

Topic Paper 8: Water

Policy Context

Overall aim or purpose of document	Objectives / targets
Water Framework Directive (2000/60/EC)	
<p>This Directive seeks to establish a structured framework for action in the field of water policy.</p>	<p>Objectives This Directive aims to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which:</p> <ul style="list-style-type: none"> • Prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems • Promotes sustainable water use based on long-term protection of available water resources • Aims at enhanced protection and improvement of the aquatic environment, <i>inter alia</i>, through specific measures for the progressive reduction of discharges, emissions and losses of priority substances and the cessation or phasing-out of discharges, emissions and losses of the priority hazardous substances • Ensures the progressive reduction of groundwater pollution and prevents its further pollution • Contributes to mitigating the effects of floods and droughts <p>Targets</p> <ul style="list-style-type: none"> • Achievement of good ecological status and good surface water chemical status by 2015 • Achievement of good ecological potential and good surface water chemical status for heavily modified water bodies
Bathing Water Quality Directive (76/160/EEC)	
<p>The quality of designated bathing waters in England is monitored against standards in the bathing water regulations (SI 1991/1597), which come from the EC Bathing Water Directive (76/160/EEC).</p> <p>In October 2002, the Commission adopted the proposal for a revised Directive of the European Parliament and of the Council concerning the Quality of Bathing Water.</p>	<p>Objectives The 1976 Bathing Water Directive sets binding standards for bathing waters throughout the European Union.</p> <p>Targets Contains a set of mandatory (or imperative) standards, which should not be exceeded, these are:</p> <ul style="list-style-type: none"> • 10,000 total coliforms per 100 millilitres (ml) of water • 2,000 faecal coliforms per 100ml of water <p>In order for bathing water to comply with the Directive, 95% of the samples (i.e. at least 19 out of the 20 taken) must meet these standards, plus a range of other criteria.</p>
Urban Waste Water Directive (98/15/EC)	
<p>This Directive clarifies the rules relating to discharges from urban waste water treatment plants in order to put an end to differences in interpretation by Member States.</p>	<p>Objectives</p> <ul style="list-style-type: none"> • The option of using daily averages for the total nitrogen concentration applies both to agglomerations of 10 000-100 000 p.e (population equivalent) and to those of more than 100 000 p.e • The condition concerning the temperature of

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	<p>the effluent in the biological reactor and the limitation on the time of operation to take account of regional climatic conditions only apply to the "alternative" method using daily averages</p> <ul style="list-style-type: none"> • Use of the "alternative" method must ensure the same level of environmental protection as the annual mean technique
Urban Wastewater Treatment Directive (91/271/EEC)	
<p>This Directive concerns the collection, treatment and discharge of urban waste water and the treatment and discharge of waste water from certain industrial sectors. Its aim is to protect the environment from any adverse effects due to discharge of such waters.</p> <p>Industrial waste water entering collecting systems, and the disposal of waste water and sludge from urban waste water treatment plants, are both subject to regulations and/or specific authorisations on the part of the competent authorities.</p>	<p>Objectives</p> <ul style="list-style-type: none"> • The Directive establishes a time-table for the provision of collecting and treatment systems for urban waste water in agglomerations which meet the criteria laid down in the Directive (these targets are detailed below) • Annex II requires Member States to draw up lists of sensitive and less sensitive areas which receive the treated waters. • The treatment of urban water is to be varied according to the sensitivity of the receiving waters • Member States will be responsible for monitoring both discharges from treatment plants and the receiving waters. <p>Targets The main targets are as follows:</p> <ul style="list-style-type: none"> • 31 December 1998: all agglomerations of more than 10000 "population equivalent" * (p.e.) which discharge water into sensitive areas must have a proper collection and treatment system • 31 December 2000: all agglomerations of more than 15000 p.e. must have a collection and treatment system which enables them to satisfy the requirements in Table 1 of Annex I • 31 December 2005: all agglomerations of between 2000 and 10000 p.e. which discharge water into sensitive areas, and all agglomerations of between 2000 and 15000 p.e. which do not discharge into such areas must have a collection and treatment system
Directive on the Assessment and Management of Flood Risks (2007/60/EC)	
<p>This Directive requires Member States to assess if water courses and coast lines are at risk from flooding, to map the flood extent and assets and humans at risk in these areas and to take adequate and coordinated measures to reduce this flood risk. This Directive also reinforces the rights of the public to access this information and to have a say in the planning process. The purpose of the Directive is to establish a framework for the assessment and management of flood risks, aiming at the reduction of the adverse consequences for human health, the environment, cultural heritage and economic activity associated with floods in the Community.</p>	<p>Key articles refer to the need to:</p> <ul style="list-style-type: none"> • Undertake preliminary flood risk assessment • Prepare flood hazard maps and flood risk maps • Prepare flood management plans
Planning Policy Statement 25: Development and Flood Risk (ODPM, 2005)	
<p>PPS25 sets out Government policy on development and flood risk. Its aims are to ensure that flood risk is taken into account at all stages in the planning process, to avoid</p>	<p>Key Planning Objectives are:</p> <p><u>Appraising risk</u></p> <ul style="list-style-type: none"> • Identifying land at risk and the degree of risk of flooding from river, sea and other

