Taunton Waterways

Maintenance and Management Plan

July 2024

FINAL

Document Control

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Management and Maintenance Framework

The catchment of the River Tone has an area of approximately 385km^2 and lies between the Quantock Hills, Brendon Hills and Blackdown Hills.

The River Tone drains land from 14 main sub-catchments (including three reservoirs) as defined in the South West River Basin District, a total of 38,500 hectares (148 square miles). The overall Catchment is semi-rural but includes urban areas such as Taunton, Wellington, main railway line serving the South West and a section of the M5.

There are many watercourses that flow down into the River Tone through Taunton; **Mill Leaze, Lyngford Stream, Sherford Stream, Galmington Stream, Blackbrook, Taunton Mill Stream, Allens Brook, Priorswood Stream, Maidenbrook Stream, Stockwell Stream** and **Kingston Stream.** The Taunton and Bridgwater canal also begins its journey at Firepool Weir in Taunton, is 23.33km (14.5 miles) in length and a key waterway connecting the communities of Taunton .

The watercourses within the urban areas of Taunton have been heavily modified since the start of the Industrial Revolution which has resulted in changes in land use, sediment transfer and river morphology. Historic structures, created for now redundant industrial processes, present barriers to improving our water environment, such as weirs and culverts.

In urban centres, natural watercourses have a significant role in generating and sustaining economic growth whilst providing a unique opportunity to contribute to the quality of the local natural environment. They provide critical ecosystem services in reducing the urban heat island effect and mitigating air pollution, particularly when enhanced by planting. The natural capital approach values nature, including water, as an asset, or a set of assets, which benefit people, place and the environment.

Working together to manage water in an integrated way will enable the delivery of sustainable growth in Taunton. We want to identify innovative solutions and combine efforts with public and private investors to deliver more.

Key Stakeholders

- Somerset Council
- Lead Local Flood Authority
- Somerset Highways
- Wessex Water
- Environment Agency
- Canal and River Trust

1 Purpose of this Guide

Towards a Climate Resilient Somerset - Somerset's Climate Emergency Strategy was adopted in November 2020 (Somerset County Council, 2020). The Strategy acknowledges that parts of Somerset are vulnerable to flooding and that Climate Change will increase the risk of flooding. One of the 9 sectors or themes identified in the Strategy is:

> "*Our **water** resources - how they are managed to minimise the impacts of flooding and drought on our residents, buildings and landscapes*".

This guide has been developed in consultation with the Lead Local Flood Authority, Environment Agency and Canal and River Trust. It is designed to provide an overarching high-level overview of the maintenance and management of the waterways through Taunton and some wider aspirations on the future maintenance and management of these systems as the town and wider catchment evolves over the next 30 years.

Watercourses are designed to drain surface water away, this helps reduce flooding to property, roads, land and infrastructure. The cost of maintaining a watercourse is minor compared to the costs that can arise from flood damage, not to mention the distress and inconvenience caused by property flooding.

To maximise opportunities and the associated benefits, the requirements set out in this document should be considered at an early stage and fully integrated into the water management and urban design process. In so doing, it is then possible to ensure that planning proposals for the town deliver the highest return for the community, providing improved resilience and maximising efficiencies for maintenance and operation of the waterways.

For full details of the relevant UK wide and local policy and guidance that has come in since 2017 (when the Taunton Waterways Action Plan was originally produced) refer to **Appendix A**. This will provide context for the key drivers for the implementation of this Guidance and the desire to push for improvements to water management across Taunton.

2 Roles and Responsibilities

2.1 Introduction

In Taunton, water management is divided across numerous organisations. Each have the powers to manage a specific component of the water cycle and often have individual governance arrangements. Many rivers and waterways flow through the reach of several stakeholder boundaries, with many only having powers along parts of the river basin and often with different and conflicting interests. The map below shows the waterways within the Catchment of Taunton and the organisations that have flood risk management powers on these waterways (**refer Figure 1**).

Surface water management also falls within the responsibility of the Highways Authority (Somerset Council) and Wessex Water where water falls within the highways or within the curtilage of buildings (respectively). In addition, downstream of the M5 the Somerset Drainage Board Consortium has a role in the management of the water levels on the levels and moors.

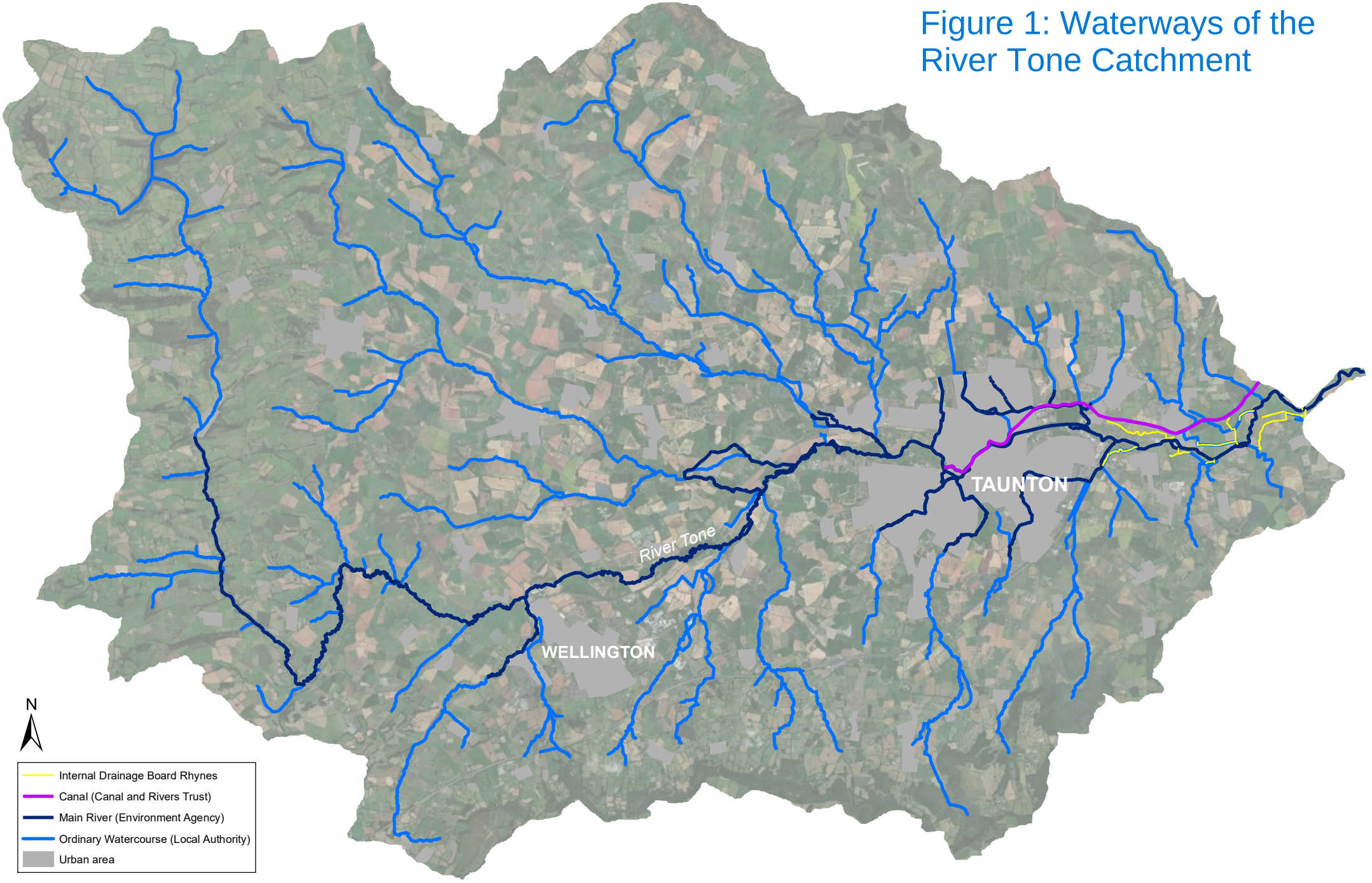
A more integrated approach to river basin management (including surface water, subsurface water and groundwater levels) has many advantages in making effective strategic decisions. It also enables a more joined up approach and opens the way for collaboration of data, resources and funding.

The Flood and Water Management Act 2010 requires Risk Management Authorities to:

- co-operate with each other.
- act in a manner that is consistent with the National Flood and Coastal Erosion Risk Management Strategy for England and the local flood risk management strategies developed by Lead Local Flood Authorities.
- exchange information.

We are fortunate within Somerset that there are many partnership organisations set up to facilitate collaboration and that can also enable joint funding opportunities. It is the aim of this guide to provide a more co-ordinated approach to enable key decisions to be made on the future development and evolution of the town without compromising on the needs of the waterways and their future maintenance and management.

Figure 1: Waterways of the River Tone Catchment



2.2 The Environment Agency (EA)

The EA is one of the risk management authorities as defined by the Flood and Water Management Act 2010. Protecting the river environment and managing flood risk is part of its job. This means that some of its duties and powers affect riparian owners. In brief:

- Strategic supervisory role in relation to all sources of flooding – National Strategy
- Permissive powers to undertake flood risk management work on main rivers and the sea
- Powers to regulate activities by others on main rivers
- Operate a flood warning service

The Environment Agency has powers to work on main rivers and the sea to manage flood risk. These powers allow it to do work. However, it does not have to maintain or construct new works on main rivers or the sea. It is unlikely to maintain a watercourse to improve the amenity of the river or to stop erosion that does not increase flood risk. Flood risk management works can include:

- constructing and maintaining flood risk management assets, for example flood banks, and works on main rivers to manage water levels and make sure flood water can flow freely.
- operating flood risk management assets during a flood.
- dredging the river. The Environment Agency can dispose of the material on land within reach of the dredging machine's boom.
- issuing flood warnings.

The Environment Agency has strategic roles for all sources of flooding and coastal erosion in England and Wales. It has produced with Defra a national strategy for flood and coastal erosion risk management in England and worked with the Welsh Government on a national strategy for Wales. These strategies show how communities, the public sector and other organisations can work together to manage the risk. This includes the development of local flood risk management strategies by lead local flood authorities such as county and unitary councils.

The Environment Agency also has a duty to promote the conservation of the water environment, the natural beauty of rivers and wetlands, and the wildlife that lives there. It assesses the impacts of any proposal on the whole environment.

2.3 Lead Local Flood Authority (LLFA) and Internal Drainage Board (IDB)

The LLFA is the Flood and Coastal Team within Somerset Council. The IDB manage and maintain water levels within the 25ft ground contour, so their operations are limited to watercourses downstream of the M5. The River Tone Catchment is within the Parrett Internal Drainage Board Area under the Somerset Drainage Board Consortium. The Consortium is made up of three Internal Drainage Board Areas.

Under the Land Drainage Act 1991 and recent changes in the Flood and Water Management Act 2010, LLFAs, LAs and IDBs have powers to manage flood risk from ordinary watercourses, surface water runoff, and groundwater. Their powers allow them to:

- carry out works to manage flood risk from these sources and that will contribute to the local flood risk management strategy. ·
- serve notice on you if you have not maintained a watercourse on your land, and the proper flow of water is not possible, or it is increasing flood risk.

Works to manage flood risk can include:

- maintaining existing works, including buildings and structures. This includes repairing and generally maintaining the efficiency of an existing watercourse or drainage work: improving existing works: altering or removing works and reducing or increasing the level of water in a place.
- operating existing structures (such as sluice gates or pumps).
- building or repairing new works, including buildings, structures, watercourses, drainage works and machinery.

These powers allow them to do work. However, they do not have to maintain or construct new works on ordinary watercourses.

All LLFAs in England and Wales must develop, maintain, apply and monitor a local flood risk management strategy for their area. The strategy must deal with the three sources of flood risk outlined above and interactions between these sources and other types of flood risk. LLFAs also keep a register of structures that have a significant effect on flood management in their area. The list includes who owns the structure and what state of repair it is in

LLFA	IDB
• As Lead Local Flood Authority a supervisory role in relation to ordinary watercourses, surface water and groundwater – Local Strategy • Permissive powers to undertake flood risk management work for surface water and groundwater flooding · • Powers to regulate activities by others on ordinary watercourses – outside IDB areas • Duty to investigate flooding to the extent it deems appropriate to determine which authority has relevant powers • Emergency response • Controlling the impact of new development on flooding through the planning process	• Permissive powers to undertake flood risk management work on viewed rhynes (Viewed Rhynes are Ordinary Watercourses (both open or culverted) that undertake a significant function in the drainage or irrigation of an area) • Viewed Rhynes are maintained by the Board on a regular or infrequent basis. The Board undertakes its consenting and enforcement powers on all rhynes. The Board designates watercourses as Viewed Rhynes by Board resolution. • Land drainage and water management for agricultural benefit • Powers to regulate activities by others on ordinary watercourses within their area • Powers to make and enforce bylaws for securing the drainage of land • Land Drainage Consent

2.4 Canal and River Trust (CRT)

Founded in 2012, the Canal & River Trust (CRT) is the UK's largest canal charity, caring for a 2,000-mile network of canals and navigable rivers. Connecting many of the UK's urban and rural areas, they provide essential spaces for wildlife and people.

CRT are responsible for maintaining and managing the canals, embankments, culverts and reservoirs within their waterways network. This includes the bridges, locks and towpaths along these routes.

2.5 Water Company (Wessex Water)

Responsible for responding to flooding from public foul and surface water sewers.

2.6 Highway Authority (Somerset Council)

- Responsible for responding to flooding incidents affecting the highway
- Maintenance of bridges and culverts under the highway
- Power to discharge surface water from the highway into adjacent ditches and watercourses
- Generally, not responsible for ditches alongside the highway

2.7 Regulatory Context

Since 2021, there have been legislative changes that support the need to work together to leverage the opportunities presented. In 2021, the government published supplementary guidance to HM Treasury Green Book on Enabling a Natural Capital Approach (ENCA) for policy and decision makers to help them consider the value of a natural capital approach.

The Environment Act (2021) has introduced targets related to overflows and wastewater treatment which means that managing surface water and removing it from the sewerage network will be required. The Act provides a framework to do this using sustainable methods with a low carbon footprint and benefit biodiversity and place. This is reinforced in:

- National Flood and Coastal Erosion Risk Management (FCERM) Strategy for England (June 2022)
- The National Infrastructure Commission's Recommendation on Surface Water Flooding (November, 2022)
- The Government's review of the benefits and impacts of making sustainable drainage systems (SuDS) a legal requirement for new developments (January, 2023)
- The Government's Environment Improvement Plan (January, 2023).

