

Flood and Water Management Act 2010

Local Flood Risk Management Strategy

Somerset's flood risk management strategy for
surface water, groundwater and ordinary
watercourses

Final

February 2014



Foreword

We are all aware of the devastating effects of flooding on people and communities following the unprecedented flooding across the UK in 2007, and the more recent flooding in 2012 and 2014 that affected many communities in Somerset. Flooding causes damage to property and infrastructure, and results in significant stress and disruption to people's lives and wellbeing.

After the summer 2007 flooding Government commissioned Sir Michael Pitt to undertake a review of the flood events and to make recommendations about how we should manage flooding in the future. On the back of the Pitt Review Government brought in new legislation in 2010 called the Flood and Water Management Act. The Act gave new responsibilities to Somerset County Council to take a leadership role in managing and co-ordinating local flood risk, in partnership with other organisations that have a key role to play in managing that risk.

A key component of the Act was the requirement for the County Council to produce and maintain a Local Flood Risk Management Strategy which sets out the vision and framework for managing flood risk and identifies the range of measures we will take in partnership with others to manage flood risk. This document, alongside the appendices and action plan forms the Local Flood Risk Management Strategy for Somerset.

Local communities in Somerset face flood risk from many sources including rivers, surface runoff, groundwater, overflows from highway and drainage networks. No one organisation has sole responsibility to manage flood risk from all these sources; we therefore recognise the value and importance of working with others to manage flood risk and to fulfil our roles and responsibilities.

This Strategy has been produced as a result of engagement with officers from across Somerset, the district and borough councils, the Environment Agency, the water and sewerage companies, and the Internal Drainage Boards. We must continue to develop our close working relationship with these organisations to improve the management of flood risk in Somerset. In addition, we will need to establish stronger relationships with local communities to make them aware of the risks they face enabling them to take actions to reduce their exposure and vulnerability to flood risk.

We will never be able to totally prevent flooding, however its extent and impacts can be reduced. This Strategy is the first step in ensuring we have a sound framework for managing flood risk in Somerset over the next 5-10 years. Further work and funding will be required as we go forward to ensure successful delivery of the measures outlined in the Strategy.



David Hall
Deputy Leader of Council
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Policy

Somerset County Council Local Flood Risk Management Strategy

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The Flood Risk Management Authorities that operate in Somerset

Somerset County Council will not be working alone - a range of other bodies known as 'Risk Management Authorities' also have powers and duties in relation to flooding and coastal erosion.

The **Environment Agency (EA)** manages flooding from main rivers, the sea (including coastal erosion) and reservoirs. The Agency also maintains a strategic overview role for **all** forms of flooding.

The **County Council** is the Lead Local Flood Authority for Somerset and manages flooding from local sources (surface-water, groundwater and ordinary watercourses). It also has powers to undertake flood risk management work in relation to surface water and groundwater.

The **County Council** is also the Highway Authority for Somerset, with a responsibility for managing flooding on the highway. The **Highways Agency** is not a 'Risk Management Authority' but is responsible for managing flooding on motorways and trunk roads.

Internal Drainage Boards (IDBs) operate in some low lying areas to manage water levels and provide routine maintenance. IDBs deal with local flooding and drainage issues within their districts.

All **District and Borough Councils** in Somerset have powers to undertake flood risk management work to ordinary watercourses and those with a shoreline have a responsibility for coastal erosion.

The **County Council** and the **District and Borough Councils** work collectively on Emergency Planning through the Civil Contingencies Partnership.

Wessex Water and **South West Water** as sewerage undertakers are responsible for managing sewer flooding across the county.

1 Introduction

The Flood and Water Management Act 2010 (the Act) implemented recommendations from Sir Michael Pitt's Review of the 2007 floods in the UK. Under the Act the County Council became a 'Lead Local Flood Authority' (LLFA) and was given a series of new responsibilities to co-ordinate the management of local flood risk from surface water, ground water and ordinary watercourses.

As Lead Local Flood Authority for Somerset, the County Council has a duty to 'develop, maintain, apply and monitor' a Local Flood Risk Management Strategy. This Strategy focuses on local flood risk resulting from surface water, groundwater and ordinary watercourses flooding. The interaction with main river flooding, which is the responsibility of the Environment Agency, has also been assessed so that wherever possible we can give our communities a joined up approach to flood management.

The strategy will be the main tool through which the Lead Local Flood Authority discharges its role to provide leadership and co-ordinate local flood risk management on a day to day basis. It will act as the focal point for integrating all flood risk management functions in the county and will be consistent with the [Environment Agency's National Flood and Coastal Erosion Risk Management Strategy](#), which was published in September 2011.

The Flood and Water Management Act states that the Local Flood Risk Management Strategy must set out:

- The risk management authorities in the authority's area;
- The flood risk management functions that may be exercised by those authorities in relation to the area;
- The objectives for managing local flood risk;
- The measures proposed to achieve those objectives;
- How and when the measures are expected to be implemented;
- The costs and benefits of those measures, and how they are to be paid for;
- The assessment of local flood risk for the purpose of the strategy; and
- How and when the strategy is to be reviewed, and how the strategy contributes to the achievement of wider environmental objectives.

The Somerset Local Flood Risk Management Strategy is an important document to help everyone understand and manage flood risk within the county and how we work to address the specific challenges we face in Somerset. Whilst its primary focus is on 'local flooding' from surface water, groundwater or ordinary watercourses such as streams and ditches, it also seeks to ensure that local flood risk is not considered in isolation from main river and tidal flood risk and coastal erosion, and where possible it makes the link to the work of other agencies responsible for flood management.

Other Plans and Strategies

National Flood and Coastal Erosion Risk Management Strategy – provides an overarching framework for all Flood Risk Management Authorities

Catchment Flood Management Plans – High level plans setting policies for flood risk management at a catchment scale

Shoreline Management Plans (SMP) – The Hartland Point to Anchor Head SMP provides policies for the management of the Somerset coastline

Parrett Estuary Flood Risk management Plan – EA plan for sustainable management of flood risk to people, property and the environment over the next 100 years

Severn Estuary Flood Risk Management Strategy – EA plan to manage tidal flood risk in the Severn Estuary from Gloucester to Hinkley Point. It gives a 100 year plan of investment, including withdrawal where it is uneconomic to continue defences

Flood Risk Management Plans – These are a requirement of the Flood Risk Regulations and are required to be prepared by 2015. Although the plan covering Somerset only need consider the risk of flooding from main rivers and the sea, all risk management authorities are being encouraged to work in partnership and contribute to their development so they cover all sources of flood risk. This will enable all involved to develop a shared understanding of all sources of flood risk, and to be better placed to capitalise on wider ranging funding opportunities and joint outcomes.

Local flooding, generally caused by localised heavy rainfall, is becoming increasingly common, but until recently there has been little understanding of the risks or actions to address the risks. Historically, flood risk management has concentrated on river and tidal flooding. However, for those who suffer flooding, it matters little what type of flooding is causing the problem and this strategy aims to provide information about all forms of flooding and the organisations involved in all aspects of flood risk management, from flood protection to dealing with a serious flooding event. It will not repeat information that is available elsewhere but will signpost the reader to relevant material. This strategy is the first of its kind covering the whole of Somerset. With ever-improving knowledge, additional legislation and budgetary constraints it will be necessary to update and review the strategy regularly to make sure it continues to be up to date and fit for what we want to achieve.