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<p>inappropriate development in areas at risk of flooding, and to direct development away from areas of highest risk. Where new development is, exceptionally, necessary in such areas, policy aims to make it safe, without increasing flood risk elsewhere, and, where possible, reducing flood risk overall. Regional Planning Bodies and local planning authorities should prepare and implement planning strategies.</p>	<p>sources in their areas</p> <ul style="list-style-type: none"> • Preparing Regional Flood Risk Appraisals (RFRAs) or Strategic Flood Risk Assessments (SFRAs) as appropriate, as freestanding assessments that contribute to the Sustainability Appraisal of their plans <p><u>Managing risk</u></p> <ul style="list-style-type: none"> • Framing policies for the location of development which avoid flood risk to people and property where possible, and manage any residual risk, taking account of the impacts of climate change • Only permitting development in areas of flood risk when there are no reasonably available sites in areas of lower flood risk and benefits of the development outweigh the risks from flooding <p><u>Reducing risk</u></p> <ul style="list-style-type: none"> • Safeguarding land from development that is required for current and future flood management eg conveyance and storage of flood water, and flood defences • Reducing flood risk to and from new development through location, layout and design, incorporating sustainable drainage systems (SUDS) • Using opportunities offered by new development to reduce the causes and impacts of flooding e.g. surface water management plans; making the most of the benefits of green infrastructure for flood storage, conveyance and SUDS; re-creating functional floodplain; and setting back defences.
Water Act (2003)	
<p>The Water Resources Act 1991 controls the abstraction and impounding of water.</p>	<p>Objectives</p> <ul style="list-style-type: none"> • Part 1 and elements of Part 3: provide the EA with additional tools for managing water resources and gives them stronger powers to take action against abstractions causing environmental damage. They introduce provisions to increase the scope and public availability of information on water resources which are intended to enable abstractors to plan ahead in an environmentally responsible manner. They also make provision to increase the flexibility, accountability and administrative efficiency of the abstraction and impounding licensing system, with the intended result of increasing the ease of access to sustainable water resources • Part 2: establishes a regulatory Board to replace the existing individual Director General of Water Services along with a new independent Consumer Council for Water to replace the Customer Service Committees. It also introduces other provisions intended to improve the regulatory regime and to extend the opportunities for competition in the water industry, by allowing new entrants to supply non-household customers who use large volumes of water

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	<ul style="list-style-type: none"> Part 3: see above, with Part 1. This Part introduces a range of miscellaneous provisions including a duty on the Secretary of State and the National Assembly for Wales to encourage water conservation. Part 3 also includes powers for the Secretary of State to require sewerage undertakers to adopt private sewers
Future Water - The Government's water strategy for England (2008)	
<p>This strategy sets out the Government's long-term vision for water and the framework for water management in England. Future Water builds on and replaces the previous strategy for water, <i>Directing the Flow</i> and its action points. This new strategy will help the government to realise all water commitments while contributing to two key Public Service Agreements:</p> <ul style="list-style-type: none"> Securing a healthy natural environment for the future, for which water availability and quality are key, and for which the government have developed an ecosystems approach action plan to ensure integrated delivery; and Leading the global effort to avoid dangerous climate change. <p>Future Water outlines a strategic and integrated approach to the sustainable management of water resources, for the public water supply as well as for the provision of healthy ecosystems and the services they provide.</p>	<p>The vision for water policy and management is one where, by 2030 at the latest, there is:</p> <ul style="list-style-type: none"> Improved quality of the water environment and the ecology which it supports Continued high levels of drinking water quality from taps Sustainably managed risks from flooding and coastal erosion More effective management of surface water A sustainable use of water resources, and fair, affordable and cost reflective water charges Reduced greenhouse gas emissions Embedded continuous adaptation to climate change and other pressures across the water industry and water users <p>Target</p> <ul style="list-style-type: none"> The Government's ambition is to reduce average consumption to 130 litre per head per day by 2030, or to as low as 120 litres per head per day depending on technological development and innovation
Water Resources for the Future: A Strategy for England and Wales (Environment Agency, 2001)	
<p>This forms the Environment Agency's strategy for water resource management for the next 25 years. The focus of the strategy is on understanding the present state of water resources and planning for the management of water resources to prevent long-term environmental damage and degradation. The strategy highlights where water abstractions are unsustainable and where further water is needed. The issue of climate change and its impact upon our water resources are also considered. Thirty action points are identified to deliver the strategy which include developing leakage control, encouraging good practice when using water and promoting the value of water.</p>	<p>There are no specific targets or objectives of relevance.</p>
PPG20: Coastal Planning (Department for the Environment, 1992)	
<p>This PPG covers planning policy for the coastal areas of England and Wales.</p>	<p>Objectives</p> <p>Does not contain a specific set of objectives, but does state that on-shore development can often have an impact offshore, and this should be taken into account when making planning decisions. Likewise, when considering the environmental impacts of developments outside the coastal zone, local planning authorities will still need to consider the effects on that zone</p> <p>Targets</p> <p>Does not contain any specific targets</p>
Groundwater Protection: Policy and Practice GP3 (Consultation Document) (Environment Agency,	