2.8 Regulatory Authorities

The local planning authority (LPA) has a role in approving new development. In this role they are required to consult with others, including Lead Local Flood Authority (LLFA) and in some circumstances the Environment Agency (EA), Canal and River Trust and any Internal Drainage Board (IDB).

The LLFA is the statutory consultee for all developments with surface water drainage. The Environment Agency is the statutory consultee (as stated in the Development Management Procedure Order 2015) for:

> *Development involving the carrying out of works or operations in the bed of, or within 20 metres of the top of a bank of, a main river which has been notified to the local planning authority by the Environment Agency as a main river for the purposes of this provision Development, other than minor development, which is to be carried out on land:*
>
> *(i) in an area within Flood Zone 2 or Flood Zone 3; or*
>
> *(ii) in an area within Flood Zone 1 which has critical drainage problems, and which has been notified to the local planning authority by the Environment Agency*

LLFA's will also consult with the Environment Agency with regards to the risks to groundwater and any potential contamination from proposed infiltration techniques (i.e., Source Protection Zones etc.).

If discharging to a drainage system maintained/operated by others (IDBs, Highway Authority, LLFA, Canals and River Trust, other landowners) and/or crossing third party land to discharge to a drainage system off-site, written evidence of consultation and the acceptability of any discharge to their systems should be sought. Additionally, Wessex Water will need to see an indication of the proposed ownership of assets across the site, whether the developer is to retain ownership or have parts of the system adopted under a S104 agreement.

Any Land Drainage Consents and/or EA Flood Risk Activity Permits that may be required as part of the proposals must be provided to the planning authority.

Wessex Water have developed infiltration reduction plans for areas at risk of groundwater infiltration into sewers and drains. They have produced maps which show infiltration consultation areas. Higher risk areas require consultation for all types of development and lower risk areas require consultation for developments of 10 or more properties. The maps can be viewed via their Drainage and Wastewater Management Plans portal.

2.8.1 Permissions & Consents

Whenever carrying out maintenance to watercourses and ditches, you must ensure that the works that you undertake are legal. There are permissions that should be sought by developers or riparian owners wishing to undertake works on, adjacent or over the watercourses/ culverts or for any proposed new discharges into these waterbodies. The table below provides the key regulatory authority to apply for such consents:

Waterbody	Consent Required	*Regulatory Authority*
Main River **(including Culverted Watercourses)**	Flood Risk Activity Permit Environmental Permit	*Environment Agency*
	Land Drainage Consent	*Internal Drainage Board*
Non-Main River/ Ordinary Watercourses **(including Culverted Watercourses)**	Land Drainage Consent	*Lead Local Flood Authority (Somerset Council)*
Viewed Rhynes **(including Culverts)**	Land Drainage Consent	*Internal Drainage Board*
Surface Water Drainage **SuDS**	Planning Approval (Drainage Strategy and Discharge)	*Lead Local Flood Authority* *Internal Drainage Board (within a board area)* *Wessex Water*
	Adoption	*SuDS Approval Board (SAB) – pending* *Wessex Water* *Highways Authority*
Foul Drainage	Adoption Agreements and Consents to Discharge	*Wessex Water*
Canal	Consents to Discharge Mooring Permits	*Canal & River Trust*

General maintenance as set out in **Section 4: Watercourse Management** is unlikely to break the law, however some activities do require permissions or consent:

1. **Altering the watercourse** If you wish to alter the route, shape or capacity of the watercourse (whether open or piped) so as to change the flow or you wish to build near a watercourse, you are likely to require permission from the regulating body and/or the relevant landowners.

2. **Waste Management** In some cases ditch spoil or removed invasive species can be categorised as Hazardous Waste. Environment Agency Licenses or Exemptions may be required, so if in doubt please check with your relevant Environment Agency Office before progressing.

3. **Safety** Personal and volunteer safety is crucial, it is essential that potential risks are assessed prior to work beginning.

4. **Private property** Get permission from the landowner/s before going onto private property.

5. **Reducing flood risk** Whilst increasing channel capacity and improving flow can lead to land upstream draining faster it can cause flooding downstream. Increased flows can also lead to bank erosion and more silt entering the watercourse and this is why consent for these works is often required.

   Whenever undertaking maintenance works to watercourses, landowners should ensure that any vegetation, debris or silt that has been removed from the watercourse does not end up back in the flow of the watercourse. Care should also be taken to ensure that any disturbed debris does not end up flowing downstream and causing problems for other landowners.

6. **Tree Protection** You must check with your local planning authority to ensure there are no Tree Preservation Orders (TPOs) on the trees you are planning to carry out works on.

7. **Wildlife** If protected species have been recorded in your watercourse you must also ensure their habitats are not destroyed, bearing in mind that you must also ensure the free flow of water in the watercourse that you are responsible for. If you are in any doubt at all as to the presence of species which are protected, please seek advice before carrying out any works.

2.9 Riparian Responsibilities

A riparian owner is the person, or people, with watercourses on, next to or under their property. A watercourse is classed as a ditch, channel, culvert, stream or river that conveys water. It should be noted that some watercourses are winterbourne, which means that they are dry for most of the year but are crucial for conveyance of water during the wetter months.

Riparian owners have the responsibility for maintenance of these watercourses. These responsibilities are set out in law in the Public Health Act 1936, the Land Drainage Acts of 1991 & 1994, the Water Resources Act 1991 and some local Land Drainage Bylaws

Watercourses drain the land, prevent flooding and assist in supporting flora and fauna. Historically, watercourses have taken water runoff from buildings and roads, as well as fields and parks. In the process of development many have been culverted (piped) or changed in other ways. In normal conditions a watercourse may be a dry channel in the ground; in heavy storm conditions it may become a raging torrent.

Watercourses do not include public sewers but it could be in a pipe under the ground.

Riparian responsibilities usually lie with the person who owns the land or property but may be the tenant depending upon the agreement in place.

If you own land or property next to a river, stream or ditch you are a 'riparian landowner'. Your rights as a riparian landowner have been established in common law for many years, but they may be affected by other laws.

- If your land boundary is next to a watercourse, it is assumed you own the land up to the centre of the watercourse, unless it is owned by someone else.

- If a watercourse runs alongside your garden wall or hedge you should check your property deeds to see if the wall or hedge marks your boundary. If the watercourse marks the boundary, it is assumed you own the land up to the centre of the watercourse. ·

- If you own land with a watercourse running through or underneath it, it is assumed you own the stretch of watercourse that runs through your land.

The role of riparian owner (the owner of land containing or adjoining a watercourse) is generally not fully understood and in some cases riparian owners may not even be aware that they have responsibilities.

Riparian owners have the right to:

- Receive flow of water in its natural state, without undue interference in quantity or quality;
- To protect their property against flooding from the watercourse and to prevent erosion of the watercourse banks or any nearby structures;
- To fish in the watercourse, provided legal methods are used. A rod licence will usually be required from the Environment Agency;
- Abstract a maximum of 20 cubic metres of water per day for the domestic purposes of their own household or for agricultural use (excluding spray irrigation) without a license.

Riparian owners have a responsibility to:

- Pass on flow without obstruction, pollution or diversion affecting the rights of others.
- Accept flood flows through their land, even if caused by inadequate capacity downstream.
- Maintain the bottom and sides of the watercourse (including trees and shrubs growing on the banks.
- Remove any obstructions and clear any debris, natural or otherwise, even if it did not originate on their land.

- Maintain any structures (such as trash screens, culverts, weirs and mill gates) on the watercourse.

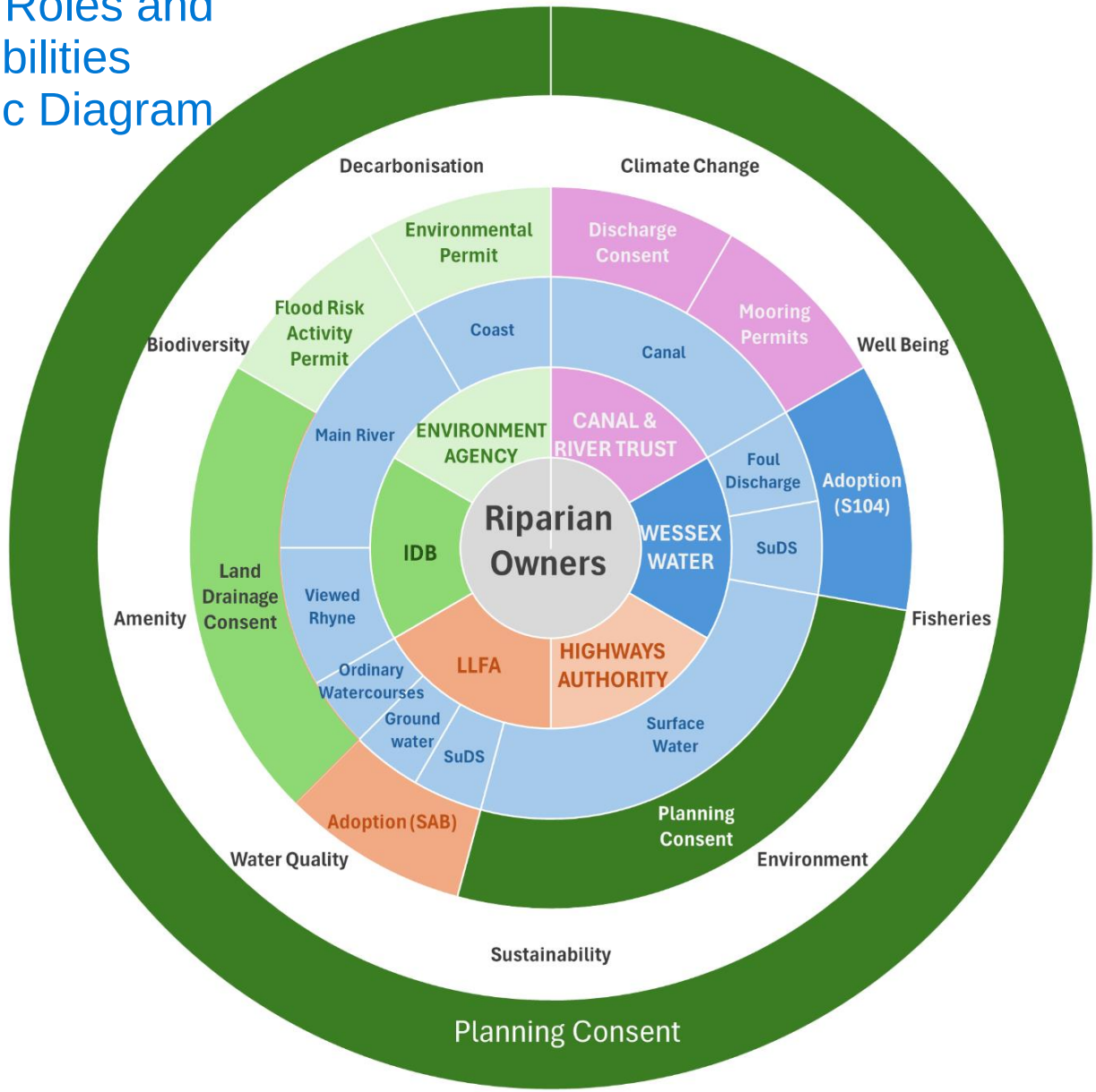
Whilst riparian owners are under no common law duty to clear a watercourse that becomes silted or obstructed through natural causes, under statute law (**S25 of the Land Drainage Act 1991**) the EA, LLFA or IDB's may require and enforce them to carry out such works. **Section 4** provides an overview of good Watercourse Management practices and is to act as a guide for riparian owners who may not be aware of their responsibilities.

The engagement of a Riparian Officer to develop an engagement and communication strategy for continued effective maintenance of the watercourses will ensure that these important assets are looked after into the future. In addition, they may be able to identify blockers to continued maintenance (i.e. access issues) that could be supported by the regulatory stakeholders (such as Somerset Council or the Environment Agency) to ensure that riparian owners have the capability to fulfil their responsibilities.

It is worth considering that not all riparian owners can deliver their riparian responsibilities due to age or infirmity. Opportunities to work with voluntary groups should be sought as they may be able to carry out works on behalf of the riparian owner. This links into the Community Engagement Piece within the Taunton Waterways Design Guide.

Figure 2 hopes to provide a more overarching view of the key responsibilities and roles within the waterways of Taunton. At the heart are the riparian owners who have ultimate responsibility for the maintenance and management of the waterways, ditches and culverts that drain the catchment.

Figure 2: Roles and Responsibilities Schematic Diagram



3 Taunton Catchment Overview

3.1 Introduction

Fluvial flooding in the Upper Tone is relatively limited. This reflects the relatively small and steep watercourses which dominate the area. Recent flooding in this sub-area has been strongly driven by local surface water problems, exacerbated by changes to land management practices which have increased field run-off locally and a reduction in maintenance across the catchment.

Downstream of Wellington, flood risk is primarily along river corridors within a defined floodplain. Functioning floodplains provide a natural storage area with very little modification to the River Tone itself. Some villages, such as Hillfarrance, benefit from a Flood Alleviation scheme.