The main aim of the Strategy is to reduce the risk of flooding and the misery and economic damage that flooding causes and to do so in a sustainable manner. Also, any flood management activities carried out will aim to enhance the built and natural environment.

Flooding across the County originates from a number of different sources (local, river, coastal) and often these combine, heightening the risk to

communities. The long-term aim is to integrate flood risk management from all sources of flooding within a single strategy.

All the authorities involved in flood risk management are committed to working together and in partnerships to achieve the aims of the strategy.

It is helpful to describe flood risk management in Somerset in three phases, which are illustrated in Figure 1-1. The Local Strategy is principally concerned with the 'before' phase of flood risk management, by identifying areas at risk of local flooding, and taking actions to reduce risk where possible. The 'during' and 'after' phases of flood incidents are led by the Local Resilience Forum partners; the Local Strategy provides an overview of these activities in Appendix 2.4.3.

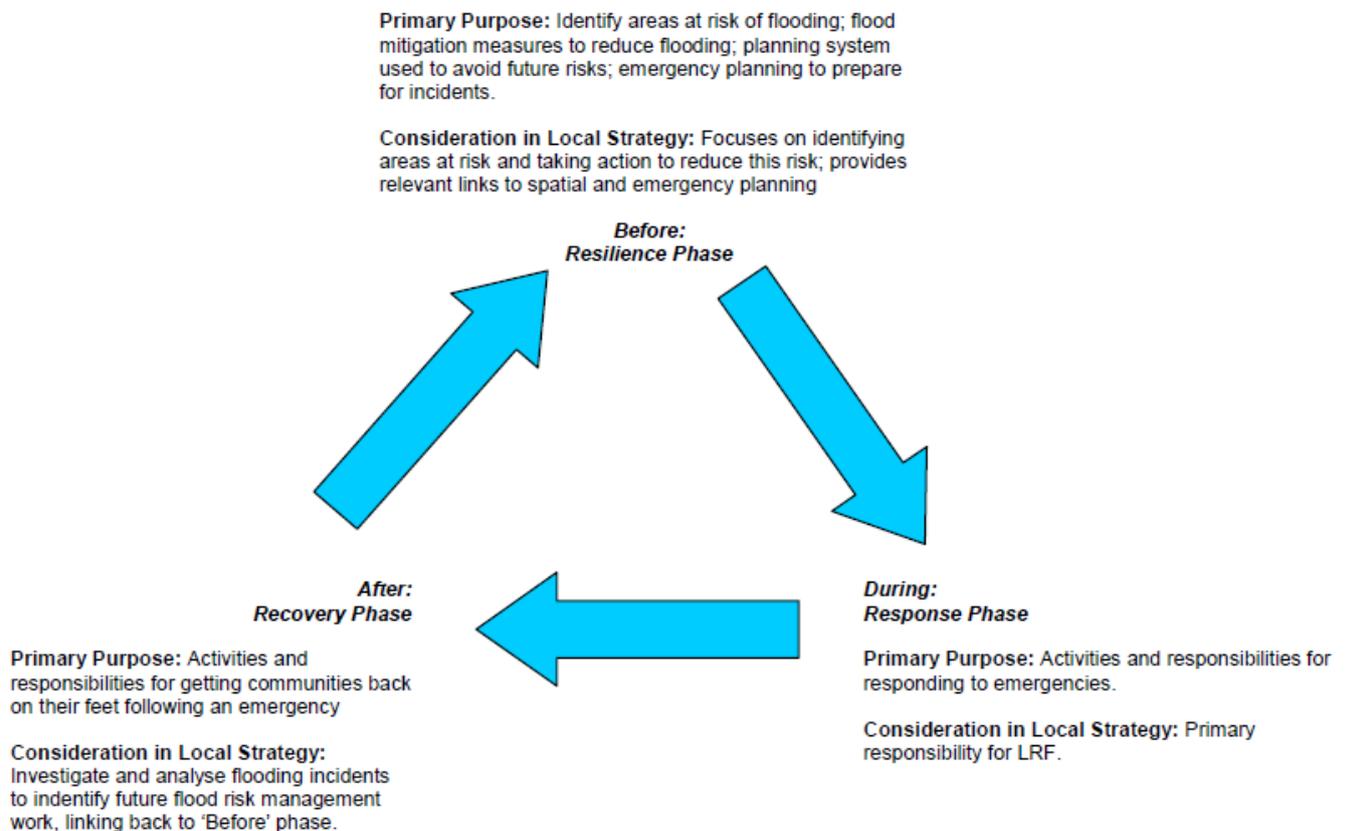


Figure 1-1 Role of Local Strategy before, during and after a flood

2 Purpose of the Strategy

This Strategy sets out the approach Somerset County Council, as Lead Local Flood Authority, will take to limit the impacts of local flooding across the county. It is a strategic document which we will use to promote greater partnership working arrangements between those organisations with a responsibility for managing local flood risk, and provides a framework within which the 'Risk Management Authorities' who operate in Somerset must work.

This is the first Local Flood Risk Management Strategy for the county. It is a 'living document' and will be formally reviewed at least every six years, in line with the Preliminary Flood Risk assessment prepared under the Flood Risk Regulations. The application of the Strategy will be monitored and its adequacy assessed by officers of the Council annually. If it is found that a minor update is required that does not affect the basic principles of the Strategy, for example, to reflect changes in legislation or responsibilities, then these changes will be made in consultation with the Cabinet Member for Business Inward Investment and Policy. The annual review will include the development of an Action Plan that will set out the actions required over the following year to deliver the Strategy.

3 Aims and Objectives of the Strategy

It is not possible to prevent all flooding, particularly with the unique environment that exists in the county, but Somerset County Council will work with its partners to manage and limit the impacts of local flooding on communities across the county.

Flooding from local sources cannot be tackled in isolation as multiple sources often combine to produce a flood event. Over time we will work to provide a co-ordinated strategy for flooding from all sources including coastal erosion. This vision is reflected within the Strategy's guiding principle and objectives.

Flooding is a natural process which shapes our environment, but crucially it can also pose a threat to the safety and wellbeing of communities.

The impacts of flooding include:

- Damage to residential and commercial property, key services and infrastructure, as well as damage to agricultural land and crops;
- The inconvenience and associated impacts of blocked transport routes;
- Increases in the cost of, or an inability to gain access to, flood insurance;
- Health related impacts (both physical and psychological); and
- Environmental impacts such as the pollution of watercourses harming wildlife and habitats.

Flooding can also be beneficial and is an integral aspect of managing flood risk on the Somerset Levels. With careful management storing water in selected 'low' risk areas can provide valuable irrigation for agricultural land at the same time as acting as a sustainable drainage system for flood protection. It can also provide amenity value through habitat creation.

Evidence suggests that damage caused by flooding is likely to increase in the future unless it is managed effectively.