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<p>2006)</p> <p>This document provides a framework for EA regulation for groundwater. The EA sets out its approach, and the methods and tools they use in their work. They also emphasise that prevention is better than cure.</p> <p>The document comprises four parts which include: Part 1: core policies Part 2: a technical framework Part 3: tools Part 4: legislation and policies</p>	<p>Overarching Objective</p> <ul style="list-style-type: none"> • To protect and manage groundwater resources for present and future generations in ways appropriate to the risks identified by the EA <p>Core Policy Objectives</p> <ul style="list-style-type: none"> • To provide a framework for the EA's statutory role – to ensure the EA use their powers in a consistent and transparent manner • To encourage co-operation between the EA and other bodies with statutory responsibilities for the protection of groundwater • To promote the EA's policies, so that land-users and potential developers may anticipate how the EA are likely to respond to a proposal or activity • To influence the decisions of other organisations on issues the EA are concerned about but which the EA do not regulate • To help to meet the objectives of the Water Framework Directive – by progressively reducing the pollution of groundwater, especially from diffuse sources • To ensure groundwater protection and management are consistent with the EA's vision for the environment and a sustainable future • To provide information and background on groundwater protection in England and Wales
Water Resources for the Future – A Strategy for the South West Region (Environment Agency, 2001)	
<p>Provides the Environment Agency's assessment of water resource management in the South West which considers the needs for water, both for the environment and for society and examines the uncertainties about future water demand and its availability. The strategy looks 25 years ahead and considers the need for public water supply, agriculture, commerce and industry, as well as the environment.</p>	<p>Objectives</p> <p>The strategy concludes that:</p> <ul style="list-style-type: none"> • In parts of the Region, water can be a scarce resource. In some places, environmental improvements are necessary. • Continued availability of a reliable public water supply is essential. The plan recommends the enhancement of supply by about 5% over the next 25 years by improving existing schemes and developing some new resources • Water efficiency should be actively promoted • Over the next 25 years household water metering should become widespread, in the context of the Government's broader social and environmental policies including the protection of vulnerable households • Continued progress in leakage control will be necessary • Commerce and industry should pay increasing attention to water efficiency • To make the strategy successful, the EA will need to work with many other groups and individuals
Draft Water Resources Plan 2008 (Environment Agency, 2008)	
The document sets out South West Water's	As part of implementing the Habitats Directive,

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strategy to ensure that all customers have a secure supply of water through until the year 2034/35.	the Environment Agency must consider the impact of new and existing abstractions on these protected sites.
West Somerset Stream Catchment Abstraction Management Strategy (Environment Agency, March 2007)	
<p>The West Somerset Streams CAMS area stretches from Foreland Point in the west and extends east to Hinkley Point, covering an area of approximately 320 km². This area includes all the land drained by the rivers that flow to the north coast: the Hawkcombe Stream; Horner Water; River Aller; River Avill; Pill River; Washford River; Doniford Stream and Kilve Stream. Water is abstracted throughout the catchment and is used for many purposes, including public water supply, agriculture and industry. The West Somerset Streams CAMS provides vital information and will link with other initiatives that are concerned with sustainable management of water resources.</p>	<p>Strategic Actions:</p> <ul style="list-style-type: none"> • The status within each Water Resource Monitoring Unit & Groundwater Monitoring Unit will be maintained for this CAMS cycle • The ecological flow requirement of the Washford, Avill and Horner WRMUs will be fully protected (as they are of no water available or over-licensed status) • New licences in water available WRMUs (Doniford, Pill, Hawkcombe and Kilve) may be issued without constraints (after a full determination) • Following changes to the St Regis Paper Mill abstraction licence in 2005 and subsequent increased flows in the Washford River, invertebrate and fish survey work will be carried out. This will determine whether these changes have improved the health of the river • The EA will continue to collect actual flow data at a temporary gauging station on the River Avill. Review the possibility of a more permanent gauging station
West Somerset Catchment Flood Management Plan (Environment Agency, in production).	
<p>The EA has indicated that the final draft of this document will be available in the Summer. CFMPs will improve understanding of what factors influence floods and flood risk at the catchment scale. In gaining this understanding agencies will be able to determine the effect that potential changes in the catchment have on flood risk. Potential changes may include:</p> <ul style="list-style-type: none"> • Changes to land use, such as new developments • Changes to the rural landscape, such as agricultural land management • The impacts of climate change • CFMPs will identify broad policies for the long term (up to 100 years) and assist future flood risk management planning. They will not identify specific flood risk reduction measures, e.g. by identifying specific flood defence schemes. 	<p>The Environment Agency website states that CFMPs in England have now been finalised and that they are now considering the most effective way to communicate the outputs from this work. However, the West Somerset CFMP does not appear to be publicly available at this time.</p>
West Somerset Sustainable Community Strategy 2007-2010	
<p>The Sustainable Community Strategy sets out what the key priorities are for the people of West Somerset and sets out an action plan of how to achieve those aspirations.</p>	<p>Targets include:</p> <ul style="list-style-type: none"> • Reduce water consumption.