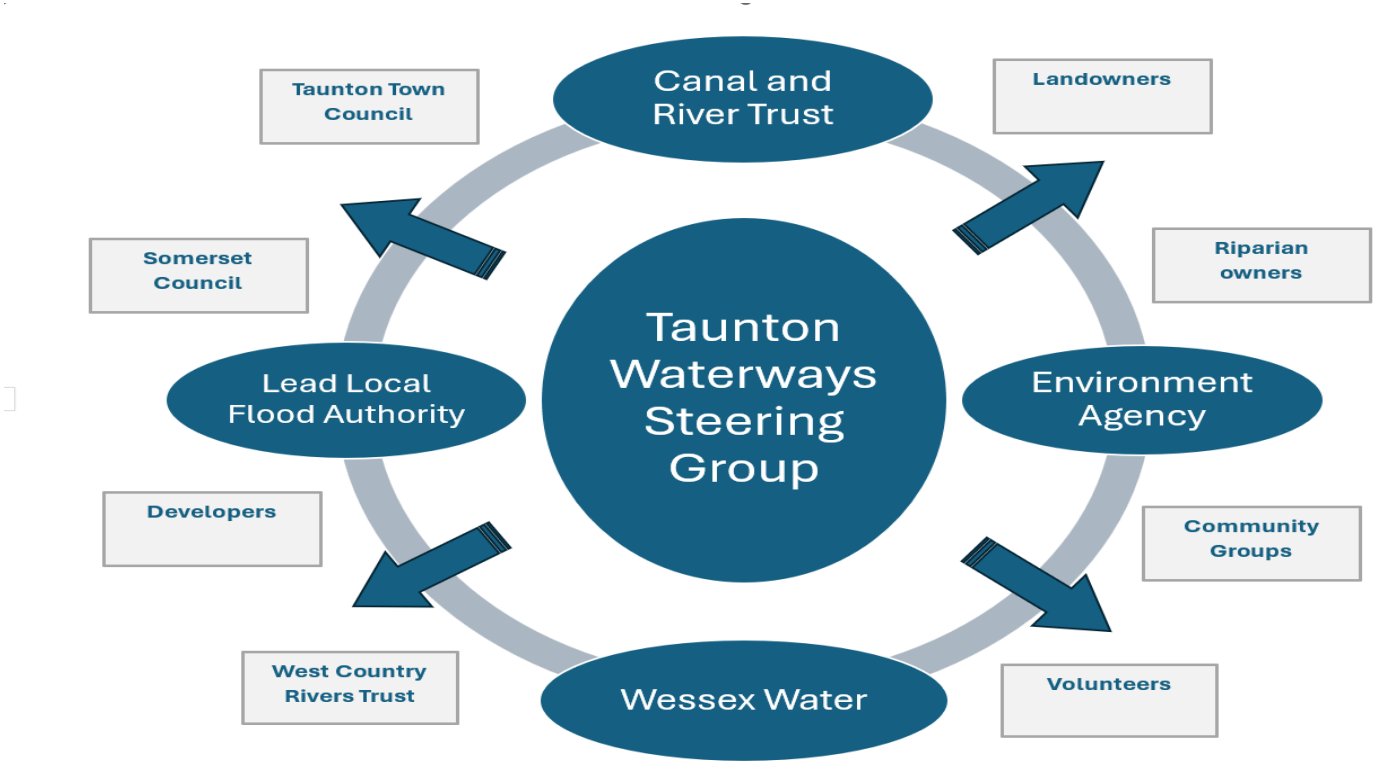
Historically flooding in Taunton has been dominated by the River Tone. In the 20th century the 1960 flood event was the most severe, reported to have flooded nearly 500 properties in the town. In response to this flooding the Taunton flood defence scheme was constructed in the 1960s and the scheme was further upgraded in the 1990s. Since the scheme was built in the 1960s there have been no major flood events in Taunton although the defences were tested in October 2000.

Most of the remaining flood risks in Taunton are related to tributary flooding. It is a fast-responding catchment with very little water storage due to artificial modification of the watercourse and adjacent floodplain plus the culverting of watercourses to make space for development. Blockage risk is increased within the urban areas due to rubbish being discarded together with silt and debris build up. The risk of flooding has also increased by the loss of alternative waterways and storage in the valley floor, growth on the riverbanks and loss of capacity due to silting or unconsented works. Without a proper maintenance regime these assets quickly reduce in capacity limiting the ability for the wider catchment to drain down into the River Tone.

The Taunton and Bridgwater canal is 23.33km (14.5 miles) in length, passes through the unique lowland areas of Somerset, many parts of which have been designated as Sites of Special Scientific Interest. The canal became one of the first canals to commercially carry water when Wessex Water needed more capacity during the summer months (Durleigh Reservoir). Wessex Water reached a commercial agreement with the then National Rivers Authority (now the Environment Agency) and British Waterways to pump water from the canal to Durleigh. The canal itself maintains its level with water from the River Tone at Firepool Lock, which is its link to navigation from the River Tone.

3.2 Current Maintenance Regime

The current maintenance regime along the waterways through Taunton is limited. **Figure 3** gives an overview of the parts of the waterways that are maintained by the Environment Agency and Canal and River Trust at the current time. This does not take account of any highways or gully maintenance that maybe undertaken by Somerset Council or any PROW/ footpath maintenance. It can be seen from this map that large parts of the catchment are not currently receiving regular maintenance, particularly in the upper tributaries of the River Tone which receive reactive maintenance only at the moment. There is also no guarantee that the current maintenance arrangements will continue in perpetuity and so a framework for the future maintenance of these important assets needs to be developed over the next 5 years lead by a Steering Group made up of the key Risk Management Authorities (RMAs) as set out below:



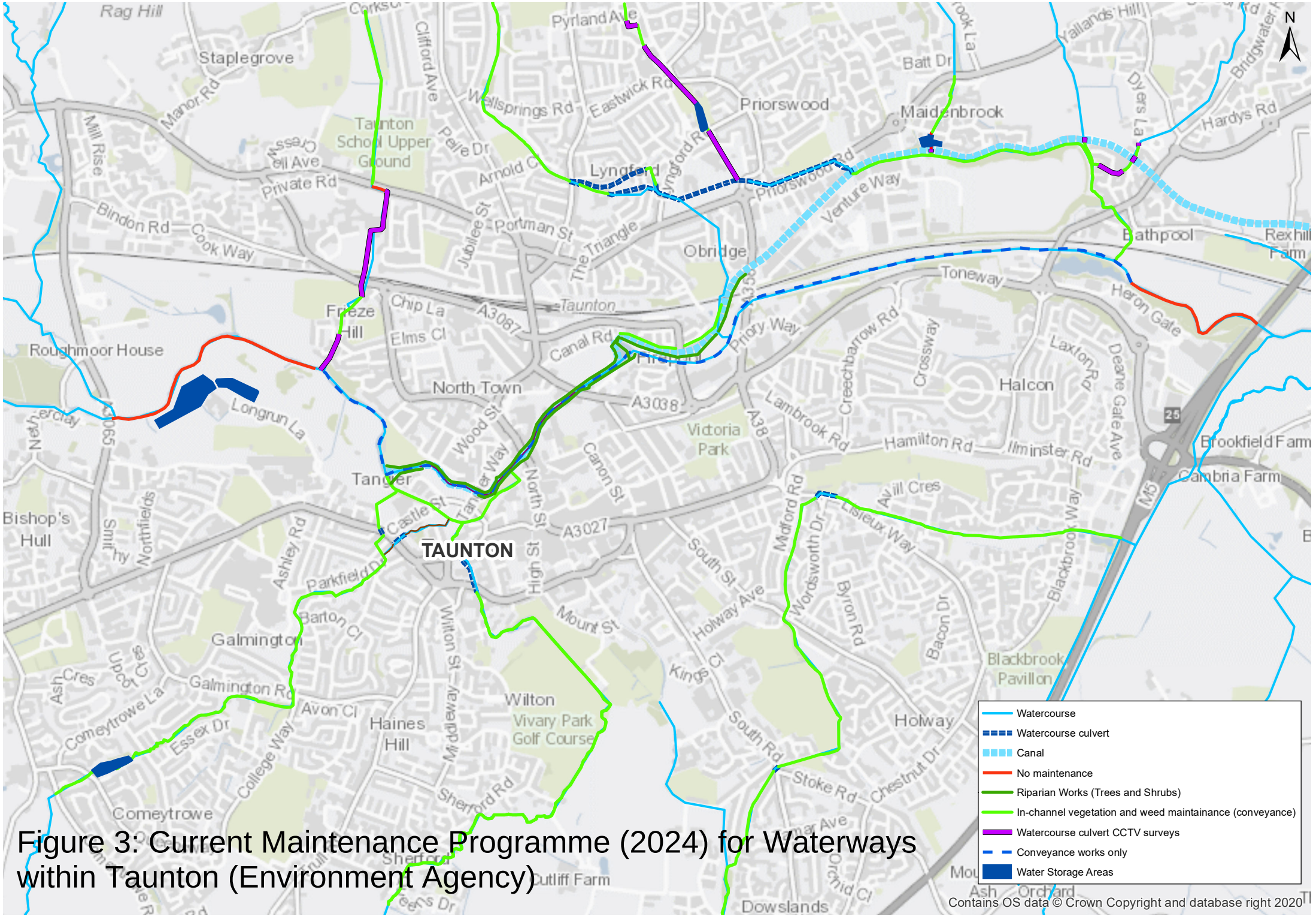


Figure 3: Current Maintenance Programme (2024) for Waterways within Taunton (Environment Agency)

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Critical Ordinary Watercourses (COWs)

Following the widespread flooding in 1998, the Government investigated methods of identifying watercourses most likely to flood properties and sought also to clarify responsibility for those watercourses. They have been called Critical Ordinary Watercourses (COWs). For watercourses to be classified as 'critical' they have to pose a risk of flooding to the equivalent of 25 properties in any one-kilometre stretch.

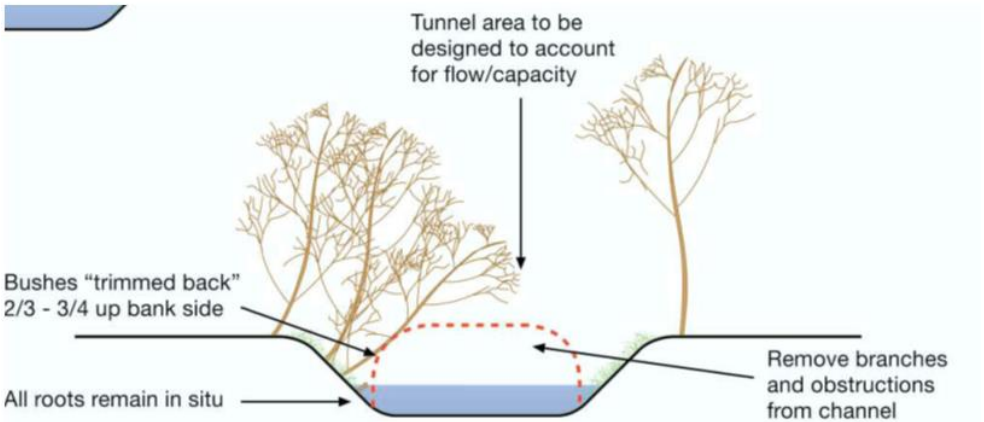
COWs are a subdivision of ordinary watercourses, certain flood risk responsibility for which was assumed by the Environment Agency. The transfer of 1,800 watercourses has now been completed in three phases (1 November 2004, 1 April 2005, and 1 April 2006).

The 'Main River' extent of all the tributaries flowing into the River Tone in Taunton (those within the Environment Agency powers) currently receive a hand cut **once a year** between **November to March** (to avoid nesting birds). The diagram shown indicates the maintenance protocol for these sections.

The upper reaches of these tributaries should be maintained to a similar standard within the urban landscape but once in the more rural landscape then maintaining planted buffer strips, allowing large woody debris to slow the flow and reconnection of floodplain should be encouraged.

Work specification for all Taunton Cows Hand cuts

Hand cut in channel maintenance as per **Tunnel cut diagram**



All waste to be left on river bank above high water mark, where access allows, chip woody debris and leave wood chips on bank.

Non vegetation waste on council owned land i.e. shopping trolleys to be left on bank and reported to council litter hotline 01823 356456 for their removal.

Culverts

The Environment Agency inspect the culverted watercourses to the north of the River Tone through Taunton with visual inspection at the upstream and downstream ends and CCTV surveys where deemed necessary. This can range from annually to once every 8 years depending on the risk rating of the culvert. Reactive maintenance is carried out when a blockage is reported.

Whist the majority of culverts are classified as "main river" and the Environment Agency exercises its powers to undertake maintenance, there are other culverts on ordinary watercourse which do not attract the same level of inspections/maintenance.

A structure is usually a Somerset Council asset if it measures **900mm x 900mm** or greater and is the responsibility of the **Bridges & Structures** team. This responsibility includes the de-silting of the culvert when the build-up of silt is considered to adversely increase the flood risk.

De-silting will only be carried out once both upstream and downstream riparian owners have desilted their sections of the watercourse to a distance equal to the length of the culvert, in this above instance this would be 10m. This is necessary to ensure a flow to increase and encourage silt to flow on. If this de-silting were not carried out and the silt in the culvert were cleared, then the culvert would simply silt back up i.e. it would act as a catch-pit.

Trash Screens

The Environment Agency carry out routine maintenance of screens within the maintenance areas identified. This involves removal of debris and vegetation to allow the water to flow freely through the screen. When heavy rain is forecast, screens are checked and monitored throughout a flooding event where areas are deemed to be at high risk.

Fly tipping and litter is reported to the local authority to action.

Roadside ditches

The riparian owner of any ditches alongside roads is normally the adjoining landowner, as the highway boundary invariably lies along the top of the bank closest to the road. Adjacent owners should not carry out work on the ditch, which would interfere with the waterflow or restrict road surface water draining into it.

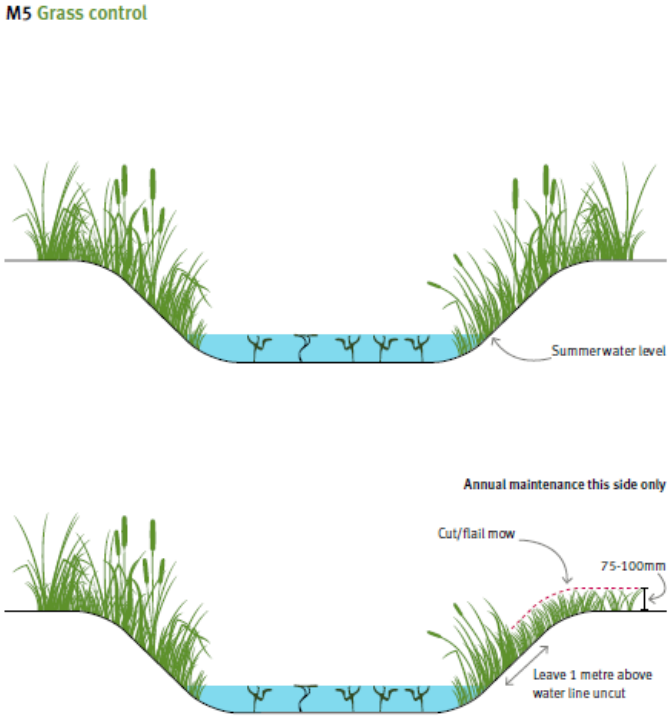
Although Somerset Council in its role as the Highway Authority has the right to discharge rainwater from the highway into these ditches, the landowner is responsible for maintaining it. However, if the Council has created or piped the ditch under their Highway powers, they become responsible for its maintenance.

When the condition of a ditch is causing flooding on a highway it will be the Council that may take action.

