon storage and enable the water environment and water dependent wildlife to adapt and become more resilient to climate change impacts
- Protect and restore habitat conditions for at-risk priority water dependant species
- Maximise cost beneficial investment and secure wider economic, social and commercial benefits through improvements to natural capital.

Flood and Coastal Risk Management (FCRM) Grant in Aid

The EA administers FCRM grant-in-aid (GIA) on behalf of Defra, using a partnership funding mechanism. EA allocate capital and revenue funding to risk management authorities (RMAs) to manage and reduce flood and coastal erosion risk. Schemes are eligible according to the benefits they bring. The funding is for schemes to better protect 336,000 properties (across England). This includes both homes and non-residential properties and includes improvements to habitat and the environment.

FCRM Local Levy

The local levy can fund all types of flood risk management projects, both traditional and natural approaches, but only those not funded by GiA. Funds are raised by a levy on local authorities and committee members are appointed from Lead Local Flood Authorities and the EA to plan and invest in flood and coastal erosion risk management.

10.8 Wessex Water funding

Wessex Water (WW) has a number of different funding streams which can potentially support RFR priority projects. The DWMP will identify areas within the River Frome Catchment where future investment will be required to deliver resilient drainage and wastewater infrastructure for the next 25 years. RFR will work with WW to identify potential collaborative schemes for inclusion within the DWMP programme. This will be used to inform projects that are included in the next Business Plan to bid for potential partnership funding between 2025-2030.

The WW Partners Programme provides funding to projects carried out by environmental organisations which will conserve and enhance biodiversity and the aquatic environment across our region. The Wessex Water Foundation offers two types of grant; major grants and small grants.

The BACP has supported the development of a Catchment Partnership Fund. This fund is administered via a small grants scheme on behalf of the partnership. The purpose of the fund is to support the delivery and development of projects at all scales that will improve the water environment within the Bristol Avon Catchment. Many of the organisations who support the Steering Group contribute towards the Catchment Partnership Fund, hence all decisions with regards to this fund and its allocation are made collaboratively via the Steering Group.

10.9 Landscape Enterprise Networks (LENs).

Wessex Water, Bristol City Council, South Gloucestershire Council, Gloucestershire Council, the EA and West of England Partnership have joined together to help

develop an exciting pilot on the Bristol Frome using the Landscape Enterprise Networks approach. This aims to link the management of land and landscapes to the long-term needs of business and society. If successful, this could identify new funding streams from private enterprise.

To date the pilot has identified key businesses to engage with across the Frome catchment in both Bristol and South Gloucestershire. Following a business orientated workshop three areas of interest are now being investigated in Yate, Filton and Bristol City.

10.10 Developer Funding S106/Community Infrastructure Levy (CIL)

Bristol and South Gloucestershire are both areas of considerable economic growth. Within the Frome Catchment there are several large development areas, Yate, Filton and the Frome Gateway. The Frome Reconnected project aims to work with planners to help ensure developments benefit the water and the land environment and also provide health and wellbeing benefits. Some of these benefits could be funded through developer funds.

11.0 Public understanding and engagement

Following the publication of this Catchment Plan, the River Frome Reconnected Partnership will focus efforts on project development to determine priority projects and agree timescales for delivery of priority actions. The Partnership will continue to collate relevant information via a comprehensive evidence review and disseminate to key stakeholders to help enable strategic decisions to be made to support sustainable water and land management. We will increase community engagement and help support and educate local groups to enable local action.

How can you get involved?

If you would like to know more about the River Frome Reconnected Partnership or be involved with the work being delivered you can [contact us](#) or visit our [webpage](#) where you can download an electronic copy of this plan.

Farm businesses

Visit [Natural England](#) to see if you are eligible to apply for the Countryside Stewardship Scheme (CSF).

Contact your [local catchment-sensitive-farming officer](#) to see if you fall within their target area.

Contact the [Campaign for the Farmed Environment](#) for advice on how to protect soils and water.