Baseline Review

This section reviews the available baseline information on water for West Somerset including data on baseline water quality, water resources, groundwater and flood risk.

Surface Water Networks

The length of the surface water network in Somerset and comparison to other counties is shown in Table 8.1. The West Somerset rivers network includes the land drained by the rivers that flow to the north coast including the Hawkcombe Stream, Horner Water, River Aller, River Avill, Pill River, Washford River, Doniford Stream and Kilve Stream and includes the towns of Minehead, Dunster, Porlock (within Exmoor National Park), Washford and Watchet. This is shown in Table 8.1 and Figure 8.1 (taken from the West Somerset Catchment Abstraction Management Strategy website http://www.environment-agency.gov.uk/commondata/acrobat/wsomstreamsamsl_1206129.pdf).

Table 8.1: Surface Water Networks in the South West

County	Length of river (km)	% of regional total
Cornwall and Isles of Scilly	947.12	16
Devon	2128.55	35
Dorset	558.35	9
Gloucestershire	689.45	11
Somerset	1038.11	17
Wiltshire	698.39	12
TOTAL	6059.96	100%

Bathing Water Quality

An annual assessment of compliance with the European Union Bathing Water Directive is made by the Department for Environment Food and Rural Affairs (DEFRA). European Union designated beaches in West Somerset are;

- Blue Anchor West.
- Dunster North West.
- Minehead Terminus.

All beaches in West Somerset passed the Bathing Water Quality standard in 2007 (the latest data available).

Water Resources

The South West is experiencing a number of pressures on regional water resources, including housing demand, economic development and climate change. The South West is one of the wettest regions, with prevailing westerly winds bringing moisture-laden air from the Atlantic. As a result the South West receives approximately 7500 litres of water as effective rainfall per person per day, which feeds back into surface water or percolates into the ground.

West Somerset is in the Wessex Water West Resource Zone. The Wessex Water, Water Resource Management Plan (2008) sets out how Wessex Water intends to provide sufficient water and protect the environment over the next 25 years. Wessex Water have undertaken a detailed review of demand projections to take account of population growth, housing developments, changing patterns of household water use and changing demands from commercial customers. At the same time they reviewed potential changes to the yields available from water sources, including assessing the potential impacts of climate change and river flow and reservoir modelling.

By comparing the updated demand and supply forecasts they have identified that in the South and West (which covers West Somerset) Resource Zones there is enough available water resources to meet demands over the coming years.

Water Consumption and Efficiency

The demand for water varies throughout the Region and is affected by:

- Population and occupancy rates of households;
- Numbers and types of business;
- Proportion of metered properties (metered properties tend to use less water); and
- Weather conditions (and its effect on tourism).

Figures from OFWAT (on the Audit Commission Area Profiles website) suggest that the daily domestic water use (per capita consumption) for West Somerset is 151 litres. There are no data previous to 2004 so no trend data are available. This compares to an average consumption of 150 litres per head per day across England and Wales. The Government's ambition is to reduce average consumption to 130 litres per head per day by 2030, or to as low as 120 litres per head per day depending on technological development and innovation

(Defra, Future Water 2008). Wessex Water figures suggest that metered households use less water (at 136 litres per person per day) (Wessex Water, Water Resource Management Plan (2008)). The Wessex Water, Water Resource Management Plan also makes predictions about future water use. The report states that taking all the component parts of water used in the home and how they are likely to change in the future, an overall per capita consumption forecast can be derived for un-metered and metered households. In a normal year the water used by each person in an un-metered household is expected to remain broadly stable at approximately 151 litres per person per day over the coming decade, after which demand will decrease to approximately 144 litres per person per day. For metered households, average water consumption per person is forecast to modestly decline from approximately 137 to 135 litres per person per day.