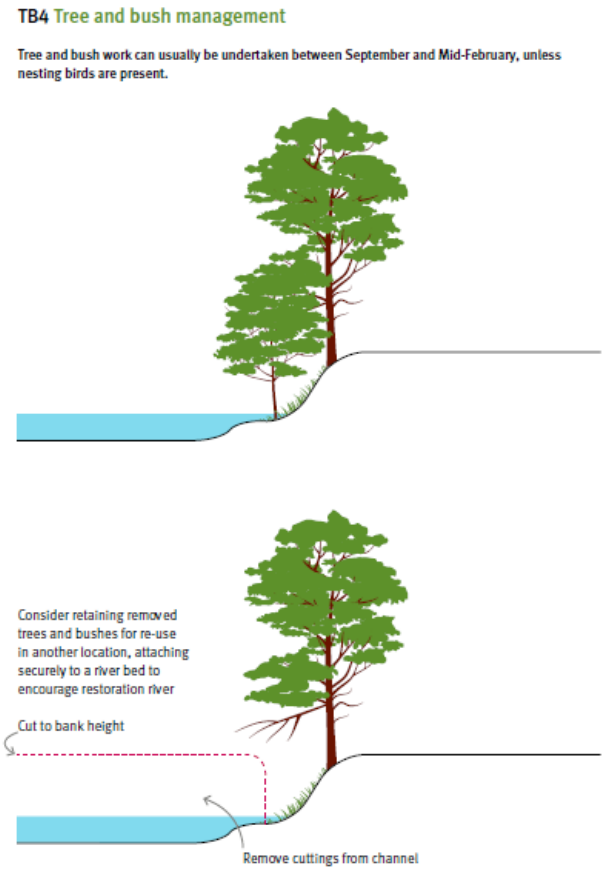
Main River

The River Tone through Taunton is difficult to access along the banks due to the proximity of development. There are access slipways periodically, although there is one (on the northern bank by Lidl) that is in accessible due to heavy siltation and vegetation growth.

Maintenance generally consists of hand cutting vegetation via boat or using a long reach pole from the river's edge (where possible). This is carried out on alternate banks on alternate years. If accessibility along the river's edge were improved (i.e. reinstatement of the riparian 8m buffer strip) these maintenance works could be undertaken more safely and more efficiently with a tractor and flail.



Grass cutting in this manner is possible between Childrens Wood and accommodation bridge (Wickes roundabout) and the Environment Agency undertake this maintenance 5 times a year to maintain river conveyance through this section. If this area is to be retained for a different purpose (nature and habitat) then a different maintenance regime would be required.



The Table below provides an overview of the Current Maintenance Actions and the Key Issues in each Character area.

Character Area	Current Maintenance Action	Responsibility	Key Maintenance Issues
1. Longrun Meadow	This is an area that does not currently receive any planned maintenance due to limited flood risk. Riparian owners are usually asked to manage any maintenance requirements i.e., fallen trees.	Riparian Owner	* Siltation raises bed level * French Weir Structure * Access for maintenance is limited * Bank erosion * Culverted tributaries (north) prone to blockage and localised flooding * Phosphates and potential contaminants within silt
2. French Weir Park/ Tangier	The **Environment Agency** currently clear any debris that makes it onto French Weir but otherwise no maintenance is undertaken.	Riparian Owner	* Siltation raises bed level * 2 Sluice Structures * Mill Stream * Bridge Crossings * Access for maintenance is limited due to development close to waters edge * Engineered banks (riprap) require inspection and repair * Tributaries to the south * Phosphates and potential contaminants within silt * Structural stability of waterside buildings * Service pipes crossing the river
3. Firepool/ Morrisons	Shrub and tree clearance of the banks/ walls along the watercourse is carried out on alternate banks on alternate years by the **Environment Agency**.	Riparian Owner	* Siltation raises bed level * Outfalls and Culverts prone to blockage * Bridge Crossings * Access for maintenance is limited due to development close to waters edge * Engineered banks (riprap) require inspection and repair * Phosphates and potential contaminants within silt * Structural stability of waterside buildings

Character Area	Current Maintenance Action	Responsibility	Key Maintenance Issues
4. Firepool Weir	None Sluices are maintained and operated by the Environment Agency Lock Gates and Sluices to the Canal are maintained and operated by CRT Inspection and Repair are the key activities	Riparian Owner Environment Agency CRT	* Siltation raises bed level * Firepool Weir and Sluices * Bridge Crossings * Access for maintenance is limited due to development close to waters edge * Engineered banks (riprap) require inspection and repair * Phosphates and potential contaminants within silt * Structural stability of waterside buildings
5. Riverbank walk/ Nature Reserve	The **Environment Agency** currently undertake some grass cutting (5 times a year) and tree and shrub clearance works (annually and as needed) between Childrens Wood and the M5**.** They also keep the outfalls clear where the tributaries to the north discharge into the River Tone.	Riparian Owner	* Nature Reserve * Tree Management * Invasive Himalayan Balsam is unmanaged * Northern and Southern tributaries discharge into the river (4 No.)
6/7. Canal	The **Canal and River Trust** mow the towpath banks annually and employ a local boat owner to undertake offside vegetation clearance.	Canal and River Trust (CRT)	* Siltation raises bed level and limits navigation * Offside vegetation clearance difficult (boat only) * Bridge Crossings * Phosphates and potential contaminants within silt * Lock Gates and Sluices * Moorings

Land Management

Land use and land management practices are also a key factor in the management of silt and phosphate entering the waterways of Taunton through surface water runoff. This relies on effective interventions in the wider catchment, specifically along the tributaries that eventually discharge into the River Tone.

FWAG Southwest have been working with landowners within the catchment to alleviate these issues (refer to the green triangles indicated on the Figure 4 below) and to promote nature-based solutions but there is still work to be done longer term.

Navigation

Navigation and water travel routes through Taunton are largely hindered by raised bed levels due to siltation and the presence of water level control structures and low bridges. No desilting works are currently undertaken on the watercourses or canal. However, any changes required for improved navigation will have to be rigorously tested to ensure that it does not detrimentally impact ecology, flood risk and waterside structures/ buildings.

Riparian Maintenance

There appears to be a lack of awareness of riparian responsibilities, particularly in the urban environment where often homeowners with land or property adjacent to a water feature are unaware of their management responsibilities or do not have the capabilities to fulfil their responsibilities. In Section 4 of this Guidance we have provided some key information on these responsibilities and the requirements for fulfilling these responsibilities.

Combined Sewer Overflows (CSOs)

Storm overflows are part of an older type of sewer system called a combined sewer system. These sewer systems carry both surface water (rainwater from roof gutters, patios, driveways and some highways) and foul water (waste from homes and industry) together in one pipe. The combined sewage is then transported to a water recycling centre to be treated.

During a storm event, heavy or prolonged rainfall can rapidly increase the flow in a combined sewer and cause it to become overwhelmed. Storm overflows are designed to release this excess stormwater into rivers or the sea to prevent sewer flooding. The Environment Agency is responsible for river and bathing water quality and it regulates intermittent discharges from storm overflows through environmental permits. The main polluting load of the contents of a sewer should flow to the treatment centre, allowing very dilute sewage to overflow when the sewer capacity is exceeded (refer to Figure 4 for CSO locations).

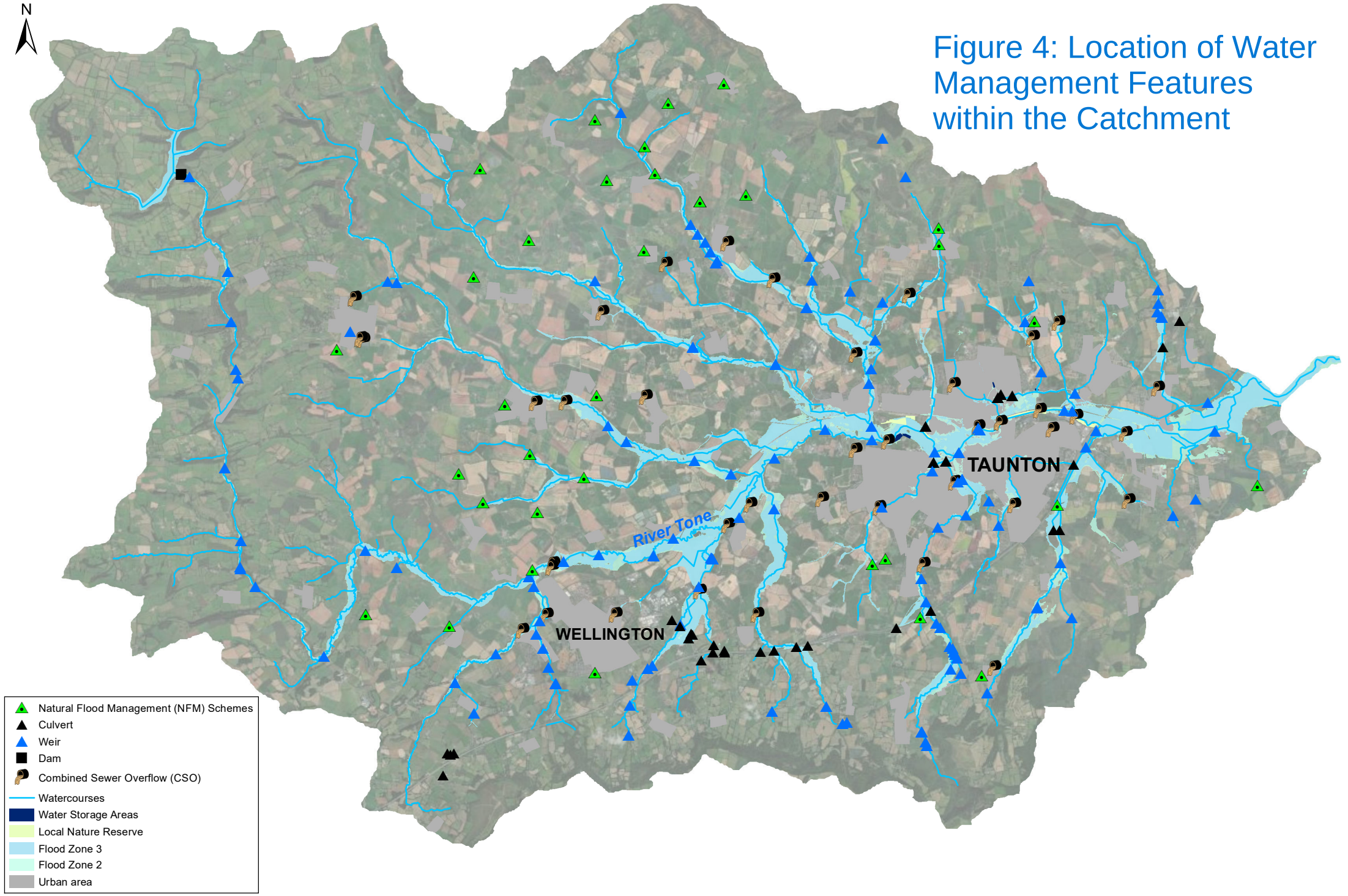

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Figure 4: Location of Water Management Features within the Catchment
TAUNTON
WELLINGTON
River Tone
Natural Flood Management (NFM) Schemes
Culvert
Weir
Dam
Combined Sewer Overflow (CSO)
Watercourses
Water Storage Areas
Local Nature Reserve
Flood Zone 3
Flood Zone 2
Urban area

3.3 Access and Easements

The development of Taunton must allow **free, safe, and easy access** (including easements where required) for all personnel, vehicles and machinery required to undertake maintenance of the waterways and SuDS features. No building, fencing or other obstructions shall be placed within the easement zone or access routes and these shall remain free of vegetation and debris/ sediment:

Water body	Easements	Access	Responsibility
Main Rivers	8m riparian buffer strip should be retained along both sides of the River. New developments should retain an 8m buffer along the waterside	Slipways for boat access.	Riparian Owner/ Landowner
Ordinary Watercourses	8m riparian buffer should be retained along at least one bank of the watercourse.	Through gated fields, residential gardens and along footpaths.	Riparian Owner/ Landowner
Canal	8m along tow path bank	Via roads and footpaths onto towpath. Via boat to the offside bank	Canal and River Trust
Culverts	2m exclusion zone either side of a culvert	Manholes, inlets and outlets	Riparian Owner/ Landowner

Particular care must be taken to ensure that easy access to components which are at greater risk of becoming clogged or blocked, such culverts and outfalls and retained. This can most easily be achieved by managing water close to the surface and de-culverting where feasible to do so. There are key areas that we have identified that could benefit from this change on regime referenced in **Section 3.4**

Any developments progressed in Taunton will require easements to ensure rights of access to maintain and manage the waterways. Plans will need to be submitted that indicate all the proposed access routes for maintenance and operation (including the SuDS features within the site). These routes will need to ensure that access routes are suitable for the machinery required to undertake maintenance and that appropriate surfacing is provided where necessary.

All existing fluvial and surface water flow routes and proposed exceedance flow routes (up to a 1 in 200-year event) must be identified and these routes must be protected and maintained as part of any new development scheme coming forward in the town.

A minimum **2m wide exclusion zone** shall be provided either side of these routes, prohibiting any building/ fencing/ landscaping within these areas – particularly where they pass through private land. This must be made clear to residents within documentation forming part of the property purchase. These routes should be monitored through regular inspections as part of the maintenance plan.

Access for maintenance of Culverts needs to be reviewed as part of the Asset Database project being undertaken by the LLFA. This will determine whether additional access points might be required for effective and safe inspection and maintenance of these features.

3.4 Future Maintenance Opportunities

The maintenance and management of the waterways through Taunton is complex as there are often competing objectives along similar stretches of river and there is a need to be compliant with legislation whilst minimising risks. Maintenance responsibilities and activities are also dependent on the intended use of each space which may change and evolve over time as Taunton expands and develops. However, there remains some key issues that need to be addressed in the future for the longevity of the waterways:

1. Control the spread of Himalayan Balsam and other non-native invasive species;
2. Land use change and land management change to reduce sediment loss within Taunton and in the wider catchment;
3. Natural Flood Management Interventions to reduce trash screen blockages downstream;
4. Regular inspection and removal of blockages to outfalls and culverted watercourses;
5. Development of an integrated asset inspection and maintenance plan for Taunton utilising outputs from the Surface Water Management Plan and the Asset Database Project (being led by the LLFA 2024/25). Including identifying 'lost' assets, SuDS assets and assigning responsibilities for ongoing maintenance of these;
6. Education and Promotion of Riparian Responsibilities through local community initiatives;
7. SuDS adoption by Wessex Water/ SuDS Approval Board for surety of long-term maintenance and management of new SuDS on new developments. SuDS to be inspected during construction and then maintained regularly upon completion;
8. Improved access for river maintenance/structure inspection and repair/culvert inspection and maintenance.