Community

Contact the [Bristol Avon River Trust \(BART\)](#) if you are interested in getting involved with the protection and improvement of the Bristol Frome.

Contact the [Avon Wildlife Trust](#) to find out about projects or initiatives you could join and/or support to improve your local environment.

Contact the [Avon Frome Partnership](#), this partnership develops projects that focus on local heritage, recreation and wildlife in the Avon and Frome Valleys around Bath, Bristol and South Gloucestershire. It coordinates the Frome Valley Walkway booklet and website.

Businesses

Contact the [River Frome Reconnected Partnership](#) (RFR) to find out about the Landscape Environmental Networks (LENS) pilot being undertaken within the Bristol Frome catchment, see if you fall within the target area.

Visit your [Local Enterprise Partnership Growth](#) hub for more information about the support/ funding that is available for delivering sustainable improvements to your business.

12.0 Case studies

12.1 Reconnected Tributaries (SGC, FWAG, BART, EA, NE and BACP)

Past and present modification of the Bristol Frome tributaries and poor land management practices in some areas present a significant nature recovery challenge for the catchment. Urban development within the catchment generates additional flood risk pressures. Working across the catchment the 'Re-connected Tributaries' project is being developed via the RFR Partnership. It aims to define a vision for the Frome headwaters for people and wildlife and deliver it using a catchment-based approach. It aims to:

1. Build on existing data/reports to create a vision for future delivery and enable partners to strategically invest their resources to deliver multiple benefits that will provide long-term environmental gains
2. Identify gaps in the collective evidence base and complete surveys/feasibility work to complete the understanding of priority areas for targeted improvements
3. Identify restoration potential including opportunities for habitat creation and floodplain connectivity and deliver enhancements on the ground
4. Work with farmers and other land managers to support sustainable land management practices and deliver 'Working with Natural Processes' (WwNP) interventions. These measures reduce diffuse pollution, build resilience in the catchment by preserving and enhancing natural capital (e.g. soil) and locally reduce flood risk and address flood issues affecting infrastructure networks.

5. Engage with local and farming communities to help improve awareness of the environmental challenges facing this sub-catchment and inspire individual behavioural change.

This project draws together current understanding to deliver tangible on the ground improvement. During the last two years the RFR has worked with the EA, SGC and FWAG to co-ordinate and align separate WwNP walkover studies on the Ladden Brook and Frome headwaters. From these initial investigations FWAG identified around £80k of measures currently being delivered on the ground which will help reduce local flooding within the catchment in general, particularly where key infrastructure such as commuter highways are affected. Additional WwNP and riparian surveys (undertaken by BART) addressing gaps in knowledge are being undertaken 2020/2021 (e.g., surveys of Bradley, Hortham, Stoke, Folly, Filton, Patchway Brooks).

Future work (as yet unfunded) includes:

- Collate findings of all tributary surveys into an integrated strategic vision for the headwaters
- Develop a prioritised plan of actions/measures which align with other workstreams and potential funding sources
- Undertake baseline monitoring – Riverfly and ‘before and after’ photos
- Begin delivery of priority measures already scoped and costed and continue to deliver interventions/improvements across the tributaries (including a suite of strategic WwNP measures and river habitat improvements)
- A programme of engagement to support the integration of this project. The support of the RRF Project Coordinator will ensure this project is aligned and integrated with changing policy and Local led plans (e.g., Climate Action Plan-South Gloucestershire Council to ensure opportunities to integrate the delivery of this project are maximised.



Figure 25 Example of poor land management (left), localised flooding which can be mitigated using nature-based solutions (right) (Source: Peter Stone).

12.2 Only Rain Down the Drain (BART, WW Streamclean Team and EA)

The Bristol Frome and its valuable wildlife face risks from pollution throughout the catchment. Pollution inputs accumulate to impact water quality in a way that is detrimental to sensitive animals and plants, threatening the ecological and amenity value of the river environment. Pollution impacts the river environment in many ways including:

- Reducing oxygen in the river - depleting a vital resource for wildlife
- Eutrophication - causes algae to multiply, using up further oxygen and blocking light reaching the riverbed
- Impact human health - high nitrate levels in drinking water require expensive treatment.