Waste Water Treatment

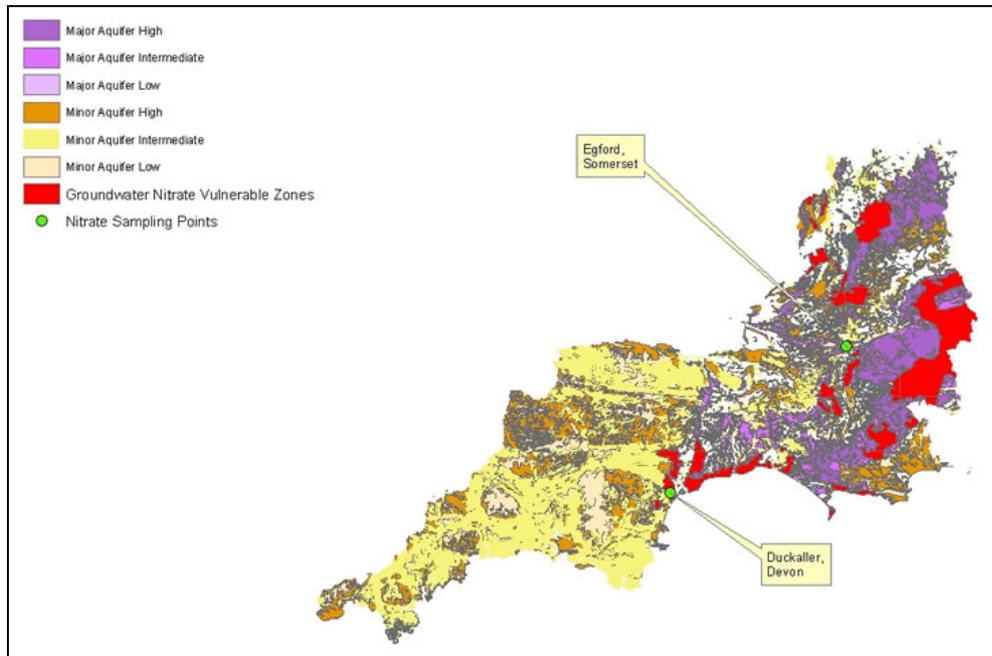
Waste water is treated by water companies (in West Somerset's case, Wessex Water). The planning system requires planning authorities, developers and water companies to work together to ensure timely provision of appropriate additional infrastructure for water supply and wastewater treatment. A co-ordinated approach to plan making should be developed through a programme of water cycle and river cycle studies to address issues of water supply, water quality, wastewater treatment and flood risk in receiving watercourses relating to the development proposed in the LDF.

Water Leakage

Abstracted water for public supply is commonly lost through leaks in the supply pipes. The Wessex Water, Water Resource Management Plan (2008) sets out the leakage rates in the Wessex Water region. Reducing leakage has been a key objective for Wessex Water over the last 12 years. Between 1994 and 2007 leakage was nearly halved and currently stands at 71 MI/d. This has been achieved by a range of activities including finding and fixing and pressure control.

Groundwater Vulnerability

Groundwater is measured by a vast network of boreholes that covers the South West. Maps have been produced for the whole of England and Wales showing the vulnerability of groundwater to pollution. These maps do not consider the risk of pollution occurring, but how easily pollutants can move through the water table. This map is shown as Figure 8.2 (www.senvo.org.uk).

Figure 8.2: Aquifers

Most of West Somerset is considered to be a minor aquifer with varying levels of vulnerability from low to high. None are classed as Nitrate Vulnerable Zones. However, there are several Groundwater Source Protection Zones in West Somerset which are defined by the Environment Agency for the majority of large abstractions for potable supply which are designed to protect against the effects of human activity on the groundwater source. Three types of Protection Zone have been recognised in terms of inner, outer and total catchment. These reflect different travel times to the source.

In terms of groundwater quality, the Wessex Water, Water Resources Management Plan (2008) lists groundwater quality as a key issue. The report states that 75% of the water abstracted in the Wessex Water area comes from groundwater and generally this water is of very good quality requiring little treatment other than chlorination before being suitable for supply to customers. However, over recent years at many sites Wessex Water have noticed deterioration in the quality of that water, especially in the levels of nitrate but also pesticides. These pollutants come from many sources, but the predominate source particularly in Wessex Water's rural area is farming. However, the Water Resources Management Plan does not list West Somerset as one of the areas at risk of breaching nitrate limit by 2020 so this is less of an issue in West Somerset than in other Wessex Water zones.