Below is a table summarising the key day to day Maintenance Actions required across all waterways and **Sections 3.4.1 to 3.4.6** go into more detail on specific recommended actions within each Character Area for consideration, review and future action.

Maintenance costs in tables in **Section 3.4.1 onwards** are based on hourly rates of £39 (which includes plant and materials supplied by the Environment Agency) for 2022/2023. The overall expenditure for the system which includes the River Tone through Taunton and upstream to Bradford on Tone and its tributaries (see **Figure 3**) for 2022/2023. This is comparable with the maintenance rates for other Risk Management Authorities.

General River Basin Maintenance

Types of Maintenance	Maintenance Requirements	Responsibility	Conflicts/Issues	Powers
River Vegetation Management	Tree and bush management (for ensuring integrity of hard flood defences), weed cutting.	Riparian Landowner	Compliance with legislation e.g. CrOW Act, Salmon and Freshwater Fisheries Act 1975. Amenity value, swimmers, kayakers and other boat owners.	RMA
Offside Canal Vegetation Management	Tree and Bush Management on both banks Weed cutting	Canal and River Trust	Access Compliance with legislation	CRT
Canal Towpath Vegetation Clearance	Grass cutting (4 times a year)	Canal and River Trust	Compliance with legislation	CRT
Invasive Species	Removal of Himalayan Balsam, Floating Pennywort, Parrots Feather	Riparian Landowner	Floating vegetation can cause blockages = Flood Risk	RMA
River Conveyance (including de-silting)	Tree and bush management (for ensuring maximum conveyance capacity), fallen trees, blockage removal, silt removal	Riparian Landowner	Compliance with legislation e.g. CrOW Act, Salmon and Freshwater Fisheries Act 1975. Amenity value, swimmers, kayakers and other boat owners. Release of stored Phosphates in any Sediment removed – disposal?	RMA

Types of Maintenance	Maintenance Requirements	Responsibility	Conflicts/Issues	Powers
Riverbank Erosion (Longrun Meadow)	Planting along the edges to stabilise soils and minimise loss	Riparian Landowner	Compliance with legislation Flood Conveyance Amenity value, walkers.	
Navigation	Weed removal, de-silting, bankside vegetation for access, asset maintenance	Canal and River Trust/ EA (if they are the navigation authority)	Compliance with legislation Amenity value, swimmers, walkers, kayakers and other boat owners. Lack of skilled volunteers Phosphate mobilisations (silts)	CRT/EA
Culverted watercourses	Annual inspection and repairs where required Regular silt removal/blockage removal	Riparian Landowner	Compliance with legislation including disposal of any material removed. Landowner knowledge of responsibilities poorly understood	EA/LLFA
Reopening of Culverts (Capital Works)	Identify opportunities to open up culverted watercourses	Riparian Landowner/EA	Landowner concerns over increased maintenance.	N/A
Syphons	Silt removal, blockage removal, integrity of culvert on land in their ownership.	Riparian Landowner/ CRT/ EA	Compliance with legislation including disposal of any material removed.	EA/LLFA
Footpaths PROW	Vegetation clearance for access. Repairs to surface or other assets	Riparian Landowner/Highways Agency??	Compliance with legislation Amenity value, walkers.	N/A

Types of Maintenance	Maintenance Requirements	Responsibility	Conflicts/Issues	Powers
Cycleways	Vegetation clearance for access. Repairs to surface or other assets	Landowners/Somerset Council/ other bodies i.e Parish Councils/Sustrans	Compliance with legislation Amenity value, walkers/cyclists.	N/A
Amenity Spaces	Vegetation clearance for access and amenity (grass cutting). Repairs to surfaces and assets depending on the amenity space	Somerset Council/Private/Parish Council	Compliance with legislation including Health and Safety.	N/A
Water Control Structures	Routine inspection and maintenance of assets including any repairs/ maintenance beyond routine works.	Riparian Landowner (the part that is affixed to the ground)	Compliance with legislation. Amenity value if work is of a duration where members of the public are impacted.	EA/LLFA
Attenuation Ponds/ Flood Storage Areas	Routine inspection and maintenance of assets including any repairs/ maintenance beyond routine works. Desilting and vegetation management Inlet/ Outlet Inspection and clearance of debris/ silt	LLFA/ Environment Agency/ Riparian Owner	Compliance with legislation including disposal of any material removed	EA/LLFA
SuDS (Sustainable urban Drainage Systems)	Routine inspection and maintenance of assets including any repairs/ maintenance beyond routine works.	Developer/Contractor (for 12 months after completion of scheme) Wessex Water/ SuDS Approval Board (SAB)	Compliance with legislation. Amenity value if work is of a duration where members of the public are impacted.	SAB

Types of Maintenance	Maintenance Requirements	Responsibility	Conflicts/Issues	Powers
Highway Drainage (SuDS)	Routine inspection and maintenance of assets including any repairs/ maintenance beyond routine works.	Unclear depending on agreements	Compliance with legislation. Amenity value if work is of a duration where members of the public/road users are impacted.	N/A
Surface water drainage features (pipes/ ditches)	Pipes: routine inspection and maintenance (jetting) including any repairs/ maintenance beyond routine works. Ditches: vegetation clearance, desilting, remove litter/obstructions	Riparian Landowner/ Wessex Water/ Highways	Compliance with legislation. Amenity value if work is of a duration where members of the public/road users are impacted.	N/A
Habitat Creation	On going maintenance	To be agreed between landowner and organisation delivering the work	Compliance with legislation. Re wilding or species introductions are topical but divisive and needs to be well planned, information provided and executed	N/A
Access Routes (for waterways maintenance)	Ensure access is kept clear of vegetation and/or obstructions	Riparian Landowner	Public use Amenity users New Development	EA/LLFA
Public Access Routes	Ensure routes remain clear Vegetation Clearance Inspection and resurfacing	Somerset Council/ Town Council	Maintenance Access	N/A

Types of Maintenance	Maintenance Requirements	Responsibility	Conflicts/Issues	Powers
BNG Sites	Sites need to be monitored and managed for 30years	Developers/ Somerset Council	Flood Conveyance Surface Water Management	SC
Access Bridges	Annual Inspection and Repair	Somerset Council/ Riparian Landowner/ Town Council/ CRT (canal only)	Navigation Flood Conveyance	N/A

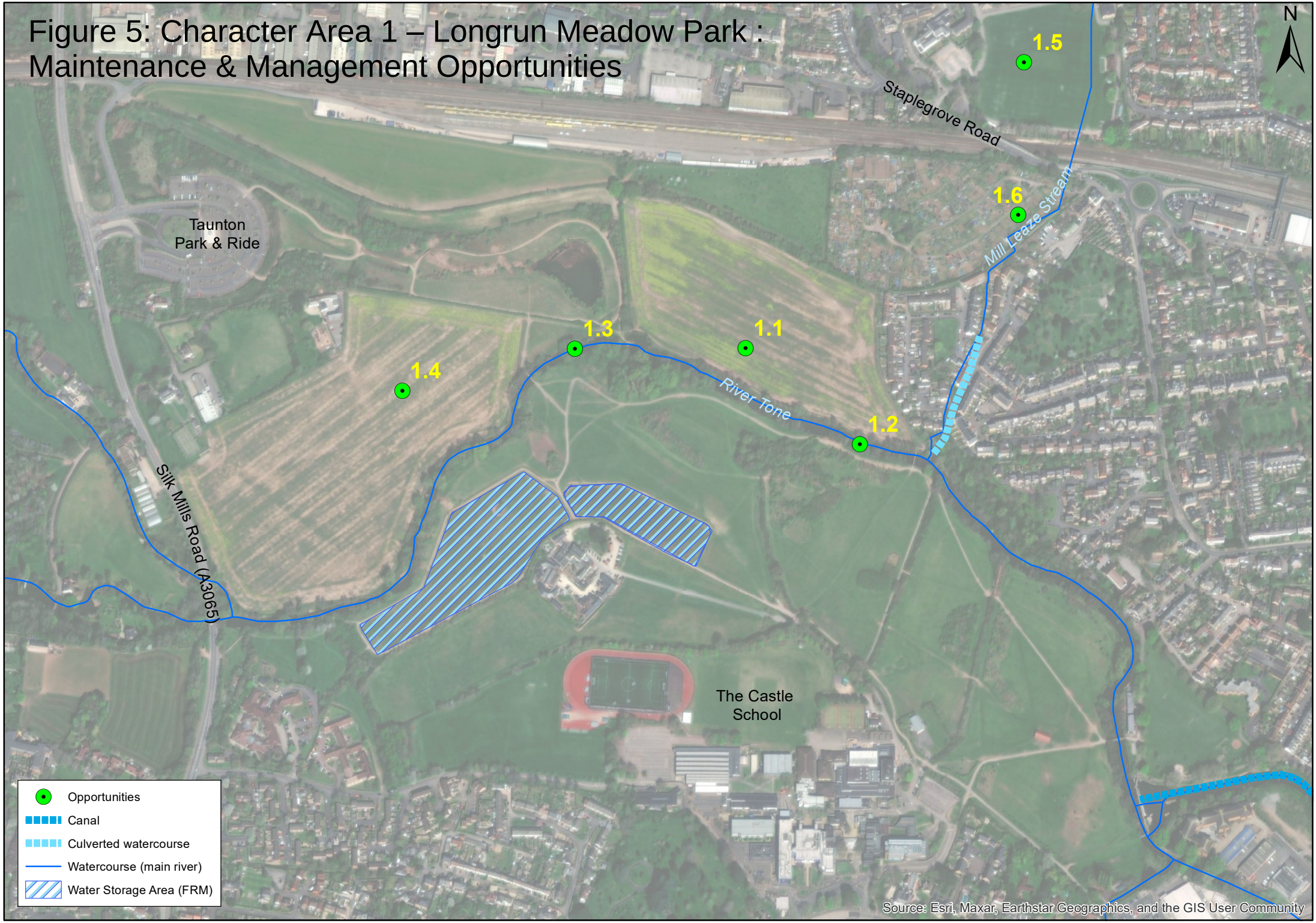


Figure 5: Character Area 1 – Longrun Meadow Park : Maintenance & Management Opportunities
N
1.5
Staplegrove Road
1.6
Mill Leaze Stream
Taunton Park & Ride
1.3
1.1
1.4
River Tone
1.2
Silk Mills Road (A3065)
The Castle School
Opportunities
Canal
Culverted watercourse
Watercourse (main river)
Water Storage Area (FRM)
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

3.4.1 Character Area 1 – Longrun Meadow Park

Reference	Description & Key Benefits	Actions Required	Cost	Funding Source
1.1	Floodplain reconnection and storage Reduction of sediment load in the river and loss of soil. Stripping phosphates (left bank land)	Feasibility, modelling, community, landowner and partner engagement. Capital investment	Competitive tender for feasibility and modelling - **£50k** Construction **£250k**	○ ELMS ○ SRA ○ Somerset Council (if it aligns with their climate change strategy) ○ Green Recovery Challenge Fund ○ Trees for Water
1.2	Allow trees to naturally block the watercourse to create fish refuge and reconnect water to floodplain. Would need to manage risk of mobilisation of tree to downstream structures. Consider tethering fallen trees.	Maintenance	**£10k**	○ Riparian owner ○ EA (if it reduces cost in removing trees and limbs from French Weir) ○ ELMS (reconnecting floodplain payments) ○ Green Recovery Challenge Fund
1.3	Increase Bank stability, reduction in loss of soil, bank material and silt load in river material.	Feasibility, modelling, community, landowner and partner engagement. Capital investment	Competitive tender for feasibility and modelling - **£50k** (if added to 1.1, cost would be reduced) Construction **£1000k** (if added to 1.1, costs would be reduced)	○ Riparian Owner ○ ELMS (could be linked to 1.1 as a larger project) ○ SRA ○ Somerset Council (if it aligns with their climate change strategy)

Reference	Description & Key Benefits	Actions Required	Cost	Funding Source
1.4	Floodplain reconnection and storage Land use change to reduce loss of soil and phosphate stripping.	Feasibility, modelling, community, landowner and partner engagement. Capital investment	Competitive tender for feasibility and modelling - **£50k** Construction **£250k** (if added to 1.1 and 1.3 costs would be reduced)	○ Riparian Owner ○ ELMS (could be linked to 1.1 and 1.3 as a larger project) ○ SRA ○ Somerset Council (if it aligns with their climate change strategy) ○ Green Recovery Challenge Fund ○ Trees for Water
1.5	Reopening culvert reducing blockage risk and deformation of culvert. Reduces maintenance costs Creation of outdoor classroom Potential school project	Engagement with school	**£100k** including landscaping	○ Riparian owner. ○ EA if it meets its fisheries improvement plan ○ Wessex Water Foundation ○ Green Recovery Challenge Fund
1.6	Reopening culvert reducing blockage risk and deformation of culvert. Creation of a nature park and improved habitat. (The downstream end of the culvert has been lined in the last 5 years - funded by the EA- following a flood event and survey of its condition)	Engagement with Town Council Feasibility, modelling, community, landowner and partner engagement. Capital investment	**£100k** including landscaping	○ Riparian owner. ○ EA if it meets its fisheries improvement plan ○ Wessex Water Foundation

Figure 6: Character Area 2 – Waterside Living (French Weir Park and Tangier Site Maintenance & Management Opportunities

3.4.2 Character Area 2 – Waterside Living (French Weir Park and Tangier Site)

Reference	Description & Key Benefits	Actions Required	Cost	Funding Source
2.1*	Eradication of **highly invasive species*** resulting in removal/ failure of flood risk assets and increasing biodiversity.	Maintenance	**£5k** annually for 5 years	○ EA ○ Riparian owner ○ Somerset Council ○ Green Recovery Challenge Fund
2.2	Flood Risk reduction, improved water quality and habitat from improved silt\soil management and land-use change.	Maintenance • Desilting • Buffer strips to minimise soil loss • Creation of a two-stage channel ("normal flow" channel size and a "high flow" channel to maximize conveyance of flood flows.	**£10k** plus allowance for future maintenance (every 5 years)	○ Riparian owner ○ EA ○ Local businesses
2.3	Education	Engagement with communities	**£25k** Dedicated staff time from one organisation	○ SRA – riparian officer ○ EA ○ Somerset Council ○ Green Recovery Challenge Fund ○ Wessex Water Foundation
2.4	As 2.2, with opportunities to use bank protection measures such as willow spiling, meandering channel, rock islands etc.	Maintenance	Competitive tender for feasibility and modelling - **£50k** Delivery – **£150k** including landscape	○ Riparian owner ○ EA ○ Local businesses ○ Green Recovery Challenge Fund ○ Trees for Water

Reference	Description & Key Benefits	Actions Required	Cost	Funding Source
2.5	As 2.2	Maintenance Capital investment	Competitive tender for feasibility and modelling - **£50k** **£250k** for any potential improvements	○ Riparian owner. ○ EA ○ Wessex Water Foundation ○ Green Recovery Challenge Fund
2.6	Improved water access for maintenance of the waterways (improvements to existing slipway)	Feasibility, community, landowner and partner engagement. Capital investment	Competitive tender for feasibility - **£30k** (if added to other similar locations cost would be reduced) Construction **£100k** (if added to other similar locations cost would be reduced)	○ Local Council Funding ○ S106 Funding ○ CRT ○ Wessex Water Foundation.