Future pressures which will impact on effective flood risk management include:

- Climate Change leading to more intense periods of rainfall, thus increasing the frequency of large-scale flooding and the chances of flooding occurring where it has not happened before;
- Sea-level rise affecting drainage and groundwater levels in coastal areas;
- Heightened river levels preventing surface-water from draining from riverside towns and development;
- Population increase and changes in its structure (such as an ageing population) will raise the demand for development and key services;
- Growth pressures seeing new development in areas at risk of flooding or creating risk elsewhere; and
- Deterioration of structures or features that currently protect us from flooding and thus require maintenance or replacement.

The Environment Agency's National Flood Risk Strategy Objectives

Communities, individuals, voluntary groups and private and public sector organisations will work together to:

- manage the risk to people and their property;
- facilitate decision-making and action at the appropriate level - individual, community, or local authority, river catchment, coastal cell or national;
- achieve environmental, social and economic benefits, consistent with the principles of sustainable development.

Taking into account these issues, the **guiding principle** of the Somerset Local Flood Risk Management Strategy is:

The risk of flooding and associated social, economic and environmental impacts will be managed through local leadership and coordinated work of all the Risk Management Authorities, businesses, community groups, voluntary sector organisations and local people working in partnership across Somerset.

The Flood Risk Management Authorities in Somerset will work together to achieve the following objectives:

- 1) Work to achieve a year on year reduction in the impact of flooding from all sources. Any increase in the risk of flooding as a consequence of climate change will be mitigated where practicable.
- 2) To establish a co-ordinated programme of flood risk and drainage management, including flood risk from all sources, integrating existing strategies, plans and assessments into one Flood Risk Management Plan by 2016
- 3) The Somerset Strategic Flood and Water Management Partnership will deliver this strategy and work with local communities to develop and deliver fully integrated flood risk and drainage management services, beginning with a co-ordinated works programme.
- 4) Local communities will be made more aware of flood risk, and in partnership with risk management authorities they will take informed decisions to minimise that risk through individual and community action and become more resilient.
- 5) Development across the county will integrate consideration of flood risk and sustainable drainage systems into planning and development management systems and always seek to reduce flood risk; inappropriate development which could increase flood risk will be avoided, as will inappropriate development in areas of significant flood risk.

- 6) Flood risk management will be fully considered in the local plan development process and identify flood defence infrastructure that development needs to contribute towards.
- 7) Improved flood risk and drainage management, including taking a catchment wide approach, will contribute towards better water quality and wider environmental benefits.

To achieve the objectives of the local strategy, Somerset County Council will work with individuals, communities and organisations to reduce the threat of flooding by:

- i. Establishing and maintaining effective partnerships with key organisations and local communities in order to develop collective knowledge, share best practice and secure funding for local flood risk management measures.
- ii. Improving the evidence base and understanding of local flood risk to ensure that limited resources are targeted in the areas of highest risk and vulnerability.
- iii. Prioritising actions to address local flooding including empowering local communities and land owners to take action themselves to be prepared for and limit the impacts of flooding.
- iv. Raising awareness of flood risk through targeted, effective communication.
- v. Avoiding increasing the flood risk by encouraging best practice for the maintenance of assets.
- vi. Avoiding increasing the flood risk by preventing inappropriate development through engagement in the planning process.
- vii. Working in partnership to deliver cost-effective flood risk management measures which take a catchment wide approach and contribute to wider social, economic and environmental outcomes.

It is important to note that the County Council, as Lead Local Flood Authority, will work with others to help make these objectives happen. Whilst providing leadership the County Council is not always responsible for certain areas of flood risk management and related decision making, so we need to make sure we work in partnership as effectively as possible. Future actions under each of these headings are summarised in Section 5.

For more details of the key policies and legislation that have driven this Strategy, please refer to Appendix 1.

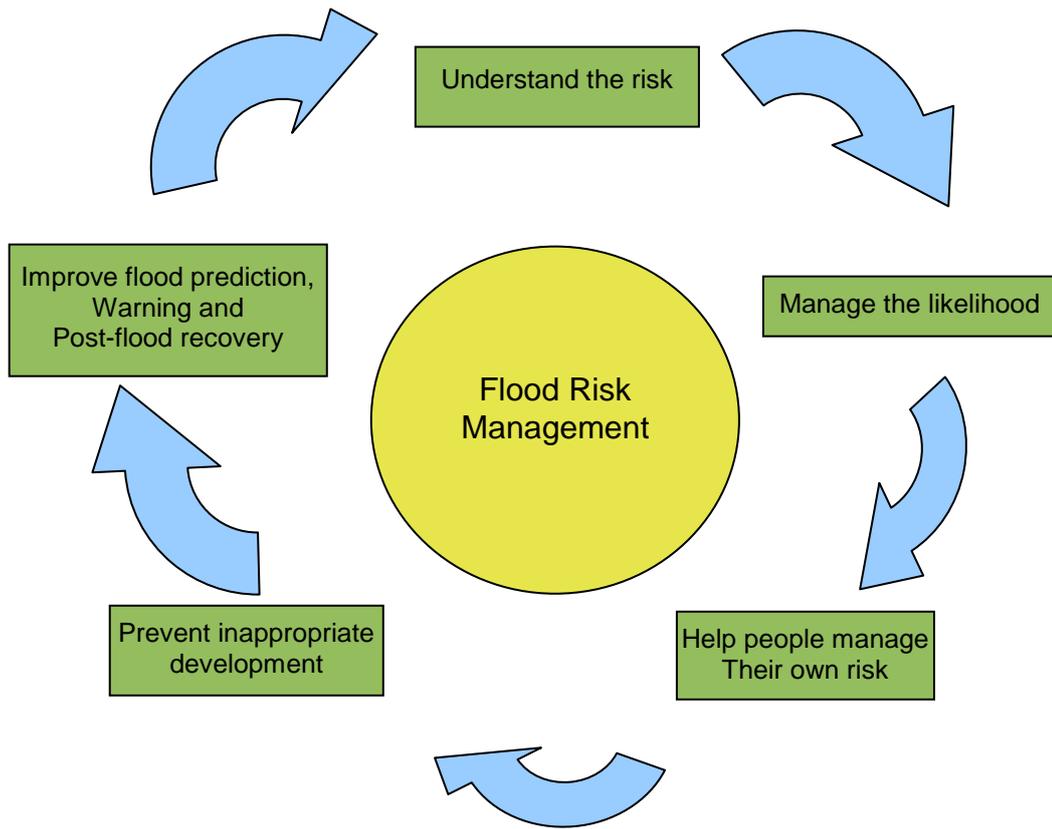


Figure 3-1 Managing Flood and Risk

4 Assessment of Flood Risk in Somerset

Somerset is a rural county with upland areas such as the Mendip Hills, Quantock Hills and Exmoor, and large flat expanses of land including the Somerset Levels. The county covers an area of 4,171 km² (1,610 sq mi) and has many rivers, including the Axe, Brue, Cary, Parrett, Sheppey, Tone and Yeo. These both feed and drain the flat levels and moors of mid and west Somerset.