Flood Risk

As highlighted by the Environment Agency as part of the consultation carried out to feed into this report, due to the steep nature of some of the catchments in the District, they can respond very quickly to rainfall events. This means that they could be particular sensitive to flooding. West Somerset has recently completed a Strategic Flood Risk Assessment (SFRA) (West Somerset Strategic Flood Risk Assessment Level 1 Final Report, March 2009). A level 1 SFRA is a desk based review and allows a broad scale assessment of

flood risk. The report provides details of historic flooding incidents, areas at risk and areas which may become at risk from flooding in the future. It also identifies details of existing flood defences intended to reduce the afore-mentioned risk.

The purpose of the SFRA is to provide information to help the council to apply the sequential test for development. Development should be directed to Flood Zone 1 where possible and then sequentially to Flood Zone 2 and then Flood Zone 3 (choosing the areas least at risk in Flood Zone 3). Table 8.2 outlines the definition of Flood Zones 1, 2, and 3.

Table 8.2: PPS25 Flood Zone Definitions

Flood Zone	Definition
Flood Zone 1	Low probability - Defined as zone where there is a less than 0.1% (1 in 1000 year) probability of flooding each year.
Flood Zone 2	Medium probability - Defined as having between 0.1% and 1% (between 1 in 1000 and 1 in 100 year) probability of fluvial flooding each year and between 0.1% and 0.5% (between 1 in 1000 and 1 in 200 year) probability of tidal flooding each year .
Flood Zone 3a	High probability - Defined as having a 1% or greater (1 in 100 year or greater) probability of fluvial flooding each year and a 0.5% or greater (1 in 200 year or greater) probability of tidal flooding each year.
Flood Zone 3b	Functional floodplain - Defined as land where water has to flow or be stored in times of flood. Defined as the 5% (1 in 20 year) annual probability floodplain or an area designed to flood in an extreme (0.1%) flood, or another probability agreed between the Local Planning Authority (LPA) and the Environment Agency. (The Environment Agency do not currently produce Flood Zone 3b mapping for England and Wales).

The consultants who produced the SFRA have provided West Somerset Council with the Environment Agency's flood map for West Somerset as GIS layers and a broad assessment of flood risk within each settlement in the district. This assessment indicated that the areas most at risk of flooding are Minehead and Williton.

The consultants have also provided more detailed maps and assessments for the key settlements where the majority of development is likely to be focused (Minehead, Williton and Watchet). These also include details of historic flood incidents. We have reproduced these key settlement maps in Figures 8.3 to 8.5 below. These maps allow for the predicted effects of climate change.

A particular flood issue can be caused when surface water drainage is inadequate to drain water away from properties quickly enough. Surface water flooding is typically generated by short duration, intense rainfall events where precipitation is unable to infiltrate the ground or enter drainage systems. Subsequently, water may become transferred overland causing localised flooding. There are a number of historic surface water flood incidents shown on the SFRA Level 1 Flood Mapping. Surface water flooding is likely to occur at the base of hills, escarpments and low points in terrain. Overland flow is exacerbated by urban development and the permeability of underlying soils and geology. Flooding of sewer systems is also possible and could occur in any area of the district. Some of this flooding is exacerbated because there is a disparity between the design standard of conventional sewer systems (1 in 30 year) and the typical design standard flood (1 in 100 year). This results in drainage inadequacies for the flood return period developments need to consider,

often resulting in potential flood risk from surface water/combined sewer systems. This needs to be dealt with within planning policy.