* **Highly Invasive Species**

Knotweed can infiltrate concrete and can grow from a tiny fragment of the plant. Once established it is extremely time consuming and costly to eradicate and can seriously compromise the effectiveness of flood defence structures to continue to deliver flood risk reductions.

Himalayan Balsam competes with native plant species for space, light, nutrients and pollinators, and excludes other plant species, thereby reducing native biodiversity. It also leaves bare patches of earth in winter when erosion can take place on flood banks

Giant Hogweed also leaves banks prone to erosion but contains sap which can burn the skin. Particularly dangerous when found next to footpaths or other publicly accessible areas.

Other invasive species with the potential to increase flood risk or deliver detriment to the environment include Azolla, Floating Pennywort, Australian Swamp stonecrop and Parrots Feather

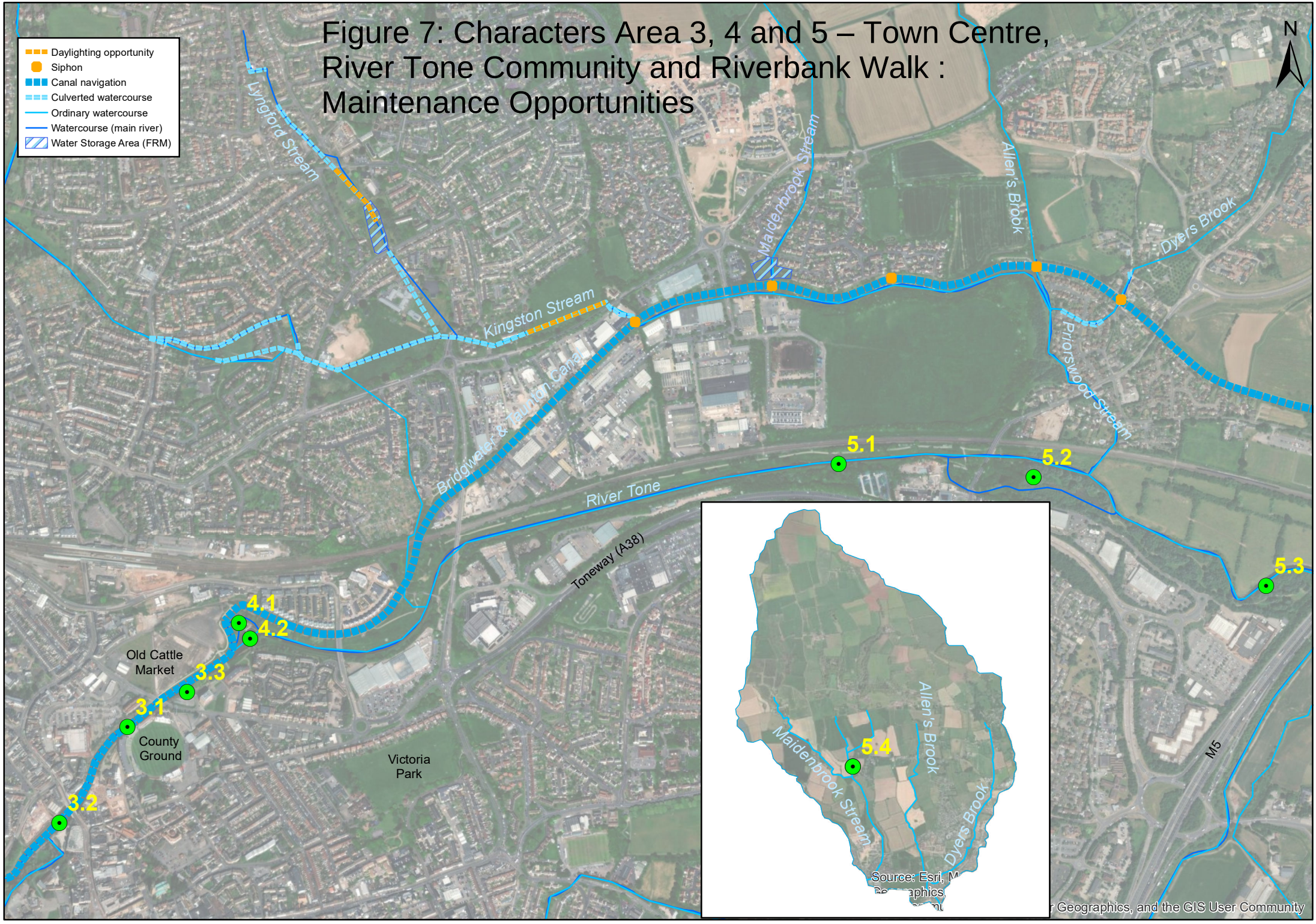


Figure 7: Characters Area 3, 4 and 5 – Town Centre, River Tone Community and Riverbank Walk : Maintenance Opportunities
Daylighting opportunity
Siphon
Canal navigation
Culverted watercourse
Ordinary watercourse
Watercourse (main river)
Water Storage Area (FRM)
N
Lyngford Stream
Kingston Stream
Maidenbrook Stream
Allen's Brook
Dyers Brook
Priorswood Stream
Bridgwater & Taunton Canal
River Tone
Toneway (A38)
M5
5.1
5.2
5.3
4.1
4.2
3.3
3.1
3.2
Old Cattle Market
County Ground
Victoria Park
5.4
Source: Esri, M
Geographics, and the GIS User Community

3.4.3 Character Area 3 – Town Centre (Firepool and Morrisons)

Reference	Description & Key Benefits	Actions Required	Cost	Funding Source
3.1	Reduction of silt within channel Visual improvement but little flood risk reduction benefit unless upstream soil runoff is managed	Feasibility, modelling, community, landowner and partner engagement. Capital investment	Competitive tender for feasibility and modelling - **£75k** Delivery – **£1000+k** (could include 3.2 below)	○ Local Council Funding ○ EA if it meets its fisheries improvement plan ○ DEFRA Water Environment Investment Fund (WEIF) ○ Nature Recovery Network (including local involvement of local businesses)
3.2	Increase velocity by adapting the channel cross section to scour silt and create some planting. Continue this through the town centre area by creating a in channel sinuous channel. This could have dual benefits of improved ecology and improved navigation.	Feasibility, modelling, community, landowner and partner engagement. Capital investment	Competitive tender for feasibility and modelling - **£75k** Delivery – **£1000+k** (could include 3.1. above)	○ Local Council Funding ○ EA if it meets its fisheries improvement plan ○ DEFRA Water Environment Investment Fund (WEIF) ○ Nature Recovery Network (including local involvement of local businesses)
3.3	Improved water access for maintenance (improvements to slipway)	Feasibility, community, landowner and partner engagement. Capital investment	Competitive tender for feasibility - **£30k** (if added to other similar locations cost would be reduced) Construction **£100k** (if added to other similar locations cost would be reduced)	○ Local Council Funding ○ S106 Funding ○ CRT ○ Wessex Water Foundation

3.4.4 Character Area 4 – River Tone Community (Firepool Weir)

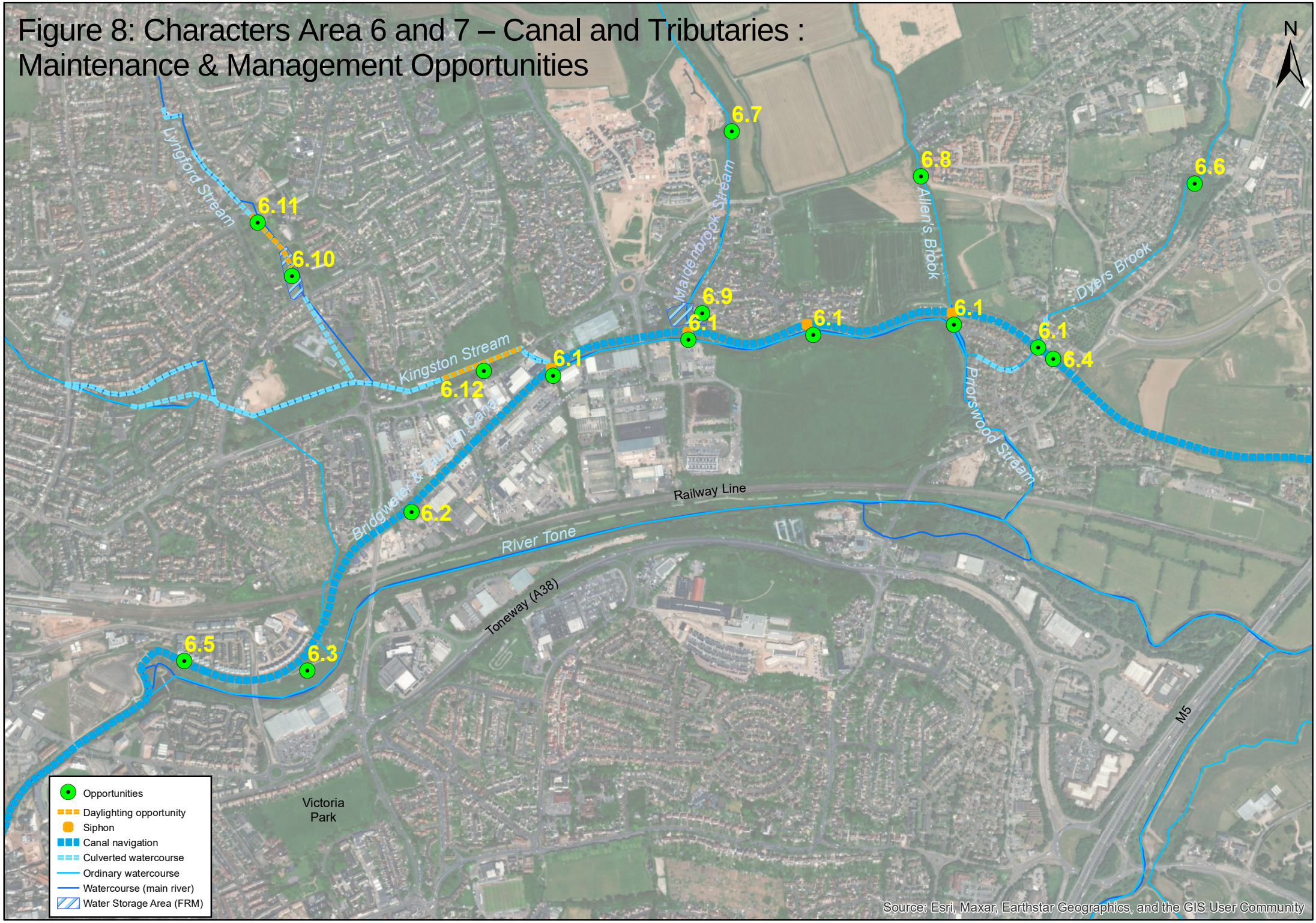
Reference	Description & Key Benefits	Actions Required	Cost	Funding Source
4.1	Dissipate sediment build up around the Canal lock gates to allow onward navigation Visual improvement but little flood risk reduction benefit as Firepool weir is a silt trap	Feasibility, modelling, community, landowner and partner engagement. Capital investment	Competitive tender for delivery – **£100+k** (could include 3.1 and 3.2 in Character area 3)	○ Local Council Funding ○ EA if it meets its fisheries improvement plan ○ DEFRA Water Environment Investment Fund (WEIF) ○ Nature Recovery Network (including local involvement of local businesses) ○ CRT
4.2	Improve and formalise launching facilities for small craft and maintenance access	Feasibility, community, landowner and partner engagement. Capital investment	Competitive tender for feasibility - **£30k** (if added to other similar locations cost would be reduced) Construction **£100k** (if added to other similar locations cost would be reduced)	○ Local Council Funding ○ S106 Funding ○ CRT ○ Wessex Water Foundation

3.4.5 Character Area 5 – Riverbank Walk/ Nature Reserve

Reference	Description & Key Benefits	Actions Required	Cost	Funding Source
5.1	Increasing biodiversity (Hogweed and Himalayan Balsam) Ensuring flood banks have a good sward with no bare patches for erosion to take place	Maintenance	**£5k** annually for 5 years	○ EA ○ Riparian owner ○ Somerset Council ○ Green Recovery Challenge Fund
5.2	Reduce flood risk, increase flood storage capacity in existing storage areas. Improve biodiversity Community area improvements	Feasibility, community, landowner and partner engagement. Capital investment	Competitive tender for feasibility - **£50k** Construction **£200k**	○ Riparian owner ○ Local Council Funding ○ S106 Funding ○ Wessex Water Foundation
5.3	Reduced flood risk. Improve bank stability. Reduce loss of land. Removal of existing structures to re-naturalise the channel	Feasibility, community, landowner and partner engagement. Maintenance	Competitive tender for feasibility - **£10k** (if added to 5.2 cost would be reduced) Could be run as a test and trial project to assess optimum benefits	○ Riparian owner ○ Local Council Funding ○ S106 Funding ○ Wessex Water Foundation ○ EA

Reference	Description & Key Benefits	Actions Required	Cost	Funding Source
5.4	Flood risk reduction utilising existing infrastructure (attenuation ponds). Land management change and Natural Flood Management Opportunities (Slow the Flow).	Feasibility, community, landowner and partner engagement Capital investment	Competitive tender for feasibility and optimum location of interventions - **£100k** Construction **£250k**	○ SRA ○ Riparian owner ○ Local Council Funding ○ S106 Funding ○ Wessex Water Foundation ○ Works already considered by FWAG with local Parish Council

Figure 8: Characters Area 6 and 7 – Canal and Tributaries : Maintenance & Management Opportunities