There are multiple sources of pollution in the Bristol Frome including: poor agricultural practices; industrial, commercial, and domestic waste; sewage outfalls and road runoff in the urban environment.

BART are working on a catchment scale to address the sources of pollution impacting the Bristol Frome. Water quality investigations undertaken by BART identified point source pollution from industrial estates and businesses, finding its way into the watercourse through urban drainage systems. The Only Rain Down the Drain project aims to work with businesses to improve their practices and address water quality issues in the Bristol Frome catchment through simple changes.

Drainage misconnections: Surface water sewers collect rainwater and drain into streams and rivers. The foul sewer collects wastewater, which is taken to the local sewage treatment works. One of the major problems we face is that in many instances, appliances have been wrongly connected to the rainwater drains – all commercial wastewater should go into the foul sewer.

Misconnections often occur during renovation work or when extensions are built but, in some instances, faulty plumbing has been found in properties. Wastewater from dishwashers, sinks and toilets is discharged directly into rivers and streams. As well as damaging wildlife this is a potential public health risk.

BART is working with local business along with the Wessex Water Streamclean team. BART provides advice on how you can put things right to reduce the risk of pollution to our local rivers.

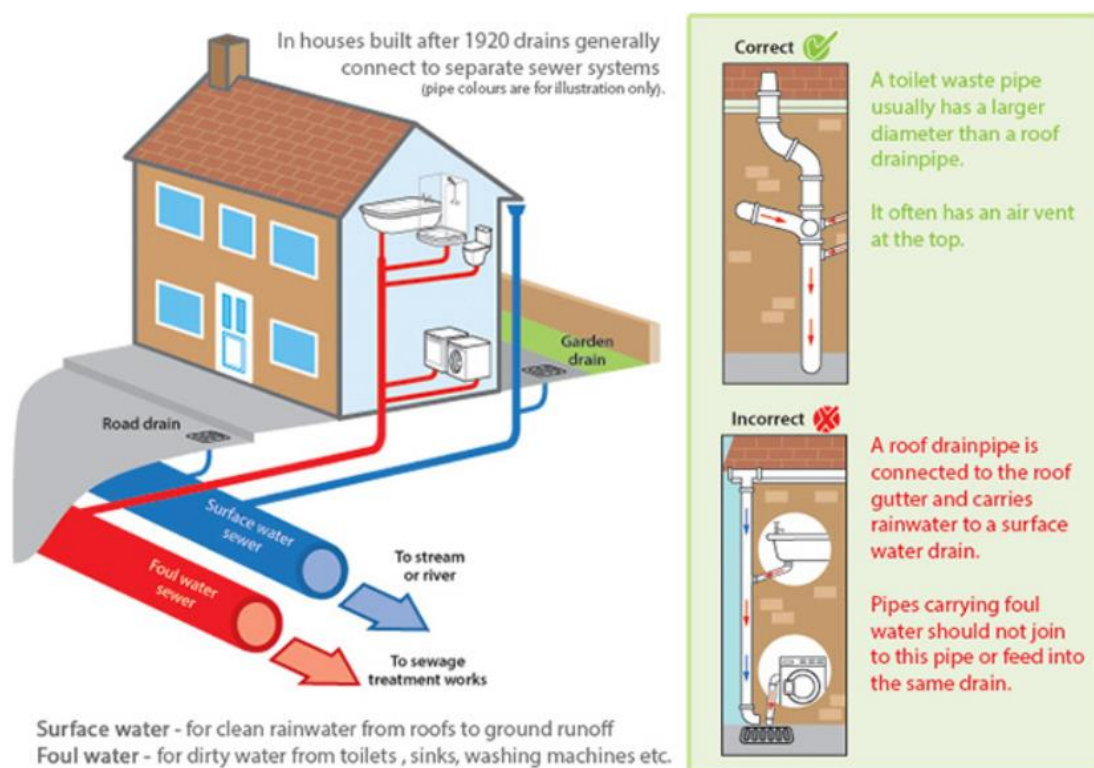


Figure 26 Diagram showing that waste-water and rain water are separated when properly connected (Source: Wessex Water). Find out more in the WW [Streamclean](#) guide.