The Levels are divided into two by the Polden Hills; land to the south is drained by the River Parrett while land to the north is drained by the River Axe and the River Brue. The total area of the Levels amounts to about 647.5 square kilometres and broadly corresponds to the administrative district of Sedgemoor; a significant area lies within the Taunton Deane district and also includes the south west of Mendip district and a small area of South Somerset district. Approximately 70% of the area is grassland and 30% is arable. Stretching about 32 kilometres (20 miles) inland, this expanse of flat land barely rises above sea level. Before the land was drained much of it was under a shallow brackish sea in winter and was marsh land in summer. Programmes of drainage and land reclamation have been carried out since the early medieval period, and possibly earlier. The current pattern of regularly laid out fields intercut by rhynes or drains is the product of enclosure and land improvement in the late 18th century. The majority of the land in the Levels lies below the mean high water mark, so is in constant danger of flooding. Management of water levels through sluice gates, pumping stations and flood plains still continues to date. However, communities within the Levels still suffer from flooding and due to the concerns about what the future holds, it is important that the flood risk organisations in Somerset come together to work effectively to the benefit of these communities.

Without defences a major part of Somerset would be flooded, as shown indicatively in the figure below. Although this relates to sea defences which are not the subject of this strategy, it does illustrate how dependant Somerset is on flood risk management works. Without the sea defences and effective arterial watercourses, many of the local watercourses would be unable to discharge, resulting in wide areas becoming flooded.

Using information available to the County Council, including the severe flooding experienced in 2012, local flood risk has been assessed across Somerset. A number of local flooding hotspots have been identified, as highlighted on the map below. These hotspots will help us to target our resources to where they are needed the most. Our priorities will be determined by a number of factors including vulnerability and locations where the greatest numbers of people, businesses and assets are affected.

4.1 Future changes to flood risk

4.1.1 Changes to our Climate

Changes to climate can affect local flood risk in several ways. Impacts will depend on local conditions and vulnerability.

Wetter winters and more of this rain falling in wet spells may increase river flooding. More intense rainfall causes more surface runoff, increasing localised flooding and erosion. In turn, this may increase pressure on drains, sewers and water quality. Storm intensity in summer could increase even in drier summers, so we need to be prepared for the unexpected.

Rising sea or river levels may increase local flood risk inland or away from major rivers because of interactions with drains, sewers and smaller watercourses.

Where appropriate, we need local studies to understand climate impacts in detail, including effects from other factors like land use. Sustainable development and drainage will help us adapt to climate change and manage the risk of damaging floods in future.

Adaptation to the potential effects of climate change on flood risk is likely to be a gradual process, as resilience to flooding is progressively increased. The modelled impacts of climate change on flood risk underline the need for effective surface water management. Future detailed surface water management plans will continue to model the possible impact of climate change and it will therefore be a key consideration in the identification and prioritisation of mitigation actions.

Past emission means some climate change is considered as inevitable. It is essential we respond by planning ahead. We can prepare by understanding our current and future vulnerability to flooding, developing plans for increased resilience and building the capacity to adapt. Regular review and adherence to these plans is key to achieving long-term, sustainable benefits.

Although the broad climate change picture is clear, we have to make local decisions against deeper uncertainty. We will therefore consider a range of measures and retain flexibility to adapt. This approach, embodied within flood risk appraisal guidance, will help to ensure that we do not increase our vulnerability to flooding.

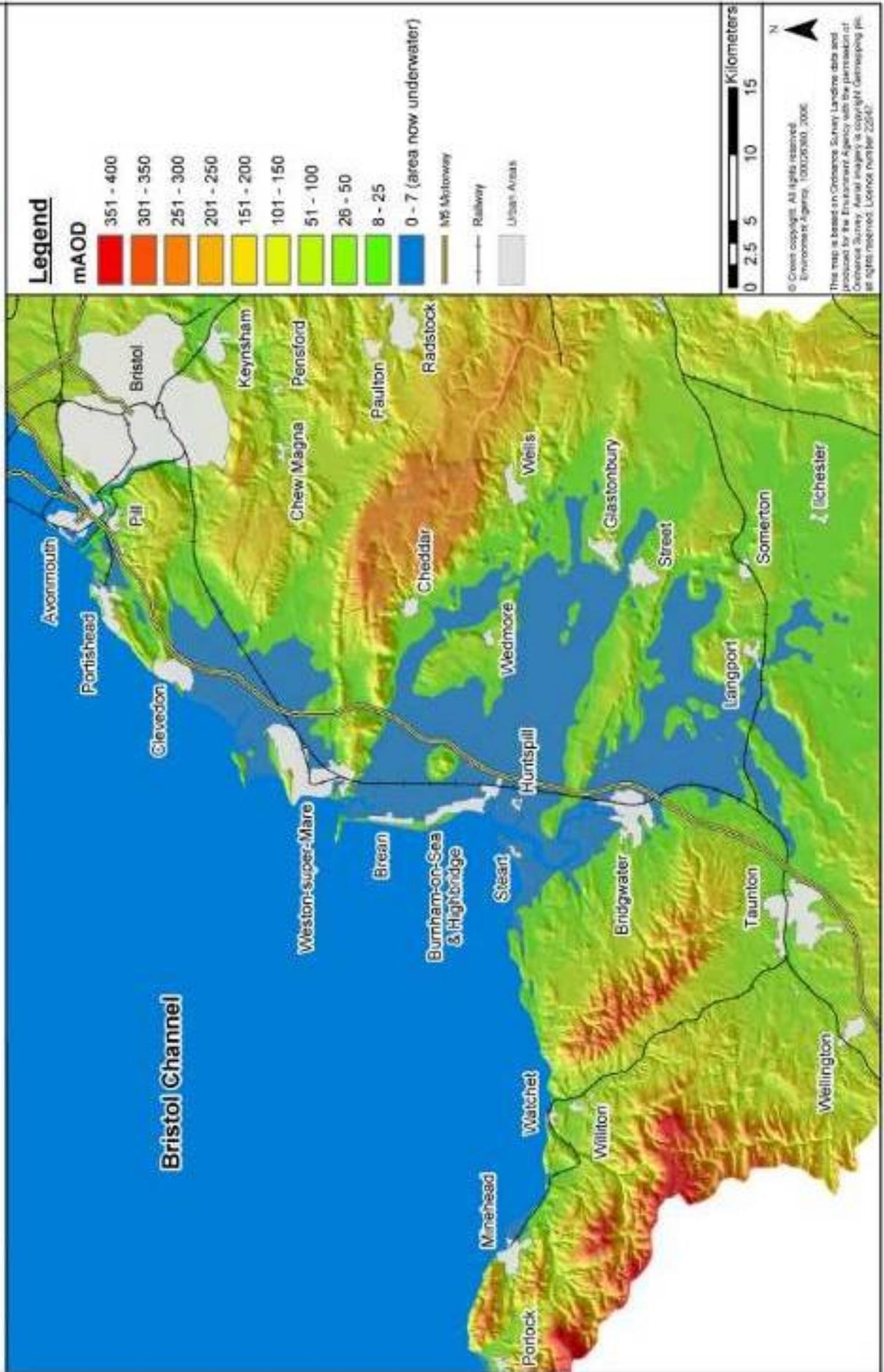
4.1.2 Population change and future development

Development can affect the occurrence and significance of flood events. However, planning policy aims to prevent new development from increasing flood risk. Development can provide opportunities to address surface water flooding, through the use of measures to reduce flood risk, such as sustainable drainage systems. Development can be designed to make it resilient to the impacts of flooding, which can help to reduce the risks to the building and their occupants. This ensures that natural drainage routes are not impeded.