Figure 8.3: Minehead Flood Map

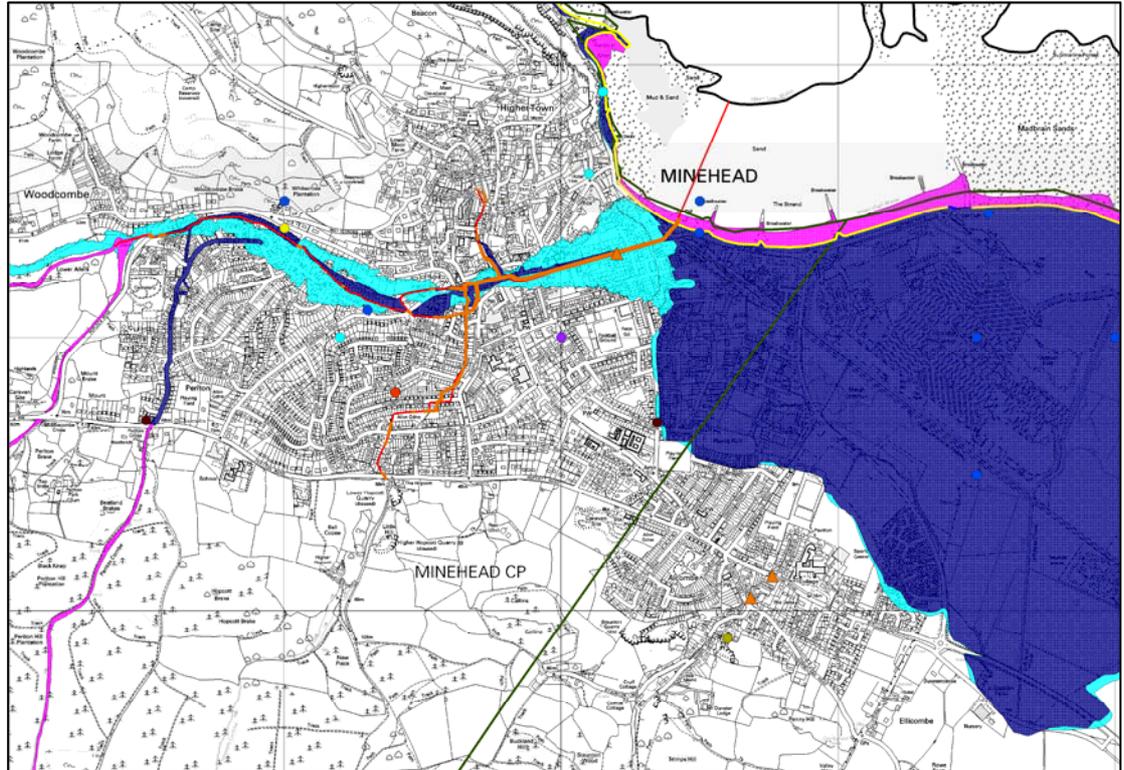


Figure 8.4: Williton Flood Map

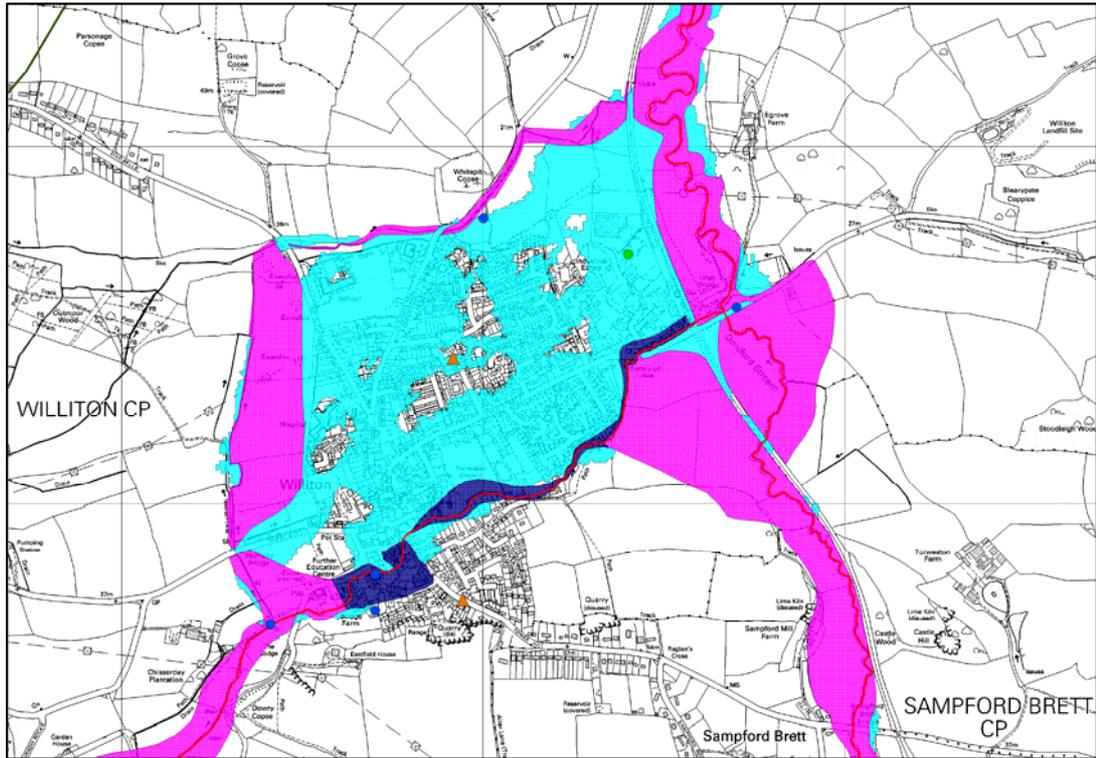
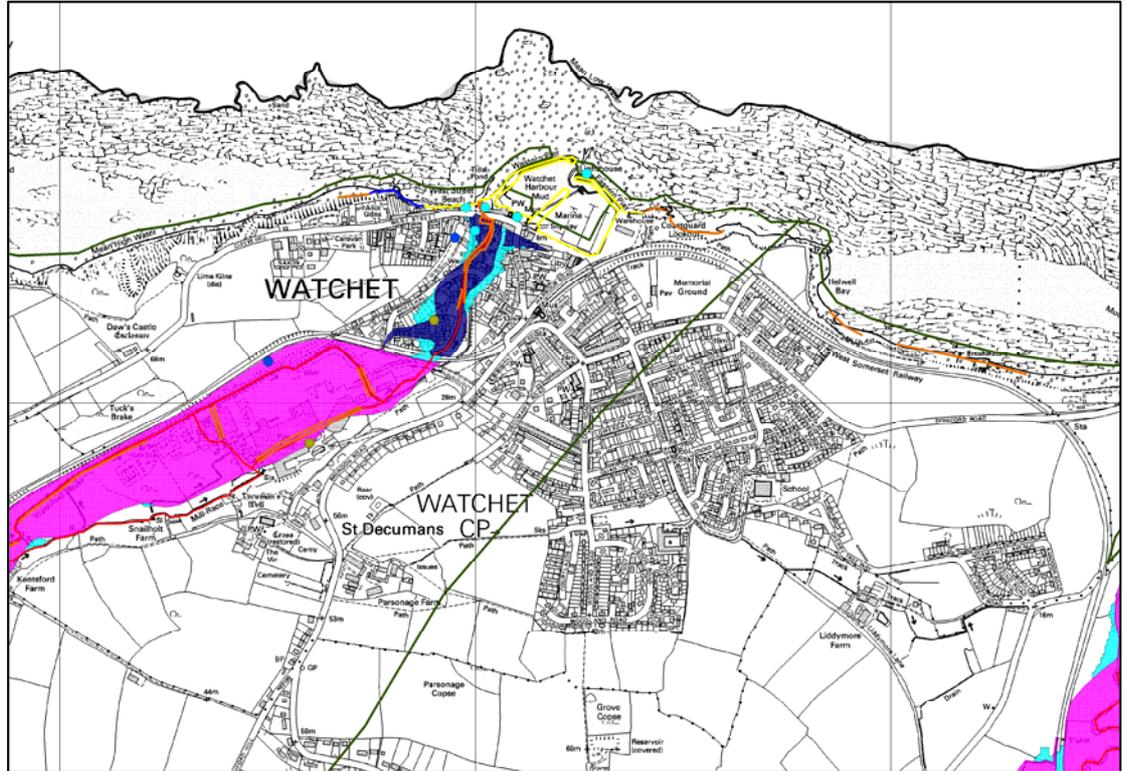