13.0 Glossary

Term	Definition
Annual exceedance probability	The chance or probability of a natural hazard event (usually a rainfall or flooding event).
Biodiversity Net Gain (BNG)	An approach to development that leaves biodiversity in a better state than before.
Diffuse pollution	The release of potential pollutants from a range of activities that, individually, may have no effect on the water environment, but can have a significant effect at the scale of a catchment.
Eutrophication	Excessive richness of nutrients in a lake or other body of water, frequently due to run-off from the land, which causes a dense growth of plant life.
Fish barriers	Man-made or natural, barriers to fish passage such as weirs can prevent the migration of native fish species and can have severe implications for these populations.
Green infrastructure	A network of multi-functional green space and other green features, urban and rural, which can deliver quality of life and environmental benefits for communities. Although often just referred to as 'Green' it can also include rivers so is sometimes termed 'Green/blue'.
Heavily modified	When the natural conditions of a water body are substantially altered, e.g. by irrigation, drinking water supply, power generation and navigation. The WFD recognises in some cases the benefits of such uses need to be retained and allows designation of the water body as "artificial" or "heavily modified" if it fulfils certain criteria e.g. reservoirs, canals or canalised rivers.
Northern Stormwater Interceptor sewer (NSWI)	Running from Eastville Sluices to the River Avon downstream of Clifton Suspension Bridge. The NSWI provides flood relief to the centre of Bristol. The NSWI and the Eastville Flood Defence Scheme protect over 1,000 properties in the city centre from flooding.
Point source pollution	A single identifiable source of air, water, thermal, noise or light pollution.
Strategic Flood Risk Assessment (SFRA)	A study carried out by one or more local planning authorities to assess the risk to an area from flooding from all sources, now and in the future, taking account of the impacts of climate change, and to assess the impact that land use changes and development in the area will have on flood risk.
Water Framework Directive (WFD)	EU legislation that requires member states to make plans to protect and improve the water environment.
West of England Nature Recovery Network (WENP)	Advocates protecting and enhancing existing natural habitats; making them bigger, better and more joined-up as advocated by the Lawton principle. The networks cover woodland, grassland and wetlands.