Somerset: Unprotected by Sea Defences



ENVIRONMENT AGENCY



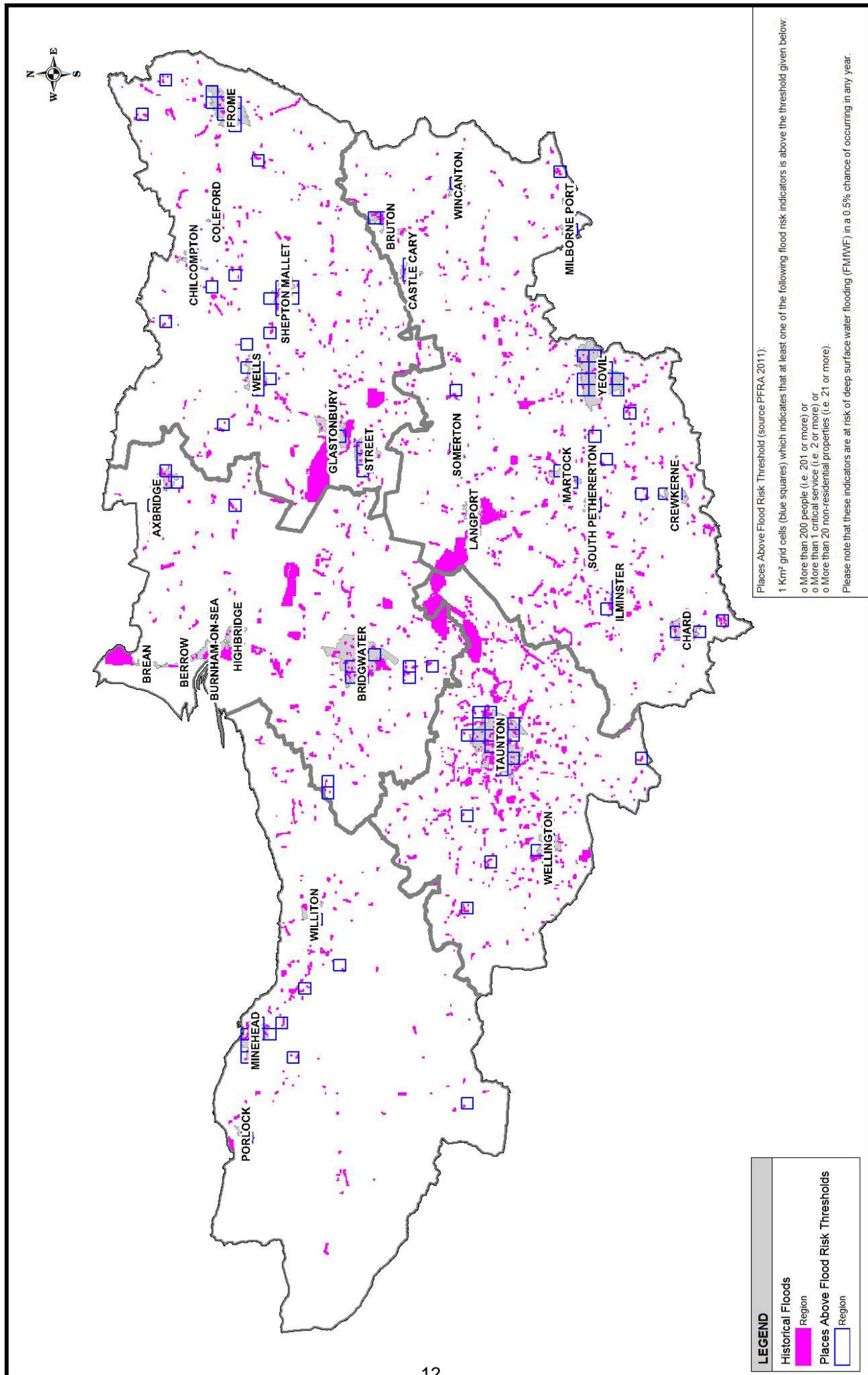


Figure 4-1 Recorded Floods and Areas above Flood Risk Threshold

Potential flooding sources and the responsible organisations

The management of flooding is complex with so many agencies being involved and this table gives a summary of who is responsible for what.

Flooding type	Description	Responsible organisation
Coastal flooding	Tidal flooding represents a significant risk in Somerset where the consequences are likely to be very serious, albeit infrequent.	Environment Agency
Ordinary watercourses, for example streams and ditches	Local, generally smaller watercourses that feed into the main rivers of Somerset. Failing to manage these watercourses will lead to local flooding and will exacerbate the problems felt both upstream and downstream.	District Councils, Internal Drainage Boards in their areas
Main rivers	Principal watercourses and strategic smaller watercourses. It is important that these have capacity to accommodate as much water flow as possible in the event of flooding to ensure that water leaves flooded land as efficiently as possible, thus minimising the impacts	Environment Agency
Raised Reservoirs	Large water pounds which have embankments represent a potential flood risk	Environment Agency
Surface water flooding	High intensity rainfall gives rise to overland flow of surface water which can pond in low lying areas giving rise to flooding. This is also known as pluvial flooding	Somerset County Council
Sewer flooding	The public sewer system has a finite capacity and at times of heavy rainfall surface water entering designated surface water sewers, combined sewers (ones which receive foul and surface water flows) and designated foul sewers which are subject to penetration of surface water through misconnections and so on, can become overloaded giving rise to surface flooding	Water and Sewerage Companies (Wessex Water and South West Water)

Groundwater flooding	Geological conditions can cause surface water which has infiltrated into the ground to emerge at certain locations in the form of springs, and so on. Also high water tables can be present in locations where there are particular ground conditions. This type of flooding generally occurs after long periods of rainfall as water builds up in underground aquifers ultimately causing an increase in flow in groundwater-fed watercourses	Somerset County Council
Trunk Road flooding	Motorways and major roads have extensive drainage systems and at times of heavy rainfall either hydraulic overload or perhaps inadequate maintenance can give rise to ponding of water which can in turn have an impact on property. The presence of deep water on roads can also give rise to problems for road users causing flooded roads to be closed at certain times	Highways Agency
Highway flooding	Highways have extensive drainage systems and at times of heavy rainfall either hydraulic overload or perhaps inadequate maintenance can give rise to ponding of water which can in turn have an impact on property. The presence of deep water on roads can also give rise to problems for road users causing flooded roads to be closed at certain times	Somerset County Council

Riparian Owners Responsibilities

- Under common law landowners are the riparian owner of any watercourse within or adjacent to the boundary of their property
- Where a watercourse is sited between properties each owner may be equally responsible
- Riparian owners' (landowners whose land is crossed or bordered by a watercourse) responsibilities include the maintenance of the bank and bed of their section of watercourse to prevent any obstruction to the flow in the watercourse.
- Common failings include failing to keep vegetation under control and failing to obtain consent for installing pipes or culverts or undertaking other work that may affect the watercourse

5 Achieving the Objectives

5.1 Challenges

The guiding principle and objectives frame this Local Flood Risk Management Strategy and set out what we want to achieve in the long-term. However, there are still a number of key challenges that the County Council faces in its new role as a Lead Local Flood Authority which it will need to overcome:

- The responsibility of being the Lead Local Flood Authority is a new role entirely and has not been transferred from another organisation;
- The County Council must develop its in-house skills and capacity to deliver this new role effectively, whether it is in-house, partnership working or through commissioning the service;
- There is a lack of evidence and data to support decisions due to limited research and investigation into local flooding in the past; and
- There is limited funding to deliver works on the ground to address local flooding issues so actions must be prioritised.