3.4.6 Character Area 6 -7 – Canal

Reference	Description & Key Benefits	Actions Required	Cost	Funding Source
6.1	Syphon Inspection and Maintenance/ Repair Flood risk reduction. Improved conveyance.	Maintenance: Increased inspections, (due to be inspected by the Environment Agency in 2024 but may need more work / maintenance thereafter) community, landowner and partner engagement.	**£5k** per syphon	○ Riparian owner ○ CRT ○ EA
6.2	Improve mooring and navigability. Improved conveyance especially for water supply. Some Flood risk reduction (if canal is used to convey flood water in an extreme flood event)	Maintenance: Desilting. The middle channel should be navigable but the edges are generally too shallow for mooring at the moment.	Depending on method of removing silt ○ dig and dump is at less than **£10 a cubic metre** ○ offsite removal of dredged material is up to **£100 a cubic metre**	○ CRT (part funding) ○ Local Council Funding ○ S106 Funding ○ Wessex Water Foundation
6.3	Improved access for canal users	Maintenance Training for volunteers Tools	**£5k** – training budget and tools	○ CRT (part funding) ○ Local Council Funding ○ S106 Funding ○ Wessex Water Foundation

Reference	Description & Key Benefits	Actions Required	Cost	Funding Source
		Community, landowner and partner engagement		
6.4	Improved Access for canal users All except the Outwood bridge (downstream of M5) are Highway Authority Bridges. Need to consider whether they need to swing to allow paddlers under and if not consider if launch areas are needed and if portage is possible.	Inspections and Monitoring Maintenance Community engagement including local volunteer groups	**£1k per bridge** for annual *inspection and monitoring*. **£1k per bridge** for *annual maintenance* (routine) **£10k per bridge** for *10-year maintenance* (non-routine)	○ CRT (part funding) ○ Local Council Funding ○ S106 Funding ○ Wessex Water Foundation
6.5	Improved conveyance and storage. Reduction in flood risk	Maintenance	**£5k** for vegetation management Desilting (if required) Depending on method of removing silt ○ dig and dump is at less than **£10 a cubic metre** ○ offsite removal of dredged material is up to **£100 a cubic metre**	○ Riparian owner ○ Local Council Funding ○ S106 Funding ○ CRT ○ Wessex Water Foundation ○ SRA

Reference	Description & Key Benefits	Actions Required	Cost	Funding Source
6.6	Flood Risk Reduction improved water quality and habitat	Feasibility Community, landowner and partner engagement.	Competitive tender for feasibility - **£50k** Construction **£200k** depending on number of locations	○ Riparian owner ○ Local Council Funding ○ S106 Funding ○ Wessex Water Foundation ○ SRA ○ EA (NFM)
6.7	Natural Flood Management Opportunities (slow the flow) Improved conveyance and storage. Reduction in flood risk Improved water quality and habitat	Feasibility Community, landowner and partner engagement.	Competitive tender for feasibility - **£50k** Construction **£200k** (may be more due to vicinity of old tip site)	○ Riparian owner ○ Local Council Funding ○ S106 Funding ○ Wessex Water Foundation ○ SRA ○ EA (NFM) ○ National Trust
6.8	Improved storage. Reduction in flood risk Improved water quality and habitat	Feasibility (increased size) Maintenance (design status quo) Community, landowner and partner engagement.	Competitive tender for feasibility - **£50k** Desilting (if required) Depending on method of removing silt ○ dig and dump is at less than **£10 a cubic metre** ○ offsite removal of dredged material is up to **£100 a cubic metre**	○ Riparian owner ○ Local Council Funding ○ S106 Funding ○ Wessex Water Foundation ○ SRA ○ EA (NFM)

Reference	Description & Key Benefits	Actions Required	Cost	Funding Source
6.9	Natural Flood Management Opportunities (slow the flow) Improved storage and enhanced scheme. Reduction in flood risk Improved water quality and habitat Reduce blockage risk	Feasibility (increased size) Maintenance (design status quo) Community, landowner and partner engagement.	Competitive tender for feasibility - **£50k** Desilting (if required) Depending on method of removing silt o dig and dump is at less than **£10 a cubic metre** o offsite removal of dredged material is up to **£100 a cubic metre**	o Riparian owner o Local Council Funding o S106 Funding o Wessex Water Foundation o SRA o EA (NFM)
6.10	Reopening culvert reducing blockage risk and deformation of culvert. Creation of a nature park and improved habitat.	Engagement with Town Council Feasibility, modelling, community, landowner and partner engagement. Capital investment	Competitive tender for feasibility - **£50k** **£100k** including landscaping	o Riparian owner. o EA if it meets its fisheries improvement plan o Wessex Water Foundation o SRA
6.11	Reopening culvert reducing blockage risk and deformation of culvert. Creation of a nature park and improved habitat.	Engagement with Town Council Feasibility, modelling, community, landowner and partner engagement. Capital investment	Competitive tender for feasibility - **£50k** **£100k** including landscaping **£50k** for trash screen	o Riparian owner. o EA if it meets its fisheries improvement plan o Wessex Water Foundation o SRA

Reference	Description & Key Benefits	Actions Required	Cost	Funding Source
6.12	Natural Flood Management Opportunities (slow the flow) Reopening culvert reducing blockage risk and deformation of culvert. Reduction in Flood risk Improved water quality and habitat Reduce blockage risk	Feasibility (for changes) Community, landowner and partner engagement.	Competitive tender for feasibility - **£50k** **£100k** including landscaping	○ Riparian owner ○ Local Council Funding ○ S106 Funding ○ Wessex Water Foundation ○ SRA ○ EA (NFM)

A commission for all the feasibility under one project would provide significant savings as would delivery of work. This could be driven by the LLFA Asset Database Collation and the Surface Water Management Plan that is being developed by the LLFA and Wessex Water and be fed in through the proposed '**Taunton Waterways Steering Group'**.

4 Watercourse Management

4.1 Introduction

Keeping a watercourse well maintained benefits the community. If an area experiences constant flooding, this becomes a nuisance to the community, can restrict access to property, makes everyday living difficult, and results in considerable expense and inconvenience for those that have been flooded. If a flood has occurred, as a direct result of a landowner not carrying out their riparian responsibilities to properly maintain their watercourses, that landowner could be liable for compensating any damage that occurs.

If a watercourse is carefully maintained, it can create an excellent habitat for wildlife. In certain areas, watercourses are home to the Water Vole, a nationally protected species. Careful planning, such as trimming alternate banks of the watercourse each year to remove obstructive vegetation allows landowners to help fulfil their riparian responsibilities, whilst enhancing the environment. This approach allows wildlife to migrate to opposite sides of the watercourse each year, rather than be forced to leave the watercourse totally.

This section of the guidance is aimed at riparian owners rather than statutory organisations with flood risk management responsibilities, but the same general principles will apply.

4.2 Open Channel Maintenance

The principles of keeping a watercourse well maintained are very simple and the basic responsibility is to ensure “the proper flow of water” by preventing any obstructions. You should also ensure that it doesn’t attract vermin or cause a health hazard.

4.2.1 Keep growth of vegetation under control

When trimming vegetation, it is important to consider any impact on biodiversity. Mowing of banks around ditches should be minimised during the fish spawning season of March to mid-July.

- Some trees may have tree protection orders (TPOs) on them so if in doubt check with your local planning authority.
- It is recommended to cut only up to just above the water level on one side of the watercourse, leaving the fringe of the bank uncut, thereby maintaining some habitat as well as enabling a free flow of water in the ditch.

- Cuttings from any clearance work should be removed from the channel to avoid it causing blockages downstream. Putting removed material too close to the top of the bank can lead to it falling back in during times of flooding.

It's worth noting that you don't always have to remove all vegetation to allow water to flow. In fact keeping some vegetation can be beneficial for wildlife and to prevent erosion. Large tree roots and dense vegetation are the main problems.

4.2.2 Keep watercourses free of debris

This should be carried out all year round and includes litter, grass cuttings, and fallen trees and branches.

- Remove any physical obstructions such as large rocks, rubble, fallen trees and branches and other waste materials (litter, grass cuttings etc) so that water can flow freely. ·
- All non-organic waste should be completely removed off site and disposed of in an appropriate manner.
- Any green waste resulting from the maintenance of ditches can be left a safe distance from the bank for a few days to allow any organisms to move back into the watercourse, after which the green waste should be removed so it doesn't wash back into the watercourse.
- Ensure that any disturbed debris does not end up flowing downstream and causing problems for other landowners.

Do not store anything alongside the watercourse which may interfere with maintenance, affect the stability of the bank or get washed into the channel.

4.2.3 Remove excess silt

Silt naturally builds up in watercourses as vegetation dies back each year. It can quickly reduce the capacity of a watercourse or block pipes into or out of the watercourse.

- Silt should be removed along the length of the ditch to ensure it flows properly in the right direction.
- If there are any pipes into or out of the ditch you should remove silt to the same level or below the bottom of the pipe(s).
- Where possible, try to maintain the original slope and cross section of the ditch when de-silting. If the slope of the ditch is altered it can change the flow pattern, cause erosion or increase flood risk either upstream or downstream.

As long as the silt is non–hazardous you can put it on the bank of the watercourse. Depositing silt on top of the banks of the watercourse allows for any organisms to move back into the ditch. However;

- It is essential that this material does not then block any other ditches or nearby roads, or stop water draining into the ditch if it would normally do so (eg from higher ground into the ditch)
- The silt must be deposited as close as possible to where it was dredged from either:
    - on the bank of the waters from where it was taken; or
    - on land directly next to the watercourse.

If you think that the material may be hazardous – for instance if it may contains oils or other waste – please see guidance online for methods of disposal https://www.gov.uk/guidance/d1-waste-exemption-depositing-waste-from-dredging-inland-waters or contact the Environment Agency for advice.

4.3 Culvert Maintenance

Piped or 'culverted' watercourses are prone to blockage or collapse and will degrade over time. Where they naturally silt up they can be difficult to access and clean. Cleaning the inside of a culvert is likely to cost more than carrying out maintenance of an open watercourse, due to the specialist equipment required to access it.

Blockages within the pipe or at the pipe entrance can cause flooding problems. These blockages can be reduced by regular inspection and the removal of debris.

- A qualified drainage company should carry out regular inspections and clear any blockages or silt build up as soon as they occur. There are many drainage companies that can inspect and clear culverts.
- Culvert entrances and exits often have protective grilles to prevent debris entering the pipe and causing blockages. These should be inspected and cleared regularly, especially during the winter or periods of heavy rainfall when debris can accumulate very quickly.
- The design of screens must be agreed with Somerset Council or Environment Agency and permission given prior to installation, as poorly designed screens can cause an obstruction themselves.
- Health and Safety must be your top priority when carrying out culvert maintenance and you should never enter any large culvert without seeking advice.

In some urban areas it can often be difficult to access these culverts due to the nature of the development that has sprung up around and over these watercourses. IN some cases, there are no manhole entrances to enable inspection and maintenance to occur. In these instances, advice should be sought from the regulatory authorities as to how access and ongoing maintenance should be facilitated. This may require the installation of additional manholes in locations that ensure easy and safe access.

For culverted watercourses, specialist tools may be needed to jet clean or rod the culvert to clear blockages or to carry out inspections using camera surveys. It is therefore likely that landowners will need to appoint a specialist drainage company/contractor to carry out maintenance.

4.4 Invasive Species

Some vegetation and animal species are non-native and considered invasive. Invasive non-native plants are species which have been brought into the UK and have the ability to spread, causing damage to the environment, the economy, our health and the way we live.

If you have invasive plants or injurious weeds on your premises you have a responsibility to prevent them spreading into the wild or causing a nuisance. You must not plant or otherwise cause to grow in the wild any plant listed on schedule 9 of the Wildlife and Countryside Act 1981. Those frequently found alongside watercourses include:

- Himalayan Balsam
- Japanese Knotweed
- Giant Hogweed

More information on the identification of invasive species and their management can be found on the GB non-native species secretariat website: www.nonnativespecies.org

4.5 Maintenance Programme

It is far better to undertake minor works more regularly that remove clear obstructions to flow, than completely remove all vegetation and silt from the bed and banks of a watercourse in one go. Regular, minor works will leave healthy vegetation along the bed and banks of the watercourse. This is of importance to the water quality and the wildlife that lives in the watercourse.

Of course, if the watercourse has not been maintained for a long time then there may be no option but to undertake major works and this may need to be undertaken with a specialist contract firm with the necessary consents applied. If no riparian maintenance has been undertaken for some time it might be

beneficial for a flood risk management authority to facilitate works to get the area back to baseline condition to enable riparian landowners to then take on future standard maintenance works.

For all watercourses it is good practice to develop a programme that sets out how often you will carry out maintenance works. Most watercourses require annual maintenance to some degree and the best time to undertake works is in mid-Autumn in preparation for increased winter flows.

- Ensure that you undertake the majority of your clearance works after the vegetation has begun to die back in late September/October. At this time of year, there is also less likely to be wildlife nesting or breeding in or near ditches.
- You should try and carry out the works when the water level is at its lowest i.e. following low tide in tide locked areas or when there has been little rainfall.
- Plan your maintenance to ensure that stretches of habitat are left intact, for example by trimming alternate banks or lengths of ditch each year. This ensures that there is always a healthily vegetated area where wildlife disturbed by maintenance can move to without being forced to leave the ditches.
- If protected species have been recorded in your ditches you must ensure their habitats are not adversely affected. ·
- Trash / weed screens and grilles should regularly be checked all year round, but, especially at times of anticipated high flow.
- Debris in ditches should be removed as soon as it starts to build up.
- In culverted watercourses, your program should inspect the culvert for blockages or signs of collapse. If such problems are identified before a total obstruction to the watercourse occurs, it reduces the likelihood of flooding incidents. Many drainage companies will undertake jet cleaning or camera surveys within culverts at a cost, or you can rod the culverts to check for blockages

4.6 Health and Safety

When undertaking works within or adjacent to a watercourse, landowners must assess their works to ensure that they can be undertaken without putting themselves or others at any kind of risk. Due to the range of risks posed by both open and culverted watercourses, landowners should assess this on a case-by-case basis. In particular you should consider the risks posed by working:

- in deep silt or mud
- on slippery banks near water

- in/near deep or fast flowing water
- near roads
- with plant or machinery
- around culverts and enclosed spaces
- cutting down or working near trees

If in any doubt you should always seek advice. You should always make sure you follow these rules to help protect your health:

- Wear protective clothing such as gloves
- Cover any open wounds such as cuts and scratches with waterproof plasters
- Carefully clean any cuts or scratches obtained during the work near water
- Wash thoroughly and as soon as possible if you have entered the water
- See a doctor if you start to feel unwell after working near water

5 Surface Water Management Approach

Sustainable Drainage Systems (SuDS) offer an approach to drainage that mitigates the impact of new development on flood risk and builds our resilience to flooding. It also provides opportunities to remove pollutants from urban run-off at source, and combines water management with green space, with benefits for amenity, recreation and wildlife.