14.0 References

Bristol City Council (2020) Draft Bristol Avon Flood Strategy

South Gloucestershire Council (2015) Local Flood Risk Management Strategy

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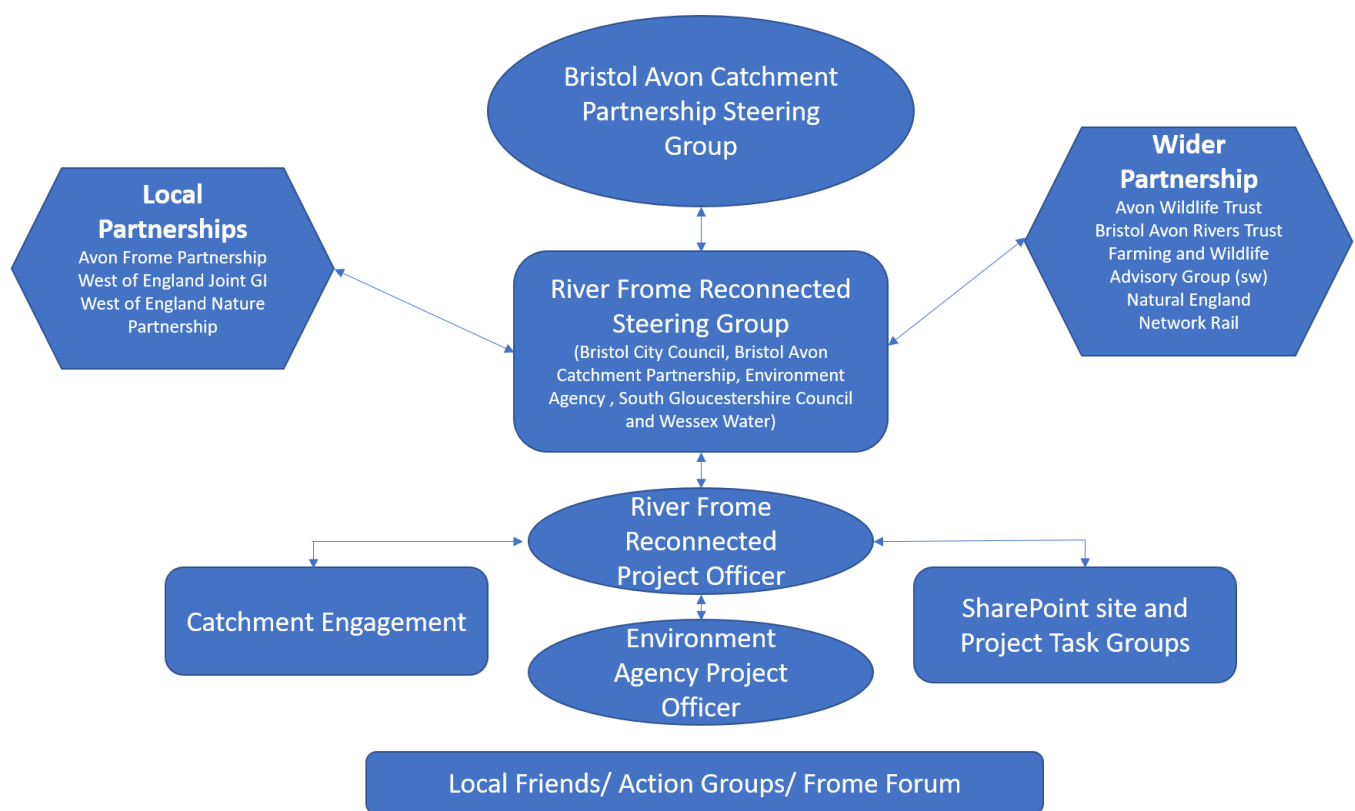
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Appendix 1: River Frome Reconnected Partnership and Steering Group - Terms of Reference, February 2021

The River Frome Reconnected (RFR) is a voluntary partnership of organisations, working collaboratively to provide a strategic and joined-up approach to facilitate the delivery of improvements and multiple benefits to the Bristol Frome Catchment. This collaborative approach has been adopted to enable the partnership to work within a flexible structure and respond to opportunities as they arise. The RFR is supported by the Bristol Avon Catchment Partnership (BACP) who offer strategic guidance. Core funding partners include the Bristol Avon Catchment Partnership (BACP), Bristol City Council (BCC), Environment Agency (EA), South Gloucestershire Council (SGC) and Wessex Water (WW).



Steering Group

The Steering Group is organised as follows:

- membership comprises representatives from the funding partners, who have the capacity to make decisions and cascade information appropriately within their organisations
- provides strategic direction for the River Frome Reconnected Partnership and helps to identify and access funding to support the development and delivery of partnership projects
- generally meets every 2 months
- the Chair will be nominated by the Steering Group
- the group is supported by the RFR Project Officer

- the relationship of the Steering Group to the 'Wider Partnership' and other organisations is shown in the Structure Chart below

Project partners – Steering group

- Bristol Avon Catchment Partnership
- Bristol City Council
- Environment Agency
- South Gloucestershire Council
- Wessex Water

Wider partnership

The 'wider Partnership' is informal and open to organisations who wish to be engaged in a more joined-up approach to the delivery of improvements and multiple-benefit projects to the Bristol Frome Catchment. Such organisations could be involved in individual projects as delivery agents or more generally, as interested parties. The RFR aims to support Local Nature Partnerships and other relevant partnerships. It will aim to respond to consultations to steer the development of Local Plans and policies on matters related to water and land management within the catchment, helping to facilitate sustainable land management and development across political boundaries.