The sections below set out how we will meet these challenges and work towards achieving the objectives of the strategy.

5.2 Partnerships

The Flood and Water Management Act 2010 divides responsibilities between a number of organisations. Partnership working is therefore essential to the delivery of effective flood risk management.

By working together, we can avoid duplication of effort, make best use of available resources and funding opportunities and share best practice, skills and expertise. It is also very important that we engage with, and listen to, our communities to help make sure we best meet their needs.

Action Points

- AP1 The active involvement of all Risk Management Authorities is crucial to this Strategy's success so the County Council will continue to maintain key partnerships within the county and across the South West.
- AP2 The County Council will seek to focus its efforts to make best use of partnership arrangements and to work with other organisations and stakeholders such as local flood groups, town and parish councils as well as property owners in the most effective way possible.

5.2.1 Somerset Strategic Flood & Water Management Partnership

The aim of this key Partnership for flood risk management in Somerset is to develop and implement a strategic approach to local flood risk management in Somerset. The Partnership provides the opportunity to discuss current and future issues, share best practice, agree and direct the strategic actions required to deliver efficient and high quality flood risk management services in Somerset. The Partnership meets quarterly and membership consists of

elected members and senior officers having responsibility for flood risk management within the following organisations:

- Somerset County Council;
- Environment Agency;
- South Somerset District Council;
- Mendip District Council;
- Sedgemoor District Council;
- West Somerset Council;
- Taunton Deane Borough Council;
- Somerset Drainage Board Consortium;
- Wessex Water;
- South West Water;
- Somerset Water Management Partnership; and
- Wessex Regional Flood and Coastal Committee.

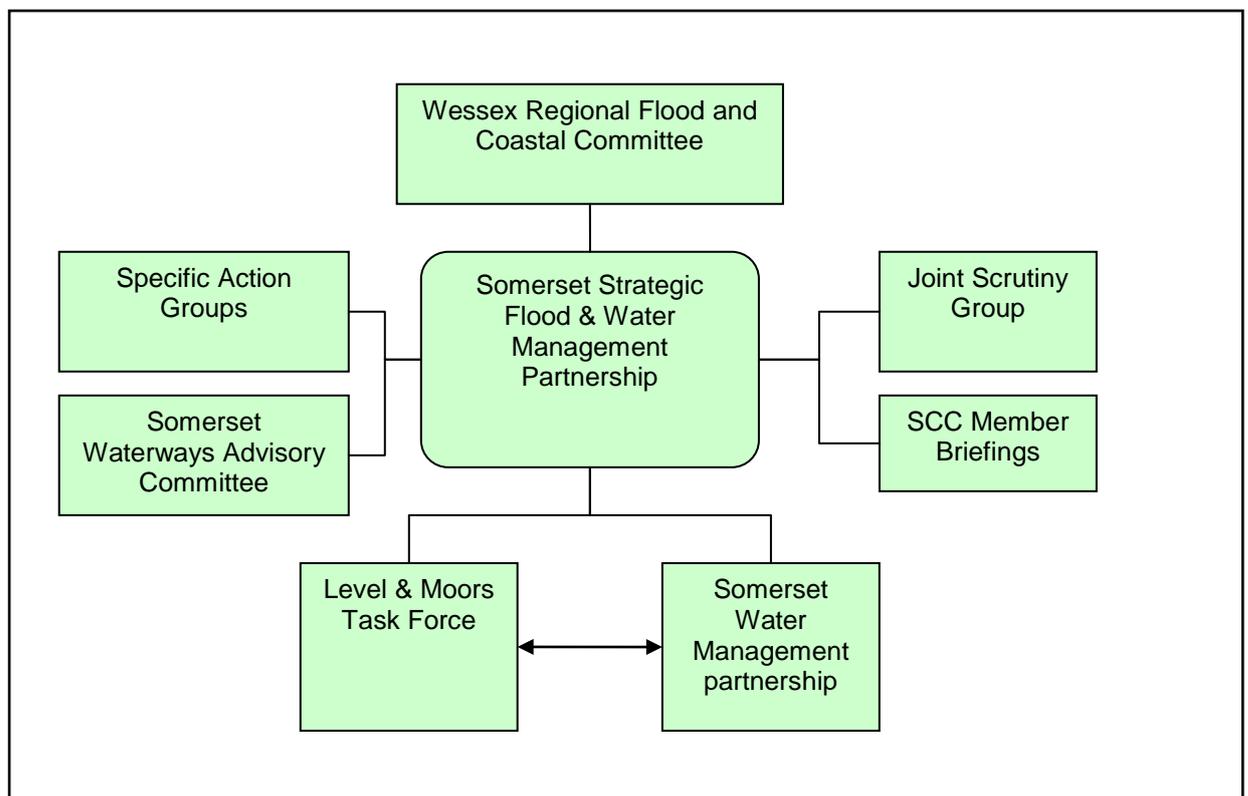


Figure 5-1 Flood Risk and Water Management Groups

5.3 Improving the Evidence Base for Local Flood Risk Management

The County Council will continue to build a clear and robust evidence base to support this Strategy and its new role. Without the regular review and updating of flood risk information our understanding of local problems will remain incomplete. This could result in delaying or preventing actions on the ground to address local flooding issues.

Studies focused on local flooding, its mechanisms and consequences have already been undertaken in the form of Surface Water Management Plans for Minehead and Taunton. Further studies will be undertaken in other urban areas of Somerset in response to development pressures.

A more robust evidence base will assist the County Council, and its partners, in displaying the costs and benefits of local flooding schemes; helping us to secure funds both centrally and locally. Quick-wins and the need for funding will be easier to display. Further details of the mechanisms through which funding is secured can be found in Appendix 3.

Action Points

- AP3 The Risk Management Authorities will continue to undertake local studies and assessments. Knowledge gained can be fed back into this Strategy, helping us to establish more locally relevant and realistic options to address flooding issues.
- AP4 Information gathering will be aided by the County Council's new flood investigation role. More details of this role can be found in Appendix 2.
- AP5 Further sharing of knowledge, data and best practice will be encouraged between the Risk Management Authorities by formalising data sharing arrangements.