Figure 8.5: Watchet Flood Map



The key to the maps is as follows:



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Sources of Data

- West Somerset Strategic Flood Risk Assessment Level 1 Final Report, March 2009
- EUROPA http://europa.eu.int/comm/environment/water/water-framework/index_en.html
- Environment Agency <http://www.environment-agency.gov.uk/>
- Environment Agency (2005): RSS: South West RSS10. *Housing Growth and Water Supply in the South West of England 2005 to 2020.*
- Wessex Water , Water Resource Management Plan, 2008
- www.swenvo.org.uk
- Defra Bathing Water Quality Information <http://www.defra.gov.uk/environment/water/quality/bathing/default.htm>

Data Gaps

None.

Trends

- Biological water quality is improving while chemical water quality is declining slightly.
- Leakage rates are decreasing.
- Wessex Water predicts that there are adequate water resources available in the West Somerset area. However, this does not decrease the importance of using water

sustainably as new development and climate change will put increasing pressure on water resources.

Water issues identified

- West Somerset streams are of good and improving quality.
- Bathing water is of good quality.
- Water efficiency (as measured through water leakage) is increasing.
- There are two main areas at risk from fluvial flooding in West Somerset, Williton and Minehead. Flooding may become more common with the effects of climate change and the planning system needs to deal with adaptation to flooding effects.

Implications for the plan and the SA

- Water efficiency measures should be promoted through the LDF as part of wider sustainable construction policies.
- Development in the floodplain should be avoided and suitable policies designed to achieve this, particularly in the light of climate change.

Suggested SA Objectives and Indicators

SA objectives	SA indicators / appraisal questions. Will the plan lead to...
<p>Maintain and continue to improve the quality of ground/river/coastal water.</p> <p>Reduce risk of flooding including coastal flooding.</p> <p>Improve efficiency of water use.</p>	<ul style="list-style-type: none"> • Development where adequate water supply, foul drainage, sewage treatment facilities and surface water drainage is available or where suitable arrangements are made for their provision? • A reduction in per capita water consumption or help to reduce the demand for water through measures such as water efficient design (e.g. rainwater recycling / grey water reuse and BREEAM / Code for Sustainable Homes standards)? • Development which corresponds with EA flood risk and alleviation advice especially as regards building on the floodplain? • Development likely to affect the ecological status of groundwater and surface water? • An increase in the use of SUDS?