Project partners - Wider partners (new partners welcome)

- Avon Frome Partnership
- Avon Wildlife Trust
- Bristol Avon Rivers Trust
- Farming and Wildlife Advisory Group (SW)
- Natural England
- Network Rail
- West of England Nature Partnership

Project Officer

The RFR Project Officer is hosted by SGC on behalf of the partnership. SGC also provide IT support, web access, and links with strategic groups.

The Project Officer coordinates and supports the Steering Group in facilitating the progress and development of the Partnership. This includes, coordinating and supporting RFR delivery partners in the development and implementation of partnership projects that deliver multiple benefits. Where funding is required to help deliver agreed actions, the Project Officer will help partners collaboratively identify and apply for appropriate funding.

Joint funding bids will require legal agreements between relevant partners in each case to provide clarity on the purpose of the project, project governance and roles within the project, project finance and partner contributions, delivery, monitoring and evaluation, and dispute resolution.

Environment Agency Bristol Frome Project Manager

The EA employs a Bristol Frome Project Manager as a single point of contact to engage with EA, share ideas, agree priorities, integrate EA work streams, manage environmental improvements to EA assets, address issues identified and provide regular updates to the RFR regarding Defra funding. They will work closely with all partners to develop and enable the delivery of partnership projects.

Communication and engagement with partners and communities

Partner SharePoint site - A SharePoint site is being established to aid partner collaboration. The site will be open to representatives from a variety of organisations focused on the development and delivery of partnership projects that will improve the water environment in the catchment. The site will enable the partners to communicate and work collaboratively and to report back progress/challenges. The SharePoint will help inform partners of opportunities for project development and alignment in the future.

Community Engagement- RFR will engage with local communities to take account of local level views and experiences.

Appendix 2 – Table 2 - WFD Classification for the Bristol Frome sub-catchment (Source: EA January 2019)

WB name, ID and overall status	Failing elements		Reasons for not achieving ‘good’	Objectives
Frome (Bristol) source to conf Ladden Bk GB109053027560 MODERATE	Moderate	Fish	Physical Modification – barriers Point source – urban development	GES by 2027
Frome (Bristol) conf Ladden Bk to conf Folly Bk GB109053027820 MODERATE HEAVILY MODIFIED	Moderate	Phosphate	Physical modification – flood protection Diffuse source pollution – agricultural and rural land management	GES by 2027
Frome (Bristol) Bradley Bk to conf Floating Hbr GB109053027840 MODERATE HEAVILY MODIFIED	Moderate	Phosphate	Physical modification – flood protection and urbanisation Diffuse source pollution – agricultural and rural land management	GEP by 2027
Ladden Bk - source to conf R Frome (Bristol) GB109053027590 POOR	Moderate	Macrophytes & Phytobenthos	Diffuse source – agricultural and rural land management	GES by 2027
		Phosphate	Physical modification – Land drainage and flood protection	
		Dissolved Oxygen		
	Poor	Fish		