5.4 Prioritising Actions to Address Local Flooding

It is not technically, economically or environmentally possible to remove all flood risk. The County Council and its partners must invest limited resources to their best effect, in other words gaining the maximum benefit for every pound spent. The local flooding hotspots identified as part of our assessment will act as a focus for our efforts and we will need to conduct further work to determine feasible options for reducing risk at these locations.

However, we will not focus on these hotspots alone to the detriment of the risk faced elsewhere in the county. Issues will be identified through the County Council's new flood investigating role and ordinary watercourse consenting and enforcement responsibilities. The other Risk Management Authorities, local flood groups or parish councils should also bring flooding and maintenance issues to the attention of the Lead Local Flood Authority.

The local strategy is an important document for attracting funding to undertake flood risk management projects.

To support the delivery of the objectives in the local strategy, together with our partners, we will develop a programme of potential flood alleviation capital schemes for sites with flooding problems associated with ordinary watercourses and surface water. It is anticipated that ideas for schemes will come from a number of sources including; officers, elected members and local communities.

It will be necessary to assess and prioritise schemes to ensure that those taken forward offer the best value for money in terms of delivering flood management benefits and the objectives set out in this local strategy. Schemes will need to comply with legislation such as the requirements of the Conservation of Habitats and Species Regulations 2010 (as amended) or its

successor in respect of potential effects on Special Areas of Conservation, Special Protection Areas and Ramsar sites.

Those schemes likely to be deemed highest priority will be those that:

- Contribute to achieving the objectives of the local strategy.
- Protect homes from internal flooding, in particular where flooding has occurred before.
- Contribute to the reduction of an established flood risk based on robust data and evidence.
- Offer an opportunity to secure funding contributions from other sources to maximise investment.

As Lead Local Flood Authority, Somerset County Council will maintain a list of requests for schemes that it receives and assesses.

This list of candidate schemes will also be made available to colleagues working in planning and development management in the district/borough and county councils to ensure that any opportunities to gain improvements or financial contributions to infrastructure projects are secured through the planning process as appropriate developments in those areas come forward.

This capital programme will be shared between our partner risk management authorities to open up the possibility of joint working through the coordination of our various schemes and to allow for jointly funded works.

Property Level Flood Protection measures are one way in which resilience can be increased by minimising the water that is able to enter homes and business premises. This approach uses a variety of products designed to prevent the ingress of water to buildings.

Experience has shown that there is some resistance to the installation of these types of measures, even where there is no cost to the homeowner. These concerns often stem from fears of being branded as living in a flood risk area and the associated adverse effects on property sales and insurance. One of the challenges to encourage uptake of these schemes is to demonstrate the benefits of increased flood awareness and preparation.

Action Points

- AP6 Resources to address flooding issues will be allocated in a proportionate manner, focusing on areas where the greatest social, economic and environmental benefits can be delivered and embedding a catchment wide approach to flood risk management.
- AP7 We will promote property protection measures as a tool in flood risk management.
- AP8 We will assist individuals and communities in flood risk areas to develop their own property protection schemes. This includes offering advice on establishing flood action groups and flood plans to ensure best use of the protection products.
- AP9 We will work with our flood risk management partners to identify sources of funding for property level protection schemes.

5.5 Awareness Raising

Effective communication is key to ensuring that:

- Those liable to flooding are aware of the risk they face and can take appropriate action to minimise it;
- Those who may worsen flooding problems are aware of their responsibilities and the effects that their actions, or lack of action, may have; and
- Those not at risk are aware of catchment management steps they can take to reduce the flood risk to others and give benefit to the environment.

Raising community awareness is a key priority for this Strategy. Flood risk cannot be removed entirely but we can work to help prepare individuals and communities by providing the right information to those who need it.

Organisations such as the Local Resilience Forum (the Emergency Planning Authorities of Avon and Somerset), the Environment Agency, the District/Borough Councils and the County Council all have a role in informing communities of the risks they face and what they should do to minimise it.

Action Point

- AP10 The County Council and its partners will undertake focussed awareness raising programmes highlighting the actions communities can take to minimise the impacts of flooding.

5.6 Maintenance and Operational Issues

Sir Michael Pitt's Report identified that a lack of maintenance of existing flood risk management assets (such as ditches, highway drainage, watercourses and other drainage features) was a key contributory factor to the 2007 summer floods.

Without regular maintenance the designed level of protection provided by such assets will continue to diminish over time. The impacts of climate change are expected to raise the probability of flooding and erosion and will require the enhancement of assets. Assets will also reach the end of their design life

and require replacement, refurbishment or further maintenance which will increase the overall costs of flood protection.

5.6.1 Watercourse maintenance

Landowners whose land is crossed or bordered by a watercourse are 'riparian owners' and as well as having certain rights, are responsible for its maintenance. It is a duty on all landowners to carry out maintenance under common law. Under the Land Drainage Act notice can be served on landowners who fail to carry out their obligations. This power to require maintenance is enforceable by the Environment Agency on designated main rivers and Internal Drainage Boards (IDBs) on ordinary watercourses in their areas. Outside IDB areas the power is the County Council's. However, this power has been delegated by the County Council to Sedgemoor District Council in their area.

Roadside ditches, unless they were specifically constructed to provide drainage to the road, are also the responsibility of the adjacent landowner, not the highway authority.

5.6.2 Gully cleansing

Highway drainage can have an impact on local flooding, and ensuring the road gullies are kept functioning is key to this. The continued efficient function of the gullies and their connections and the frequency of emptying depend partly upon the location, the presence of industry and agricultural land, the degree of tree cover, level of rainfall, flood susceptibility, the extent of kerbing and the frequency of sweeping.

The frequency of planned gully cleansing will depend on location (classification of road) and the relative risk of flooding. The risk based approach will result in gullies in high risk locations being routinely cleaned on an annual basis and less frequently elsewhere.

Where defects or flooding are reported, in between the planned gully cleansing, these will be dealt with on an ad-hoc or reactive basis.

The planned programme is reviewed and adjusted annually to ensure the programme recognises and responds to the changing nature of risk and flooding on the county highway network.

To report a blocked drain on the highway please phone 0845 345 9155 or report on-line through www.somerset.gov.uk

5.6.3 Sandbag policy

Sandbags can be used to minimise the damage to property from short-duration floods by keeping water from entering through openings such as doorways, air bricks and pipe and cable entry points.

Somerset County Council does not supply sandbags. Your local District/Borough Council may have a supply of sandbags for deployment during times of flooding but they do not have a statutory duty to provide them as householders are responsible for the protection of their own home. It is important that property owners check with their District Council whether they provide sandbags and what their policy is for doing so.

If your District Council does not provide sandbags they can be purchased from most DIY stores and Builders Merchants. It should be noted that during times of flood they may be more difficult to find as demand increases. Alternatively in an emergency you can create your own with pillowcases or plastic bags filled with sand or soil.

The Environment Agency has published a guide on its website covering the use of sandbags to protect property entitled Sandbags and how to use them properly for flood protection.

There are also a number of alternative products on the market that use a super absorbent filling rather than sand. These have several advantages over sandbags and can be obtained through specialist suppliers.