Early pre-application engagement will be necessary to ensure that drainage is considered at the earliest opportunity in the design layout. This will maximise the opportunity for a more integrated multi-functional approach to SuDS. Historically, drainage proposals have been vague at the outset of the planning approvals process and (largely due to pressures and complexities of site layout) are often not defined by developers until too late in the process. The consequence is that the use of SuDS is often not possible due to the fixing of site details for other reasons – layout of houses, roads etc.

When selecting SuDS components, the site opportunities and constraints need to be fully considered, it is the schemes that provide a combination of approaches that provide the best results and this is what Somerset Council will be looking for in any future development proposals. In so doing, it is then possible to ensure that the scheme is truly multi-functional and delivers the highest return for the developer and for the community, providing improved resilience and maximising efficiencies for maintenance and operation of the system.

Developers should aim to have all proposed SuDS features adopted by Wessex Water or the SuDS Approval Board (when it is initiated). This will ensure long term future maintenance and management of these important new assets. A 5 year maintenance plan should be provided as a minimum to ensure establishment of the surface water management system and adequate handover to the adopting authority.

Further Guidance on this is provided in the Taunton Design Guide. Wessex Water have a SUDS Adoption Guidance available to download from their website but there is no guidance for adoption through the SuDS Approval Board as this has yet to be confirmed by Government.

Appendix A - Policy context

This section provides an overview of relevant UK wide and local policy and guidance that has come in since 2017 when the Taunton Waterways Action Plan was produced. This is to provide context for the key drivers for the implementation of this Guidance and the desire to push for more natural drainage features and improved biodiversity for better water management across Taunton.

A Green Future: Our 25 Year Plan to Improve the Environment

A Green Future, the government's 25 Year Plan to Improve the Environment was published in January 2018 (DEFRA, 2018). It sets out what the government intends to do to improve the environment, within a generation. One of the 25-year goals is:

"*A reduced risk of harm from environmental hazards such as flooding and drought.*"

The plan includes the following targets:

"*We will reduce the risk of harm to people, the environment and the economy from natural hazards including flooding, drought and coastal erosion by:*

- *Making sure everyone is able to access the information they need to assess any risks to their lives and livelihoods, health and prosperity posed by flooding and coastal erosion.*
- *Bringing the public, private and third sectors together to work with communities and individuals to reduce the risk of harm.*
- *Making sure that decisions on land use, including development, reflect the level of current and future flood risk.*
- *Ensuring interruptions to water supplies are minimised during prolonged dry weather and drought.*
- *Boosting the long-term resilience of our homes, businesses and infrastructure*."

Chapter 1 of the plan relates to "Using and managing land sustainably". In terms of managing flood risk, the Plan states that the focus will be on:

- Using more natural flood management solutions where appropriate;
- Increasing the uptake of sustainable drainage systems, especially in new developments; and
- Improving the resilience of properties at risk of flooding and the time it takes them to recover should flooding occur.

This is in addition to updating the national flood and coastal erosion risk management strategy and strengthening the relevant protections in the National Planning Policy Framework.

This Hills to Levels project in Somerset is cited as an example of working with natural processes and natural flood management.

Flood management is also identified in the Plan as an additional benefit of the proposed Nature Recovery Network.

National Adaptation Programme

The National Adaptation Programme and the Third Strategy for Climate Adaptation Reporting (DEFRA, 2018) was published in July 2018. This report sets out what government and others will be doing over the next 5 years to be ready for the challenges of climate change.

- **Section 2.5** of the report deals with natural flood management.
- **Section 2.8** recognises the role of agriculture in mitigating flood risk, alongside the risks to farms themselves.
- **Section 3** recognises different sources of flooding as a risk to infrastructure, including the energy sector, telecommunications and transport. The Cabinet Office has established a National Infrastructure Resilience Council (NIRC) to bring together utilities companies to share information about the locations of their assets and to take a coordinated approach to flood resilience.
- **Chapter 4** also recognises that flooding presents a risk to people and the built environment. It refers to the need to revise the NPPF and supporting flood and coastal risk management. A holistic approach to flood and coastal erosion risk management is outlined, addressing the aspects of prevention, protection, adaptation, response, and acceptance.
- **Chapter 5** notes that flooding also presents a risk to business and industry.
- **Chapter 6** considers the role of local authorities in flood risk management.

National Risk Register

The National Risk Register (HM Government, 2020) identifies three types of flooding:

- **coastal** (where high tides and storm surges combine to cause the sea to flood inland);
- **rivers and streams**, known as 'fluvial flooding' (where waterways overflow their banks into surrounding areas);
- **surface water** (where rainfall overwhelms drainage systems).

The National Risk Register set out measures to reduce vulnerability, make better predictions of flooding and improve coordination.

Flood and Coastal Erosion Risk Management Policy Statement

The Flood and Coastal Erosion Risk Management Policy Statement was published in July 2020 (DEFRA, 2020) and sets out the government's long-term ambition to create a nation more resilient to future flood and coastal erosion risk. In doing so, reduce the risk of harm to people, the environment and the economy.

Alongside the Policy Statement, the Environment Agency has published its National Flood and Coastal Erosion Risk Management Strategy for England (see below). This provides a framework to guide the activities of those involved in flood and coastal erosion risk management. Taken together, the Policy Statement and the National Strategy will ensure that the country is more resilient to flooding and coastal erosion in the long term.

The Policy Statement sets out five policy areas:

- **Upgrading and expanding national flood defences and infrastructure** – Building new flood defences and ensuring that new and existing defences are well maintained so that they continue to be effective in a changing climate.
- **Managing the flow of water more effectively** - Delivering an integrated approach to managing water. This will not only help to better protect communities from flooding but will provide wider benefits for water resource management and the environment. Increasing the number of water management schemes within and across catchments to reduce flood risk and help manage drought risk. Promoting actions which prevent and better manage the impacts of surface water flood risk including by increasing the provision of sustainable drainage systems.
- **Harnessing the power of nature to reduce flood and coastal erosion risk and achieve multiple benefits** -The power of nature will be part of the solution to tackling flood and coastal erosion risks. Doubling the number of government funded projects which include nature-based solutions to reduce flood and coastal erosion risk. Nature-based solutions provide wider environmental and social benefits including nature recovery – to protect and restore habitats, species and landscapes – and improved water availability. Continuing to strengthen links between natural flood risk management and wider benefits and exploring how ton do more to deliver multiple benefits from a range of interventions working together.
- **Better preparing our communities** - Ensuring that all homes currently at high risk of flooding are better protected or better prepared. Maintaining and enhancing planning policies that direct new development away from areas at risk. New properties and infrastructure need to be resilient to flooding and coastal erosion to deliver high quality and affordable homes and thriving communities that the country needs in a changing climate. Ensuring communities and businesses have the information they need to take ownership of their resilience. Providing support to communities to increase awareness and understanding of risk, and sharing advice on steps which can help to better prepare. Key sectors – such as the insurance, development and property industries – will be encouraged to make their products and services more resilient through innovation and greater use of new technology. Policies will help to ensure that buildings, important infrastructure sites and key public services are better prepared to manage flood risk. Working together to support communities, including when flooding happens and in recovery afterwards.

- **Enabling more resilient places through a catchment-based approach** - Supporting every place to thrive in a changing climate by adopting and encouraging a catchment-based approach. This means considering the full range of actions that could be taken in an area, upstream and downstream, by a variety of bodies to improve resilience. Transforming the current approach to local flood and coastal erosion risk planning so that every area of England will have a more strategic and comprehensive plan that drives long-term local action and investment. Local flood and coastal erosion plans will link with wider plans for an area such as water resource plans and local nature recovery strategies to seize opportunities to secure multiple benefits.

National Flood and Coastal Erosion Risk Management Strategy for England

The National Flood and Coastal Erosion Risk Management Strategy, published in July 2020, sets out a vision of a nation ready for, and resilient to, flooding and coastal change through to the year 2100 (Environment Agency, 2020). The Strategy describes what needs to be done by all risk management authorities involved in flood and coastal erosion risk management for the benefit of people and places. This includes the Environment Agency, lead local flood authorities, district councils, internal drainage boards, highways authorities and water and sewerage companies, who must exercise their flood and coastal erosion risk management activities, including plans and strategies, consistently with the Strategy.

The Strategy recognises the need for individuals, communities, the third sector, businesses, farmers, land managers and infrastructure providers to contribute to planning and adapting to future flooding and coastal change.

The Strategy has 3 long-term ambitions, underpinned by evidence about future risk and investment needs. They are:

- **Climate resilient places**: working with partners to bolster resilience to flooding and coastal change across the nation, both now and in the face of climate change.
- **Today's growth and infrastructure resilient in tomorrow's climate**: making the right investment and planning decisions to secure sustainable growth and environmental improvements, as well as infrastructure resilient to flooding and coastal change.
- **A nation ready to respond and adapt to flooding and coastal change**: ensuring local people understand their risk to flooding and coastal change, and know their responsibilities and how to take action.

The Strategy has been updated in 2021 and 2022 (Environment Agency, 2022).

National Flood and Coastal Erosion Risk Management Strategy for England Action Plan

A Flood and Coastal Erosion Risk Management (FCERM) Strategy Action Plan was published in May 2021 (Environment Agency, 2021). This focused on actions from April 2021 to April 2022. It described what was already being done to achieve the ambitions of the National Flood and Coastal Erosion Risk Management Strategy for England.

In June 2022, the Environment Agency published a Flood and Coastal Erosion Risk Management Strategy Roadmap to 2026. The roadmap contains practical actions out to 2026 which ensure progress toward the strategy's 2100 vision. The roadmap supersedes the Action Plan published in May 2021 (Environment Agency, 2022).

Flood and Coastal Risk Projects, Schemes and Strategies: Climate Change Allowances

The Climate Change Allowances document provides guidance on when and how risk management authorities should use climate change allowances for flood and coastal risk projects, schemes and strategies (Environment Agency, 2021). It was published in July 2020 and last updated in May 2022.

National Planning Policy Framework

The National Planning Policy Framework (NPPF) was first published in March 2012. It was most recently updated in December 2023 (Ministry of Housing, Communities & Local Government, 2021). The NPPF sets out the government's planning policies for England and how these are expected to be applied.

Chapter 14 deals with 'Meeting the challenge of climate change, flooding and coastal change'. The NPPF makes reference to mitigating and adapting to climate change, including increased flooding. It states that,

"*policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts*." (para. 158)

In relation to planning and flood risk it states,

"*Strategic policies should be informed by a strategic flood risk assessment, and should manage flood risk from all sources. They should consider cumulative impacts in, or affecting, local areas susceptible to flooding, and take account of advice from the Environment Agency and other relevant flood risk management authorities, such as lead local flood authorities and internal drainage boards*." (para. 166)

All plans should use,

"*opportunities provided by new development and improvements in green and other infrastructure to reduce the causes and impacts of flooding, (making as much use as possible of natural flood management techniques as part of an integrated approach to flood risk management)*" (para. 167c)

Flood Risk and Coastal Change Guidance

Flood Risk and Coastal Change Guidance was published in March 2014 (Ministry of Housing, Communities & Local Government, 2014), with the most recent update published in August 2022. The guidance advises how to take account of and address the risks associated with flooding and coastal change in the planning process.

Use Nature-based Solutions to Reduce Flooding in Your Area Guidance

The guidance document 'Use nature-based solutions to reduce flooding in your area' was published in June 2021 (Environment Agency, 2021). It provides guidance on how to use natural options to reduce flooding, who to contact for advice, and funding.

Working with Natural Processes to Reduce Flood Risk

This website, published in February 2021, provides the evidence base for working with natural processes to reduce flood risk (Flood and Coastal Erosion Risk Management Research and Development Programme and Environment Agency, 2021).

Somerset's Climate Emergency Strategy

Towards a Climate Resilient Somerset - Somerset's Climate Emergency Strategy was adopted in November 2020 (Somerset County Council, 2020). The Strategy acknowledges that parts of Somerset are vulnerable to flooding and that Climate Change will increase the risk of flooding. One of the 9 sectors or themes identified in the Strategy is:

"*Our **water** resources - how they are managed to minimise the impacts of flooding and drought on our residents, buildings and landscapes*".

Key focuses for the Natural Environment within the Strategy include:

- *"restoring nature at scale to enable natural processes, such as carbon sequestration and natural flood management to function. We should lead by example and be bold in our approach setting a target of at least 30% of Somerset's land cover being managed positively for nature with healthy natural processes by 2030*
- *engaging communities and landowners in protecting and restoring nature for their own benefit and wider benefit of the environment"*

The Local Nature Partnership is identified as a means to deliver these outcomes.

The Strategy makes reference to Somerset's innovative 'Adaptation Pathways in Somerset' (APIS) and 'Co-Adapt' projects as examples of collaborative approaches to managing flood risk and ensuring the County is adequately prepared for the future.

In relation to adaptation, the Strategy states:

"*Adaptation measures to address climate impacts should seek to achieve multiple benefits. Techniques such as Natural Flood Management and Sustainable Drainage Systems (SuDS) are already widely implemented addressing flood and water management challenges in a more sustainable way and offering increased carbon sequestration and improved catchment management.*

These innovative projects often include engagement with the local community to develop opportunities and “co-create” solutions, raising awareness of Climate Change and flooding risks.

Waterways & Wellbeing: Valuing Our Waterways (CRT)

At the All-Party Parliamentary Group for Waterways in November 2022, the Canal and River Trust launched a headline report setting out the economic and social value of our 250-year-old waterway network. They announced that the combined annual economic and social value of the waterways amounts to £6.1bn. This includes £1.5bn annual economic value from water-based tourism and jobs, and annual social value of £4.6bn, which includes £1.1bn cost-saving to the NHS from active use of the waterways and the towpaths (https://canalrivertrust.org.uk/about-us/valuing-our-waterways).

Appendix B – Useful Links for Riparian Owners

The links below contains lots more information and links to advice for riparian landowners:

https://www.somerset.gov.uk/beaches-ports-and-flooding/responsible-authorities/

https://www.gov.uk/guidance/public-rights-of-way-landowner-responsibilities

https://www.gov.uk/guidance/owning-a-watercourse#owners-your-responsibilities


Calm
ENGINEERING