WB name, ID and overall status	Failing elements		Reasons for not achieving 'good'	Objectives
Hortham Bk GB109053027580 POOR	Poor	Invertebrates	Physical modification	GES by 2027
	Moderate	Phosphate	Diffuse source pollution – agricultural and rural land management Unknown pending investigation	
Stoke Bk – source to conf Bradley Bk GB109053027540 MODERATE HEAVILY MODIFIED	Moderate	Phosphate	Physical modification point	GEP by 2027
	Moderate	Ammonia	Physical modification – flood protection, urban and transport	
	Moderate	Phosphate	Point source – urban and transport, water industry	
	Poor	Invertebrates	Diffuse source pollution - urban and transport Unknown – pending investigation	
Bradley Bk – conf Stoke Bk to conf R Frome (Bristol) GB109053027570 POOR	Poor	Fish	Physical modification	GES by 2027
	Moderate	Phosphate	Diffuse source pollution – urban and transport, rural land management	
	Poor	Macrophytes and phytobenthos	Point source – water industry	
Folly Bk – source to conf R Frome (Bristol) GB109053027830 MODERATE	Moderate	Phosphate	Unknown – pending investigation Suspect data	GES by 2027
	Moderate	Macrophyte and phytobenthos	Diffuse source – agriculture and rural land management, urban and transport	

Appendix 3 - Online Draft River Frome Reconnected Catchment Plan [SWAY](#) questionnaire results from December 2020

Does the plan identify all key challenges? If not please outline.

- There is a long list of challenges which will undoubtedly spur further issues which will or not be addressed and will lead to further work - it is not possible to pick everything up in one piece of work, but it will go a long way to making improvements on many fronts.
- Make the river deeper this will make it slower and hold more water to prevent flooding.
- In some village locations both foul and surface water flow into the main sewer which is usually down the middle of the main road. Ordinary householders are not prepared to pay for alterations to drainage arrangements on their land.
- Farmland is often a major source of pollution. How will you persuade farmers to control the run-off from their land?
- It does not address issues with the Frome Valley Walkway (FVW).
- The signage of the FVW needs to be better as you can lose the route in certain areas.
- Possible flooding at Frampton Cotterell Nightingale bridge (route to school for local children). Upgrade of the path so that it is usable in wet weather (Frampton Cotterell to Algars Manor).
- Non-native invasive species; Himalayan balsam along riverbanks, signal crayfish & their impact on native, white-clawed crayfish populations.
- The Plan does not appear to recognise the challenge of the extent of the conflicts associated with achieving the aims e.g. surfacing to improve enjoyment through accessibility.

Are there any local issues we have missed? If so, please outline.

- The signage along the Frome Valley walkway needs to be improved to clarify the route of the footpath - this is highlighted 5 times.
- The challenge is to make improvements and at the same time keeping all our service users on board and engaged.
- FVW is a promoted route following public rights of way (PROW) over private land on many stretches. It is 'rural' in nature through much of South Gloucestershire and whilst this brings challenges (surface, access, landowners) it is very the reason it is valued. There is a real danger of both 'urbanising' the route through over-improvement in rural locations and there is also the impact/disturbance this brings to nature/wildlife to consider seriously.
- There is often pollution scum/foam in the river.
- Some parts of the plan may involve procurement of private land - or major farm owner co-operation - to put in place upstream flood attenuation schemes. e.g. Stidcot.

- The plan is focussed on Yate and Chipping Sodbury only in terms of flood barriers and the Yate Masterplan. There are many other areas which require enhancement. e.g. area of the Frome from the Goose Green Wetland area, downstream to beyond the council offices.
- The Frome Valley Walkway is poorly signed and industrial sections are unclear or unapproachable cutting off town sections with rural reaches of the walkway.
- Yate Town Council and other town councils would like to participate in the RFR partnership further and can help further shape and fund the project.
- Flood risks and the impact of changed or ceased quarrying pumping regime.
- Flooding of the Nightingale Bridge which links Frampton Cotterell to Winterbourne is highlighted twice.
- Flooding has washed large parts of the Frome Valley Walkway away in Winterbourne.
- Damson's bridge in Winterbourne Down is dangerous for pedestrians due to the closeness of traffic but there is no alternative pedestrian crossing point in the vicinity.
- Sewage overflows from new development that run into the Frome are a blight on the walkway.
- Interested to hear more detail regarding holding back water upstream of Chipping Sodbury to alleviate flood risk. Unfortunately, there is no contact available.