In some flood risk areas parish councils have elected to purchase sandbags and sell them on to residents. In other areas parish councils have created a community emergency store of equipment where residents can fill sandbags as part of local resilience programmes.

If your local Council does not provide sandbags, or your property is at regular risk of flooding you should consider installing formal property protection productions. These offer improved protection, can be reused and are easier to manage and deploy than sandbags. Please refer to Appendix 4 for further details on property level protection.

Action Points

Somerset County Council (as a Lead Local Flood Authority and Highway Authority) along with its other Risk Management Authority partners will work to:

- AP11 Raise awareness of asset ownership and the importance of regular maintenance;
- AP12 Raise awareness of the responsibilities of riparian ownership i.e. those who have a watercourse or culvert running through or adjacent to their land;
- AP13 Produce an Asset Register of key flood risk management structures or features and make this publicly available;
- AP14 Where necessary, use powers, either directly or delegated to others, under the Land Drainage Act (1991) to ensure that land owners maintain their watercourses.
- AP15 Liaise with the District Councils to try and establish a consistent level of sandbag provision across the County.
- AP16 Continue our work with local communities who would like to establish local resilience flood stores in their communities.
- AP17 Encourage local residents and communities to clear debris from gully gratings, especially in the autumn.

5.7 Planning

Integrating local flood risk management and the planning system is a key priority. This Strategy looks toward limiting the risk to, or caused by, new

development. Flooding issues should be considered at the very earliest stages of site identification and design.

The National Planning Policy Framework requires local planning authorities to consider all flood risk when drafting development plans and in making decisions on development proposals.

Our assessment of local flood risk (which will be regularly reviewed) will assist in refining the Strategic Flood Risk Assessments which inform the development strategies of the local planning authorities within Somerset, that is, District and Borough Councils and the Exmoor National Park Authority.

Once government commences Schedule 3 of the Flood and Water Management Act, the County Council will become a Sustainable Drainage Approving Body, or SAB. All development over certain thresholds will need to secure approval of drainage design before construction begins. This gives the County Council the opportunity to ensure that new drainage proposals do not contribute to the overloading of the drainage network causing flooding. It also provides opportunities to deliver improvements to water quality, wildlife, habitats and local amenity.

Action Points

The County Council will:

- AP18 In co-operation with other County and Unitary Councils in the South West produce local Sustainable Drainage guidance to complement the National Standards on how environmental, amenity and flooding solutions can be integrated;
- AP19 Work with the local planning authorities in Somerset to ensure that the planning and drainage approval processes work together effectively.

5.8 Deliver cost effective measures

The funding available to Somerset County Council for its new role as a Lead Local Flood Authority and for delivering local flood risk schemes is limited and the government's priority on reducing the national debt will continue to place a downward pressure on budgets.

The government's new partnership funding approach encourages communities and stakeholders to take more responsibility for the flood risk they face and aims to increase overall investment beyond that which can be provided centrally. One aspect of the partnership funding approach is that schemes in areas of high population attract more central government funding whilst areas such as Somerset struggle to secure sufficient funding to undertake improvement works. This is especially so on the Somerset Levels, where a scheme to alleviate the serious flooding experienced in 2012 is estimated to cost up to £4.1m and although economically justified, will attract only £0.4m of central government funding. Although the work required is to main river and therefore the responsibility of the Environment Agency, it is recognised that the scheme will provide benefit to the wider community of Somerset and the County Council will lead a partnership of all stakeholders in

accumulating evidence to be presented to central government on why Somerset should be considered a special case for additional funding.

As well as lobbying for additional funding for the Somerset Levels, partners will press government for amendments to the partnership funding scheme in order to recognise the huge impact on the rural economy that flooding has and the difficulty in securing sufficient contributions to enable flood defence schemes to be promoted.

Action Points

The County Council will:

- AP20 Seek new and alternative sources of funding to 'top-up' funds so more local flooding schemes can progress;
- AP21 Pool resources with local and regional partners where necessary and appropriate;
- AP22 Lead partners in making the case for additional funding to ensure that dredging of the Parrett and Tone can be undertaken and maintained and press for a review of the resilience partnership funding model so that rural areas are not disadvantaged;
- AP23 With the help of the other Risk Management Authorities, identify and submit new projects for funding approval;
- AP24 Take a holistic approach to flood risk management through seeking opportunities for catchment management to give flood risk benefits; and
- AP25 Give due regard to the need to identify and avoid potential adverse effects on the integrity of European and International sites in and around Somerset

For more details of the funding process, refer to Appendix 3.

6 Next Steps

The Somerset Local Flood Risk Management Strategy sets out how the County Council, in partnership with the other Risk Management Authorities and key stakeholders, will manage local flooding issues across the County over the next six years.

This Strategy represents the first step towards a co-ordinated strategy for flood risk from all sources, but from the outset demands effective and meaningful working arrangements between the Risk Management Authorities if it is to be successful.

The key focus for the first three years is building a robust evidence base to support effective decision making through the undertaking of local studies and assessments. A number of schemes to address local flooding problems on the ground will also be developed and delivered.

An action plan of measures to be pursued over the next 12 months to work towards achieving the objectives has also been developed. This action plan is not part of the strategy and will be updated annually.

7 Review

A natural, long term framework for refreshing this strategy is provided by the Flood Risk Regulations. The Preliminary Flood Risk Assessment review will need to be carried out once every six years and this strategy will be reviewed as a result. The result of this review will be published by the end of December 2018. Continual monitoring and updating this Local Strategy will be essential both to ensure it continues to be 'fit for purpose' but also as a way of demonstrating success in delivering reduced flood risks to the people of Somerset. The updating will ensure the contents are compatible with current legislation and new information/plans. If there are major issues that necessitate a major review before the programmed six year review, one will be carried out. There are a number of ways of monitoring progress and once we have established the baseline figures, in future we would expect to be able to report in more detail in terms of reduction in numbers of people at flood risk, area of enhanced/new habitat, progress against WFD targets, benefits delivered for money spent, and so on. However, in the early years the action plan will not be sufficiently specific/detailed to enable this level of reporting to take place.

Emergency Contacts

Emergency Services (if life is at risk)	999
Environment Agency – Floodline	0845 988 1188
South West Water Minicom	0844 346 2020 0800 169 9965
Wessex Water Minicom	0845 850 5959 0845 730 0619

Non-Emergency Contacts

District Councils

Mendip District Council (www.mendip.gov.uk)	01749 648999
Taunton Deane Borough Council (www.tauntondeane.gov.uk)	01823 356356
Sedgemoor District Council (www.sedgemoor.gov.uk)	0845 408 2540
South Somerset District Council (www.southsomerset.gov.uk)	01935 462462
West Somerset District Council (www.westsomersetonline.gov.uk)	01643 703704
Environment Agency (www.environment-agency.gov.uk)	03708 506 506
Flood Protection Association (thefpa.org.uk)	03333 238 701
National Flood Forum (www.floodforum.org.uk)	01299 403055
Police (non-emergency)	101
Somerset Highways (www.somerset.gov.uk)	0845 345 9155