Are you aware of other work being carried out within the catchment which may be relevant to the project? If so, please outline

- Development of WECA Local Cycling & Walking Infrastructure Plan (LCWIP) may identify priorities and funding for improving walking and cycling routes within the catchment area.
- The area is a large development zone and that is an ever-evolving picture which will shape the work and scope
- How does RFR fit with the Avon Frome Partnership - no mention in the SWAY document?
- Winterbourne and Frome Valley Environmental Group would like to contribute and help.
- The town and parish councils along the catchment are all engaged in community plans and projects which impact the river and need to be involved in developing the plan.
- Are there any other high-level goals which need to be included? If so, please outline
- The over-arching aims of the council plan going forward needs to be dovetailed into the scope of the project - access / climate / a great place to live and do business.
- At start can you explain / set out who River Frome Reconnected partnership consists of?
- Perhaps something around ensuring development contributes a net positive towards the natural environment in the area, which the Yate Masterplan work would contribute towards
- Working with Town and Parish Councils to develop local initiatives relating to the river and its role in their community.

- The Frome Valley Walkway needs to be far more accessible for residents who have impaired mobility.
- Flood management in Frampton Cotterell.
- Re-instating wildlife that was present many years ago.
- Ensure that the Frome Valley Walkway is more usable for more of the year.
Boardwalks? Signage? Ensure that a wildlife plan for protecting and enhancing river and riverbank wildlife. Reducing the impact of busy roads.

A full list of strategies and plans with which the River Frome Reconnected is trying to align are listed within the Draft Catchment Plan. Please list the top 3 strategies or plans most relevant.

Strategy/plan	Number of mentions
Local Flood Risk Management Strategies	6 (especially when roads are flooded)
Joint Green Infrastructure Strategy	4
Ecological emergency	3
West of England Nature Partnership's Nature Recovery Network	3
Climate Emergency	2
Defra 25-year Environment Plan	2
Reconnecting people and communities	2
SGC local spatial plan	2
West of England Joint Local Transport Plan	2
Yate and Chipping Sodbury flood risk attenuation	
Bristol Local Plan	
EA Frome Catchment Investment strategy	
Cleaning up of the Frome i.e., controlling pollution of the water	
Encouraging fish passage up the river through the weirs	
Local Cycling and Walking Infrastructure plan (LCWIP)	
Mandatory Net Gain	
West of England Spatial Development Strategy (forthcoming)	
Yate Masterplan	
You have only included strategies for the principal authorities who were involved in drawing this up, not the community plans and strategies that have a major impact.	

Are you aware of funding opportunities which may help deliver the project programme? If so, please describe below.

- WECA would be our initial point of reference then the council climate emergency pot
- Action plan can be used/augmented as a funding strategy for projects. Need to be aware of other funding pressures in the area/region – e.g., lottery funding applications and conflicting/competing applications?
- Forest of Avon Trust has received initial DEFRA funding through Trees for Climate programme for 2021 planting. A decision on 2022-2025 funding is expected in Jan; if this is approved it would make available grants for 350ha of planting across the Forest of Avon (i.e. the West of England outside the AONBs), from 2022-25. Perhaps worth speaking to the FoA Trust.
- Lottery
- Community Landfill Tax Refund
- The Community projects themselves raise funds, and whilst not millions they can contribute to a resilient, locally owned river.
- Community Infrastructure Levy

Delivery forum - if we co-ordinate a delivery forum would you be interested in hearing about this?

13/15 responses would like to hear about this (although contact information not available for all of these people).

Co-ordination with Frampton Cotterell Parish Council for possible synergies in their objectives for biodiversity etc. and Frampton Cotterell Parish Council Climate and Nature Working Group via Daisy Finnear (projectofficer@framptoncotterell-pc.gov.uk).

Would you like to receive a copy of the draft Catchment Plan in full to comment on?

13/15 responses would like to receive (although contact information not available for all of these).

Would you like a follow up call to discuss further? If so, please provide your name and email address.

8/15 provided details.

