

FLOODING IN WEST SOMERSET: OVERVIEW OF LOCAL RISKS AND IDEAS FOR ACTION

A discussion document by the West Somerset Flood Group

June 2014



The West Somerset Flood Group

WHO WE ARE

We are a group of town and parish councils (and one flood group) actively working to reduce flood risk at local level. We have come together because we believe that the communities of West Somerset should have a voice in the current debate on managing future flood risk.

We also see a benefit in providing a local forum for discussion and hope to include experts, local-authority officers and local landowners in our future activities.

We are not experts on statutory duties, powers and funding, on the workings of local and national government or on climate change. We do, however, know a lot about the practicalities of working to protect our communities, we talk to both local people and experts, and we are aware of areas where current structures of responsibility and funding may not be working smoothly. We also have ideas for future action against flooding.

We are directly helped in our work by the Environment Agency, Somerset County Council (Flood and Water Management team, Highways Department and Civil Contingencies Unit), West Somerset Council, Exmoor National Park Authority and the National Trust and are grateful for the support they give us.

We also thank our County and District Councillors for listening to us and providing support and advice.

Members: River Aller and Horner Water Community Flood Group, Dulverton TC, Minehead TC, Monksilver PC, Nettlecombe PC, Old Cleeve PC, Porlock PC, Stogursey PC, Williton PC

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Front cover photograph: debris against Dulverton bridge over the River Barle (December 23 2012).

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FLOODING IN WEST SOMERSET: EXECUTIVE SUMMARY

West Somerset Flood Group

June 2014

West Somerset has suffered considerably from flooding in the past few years. Our communities have taken action at a local level, with the support of Somerset County Council (SCC), the Environment Agency (EA), Exmoor National Park Authority (ENPA), West Somerset Council (WSC) and the National Trust (NT), to address this problem. We believe the knowledge and experience we have gained in this process can make a positive contribution to current planning on flooding.

This paper sets out ideas for discussion proposed by eighteen town and parish councils and one cross-parish group, all concerned about flooding. They include those most active in community resilience work. We have reviewed the main local problems and their causes and suggest approaches and measures that would be most appropriate, effective and cost-efficient for West Somerset.

The recently-issued draft *Somerset Levels and Moors Flood Action Plan* from SCC demonstrates how much can be achieved by collaborative planning. We would like to see a county-wide Flood Action Plan that builds on this approach. Input from partners at local and national level will be essential.

Our area has high hills, high rainfall, rapid rivers and steep roads. It includes parts of a National Park and an AONB and is an important tourist destination. Our floods are 'flashy' and our population is scattered along river valleys from remote uplands to the Bristol Channel with its extreme tidal range.

These characteristics mean that in some respects we have different priorities from those of the Somerset Levels. Flooding happens quickly, our communication network is poor and response times for emergency and other services are slow. We therefore need to take all possible measures to reduce flood-risk *before* disaster hits.

Our chief needs are therefore for small capital interventions and constant maintenance, not only for watercourses but also for highway drainage systems that must deal with steep roads and high banks.

Our communities have already been working hard in consultation with the EA and SCC on flood resilience but there are limits to what can be achieved by volunteers with no statutory powers or funding. Given the complexity of current structures of responsibilities and resources we would ask for top-down reviews of the allocation of duties and powers and of funding across central and local authorities.

In our work on flooding, the following key needs have repeatedly emerged:

- Provision of revenue budgets for EA, SCC and WSC that will allow acceptable levels of maintenance and small-scale interventions
- Procedures to remove blockages from all watercourses quickly and safely
- Focus on highways as well as rivers as conduits for flood water into homes
- Procedure to remove debris from the highway on grounds of flood risk not road safety
- Legislation to allow SCC Highways Department to address wider flood risk in work on drainage systems (rather than through ad hoc requests from Somerset Flood and Water Management team)
- Legislation to allow SCC Flood and Water Management team to address run-off from agricultural land onto roads and into rivers (in addition to work by Defra)
- Provision of funding for specific and targeted local advice on catchment-sensitive farming
- Provision of funding for river catchment analysis and associated risk-reduction measures
- Funding solutions for a low-density population (fifth-lowest in England at 0.5 per hectare) which doesn't match standard criteria
- Further clarification of roles within the Somerset Strategic Flood and Water Management Partnership

Acknowledgements

Many thanks to the following groups who took the time to contribute to this document:

River Aller and Horner Water Community Flood Group*

Brushford Parish Council

Carhampton and Blue Anchor Parish Council

Dulverton Town Council*

Dunster Parish Council

Elworthy Parish Council

Luccombe Parish Council

Minehead Town Council*

Monksilver Parish Council*

Nettlecombe Parish Council*

Old Cleeve Parish Council*

Porlock Parish Council*

Sampford Brett Parish Council

Stogumber Parish Council

Stogursey Parish Council*

Watchet Town Council

Williton Parish Council*

Withypool and Hawkridge Parish Council

Wootton Courtenay Parish Council

(* members of the West Somerset Flood Group)

Particular thanks for help in the production of this document go to Sam Rawle (West Somerset Council), Karen Wright (West Somerset Council), Brenda Maitland-Walker (South West Regional Flood and Coastal Committee), Rose Lloyd and Kimberley Pippard (Environment Agency), Geoff Mackett (Civil Contingencies Unit), Josian Lebrun (Somerset County Council Flood and Water Management), and Alice Murray and Nigel Brett (Devon and Somerset Fire and Rescue).

We would like to thank Dulverton Town Council (front cover), Malcolm McCoy and Mary Coles (back cover) for allowing us to reproduce the photographs that appear in this document.

MAP OF WEST SOMERSET SHOWING CONTRIBUTING TOWNS AND PARISHES

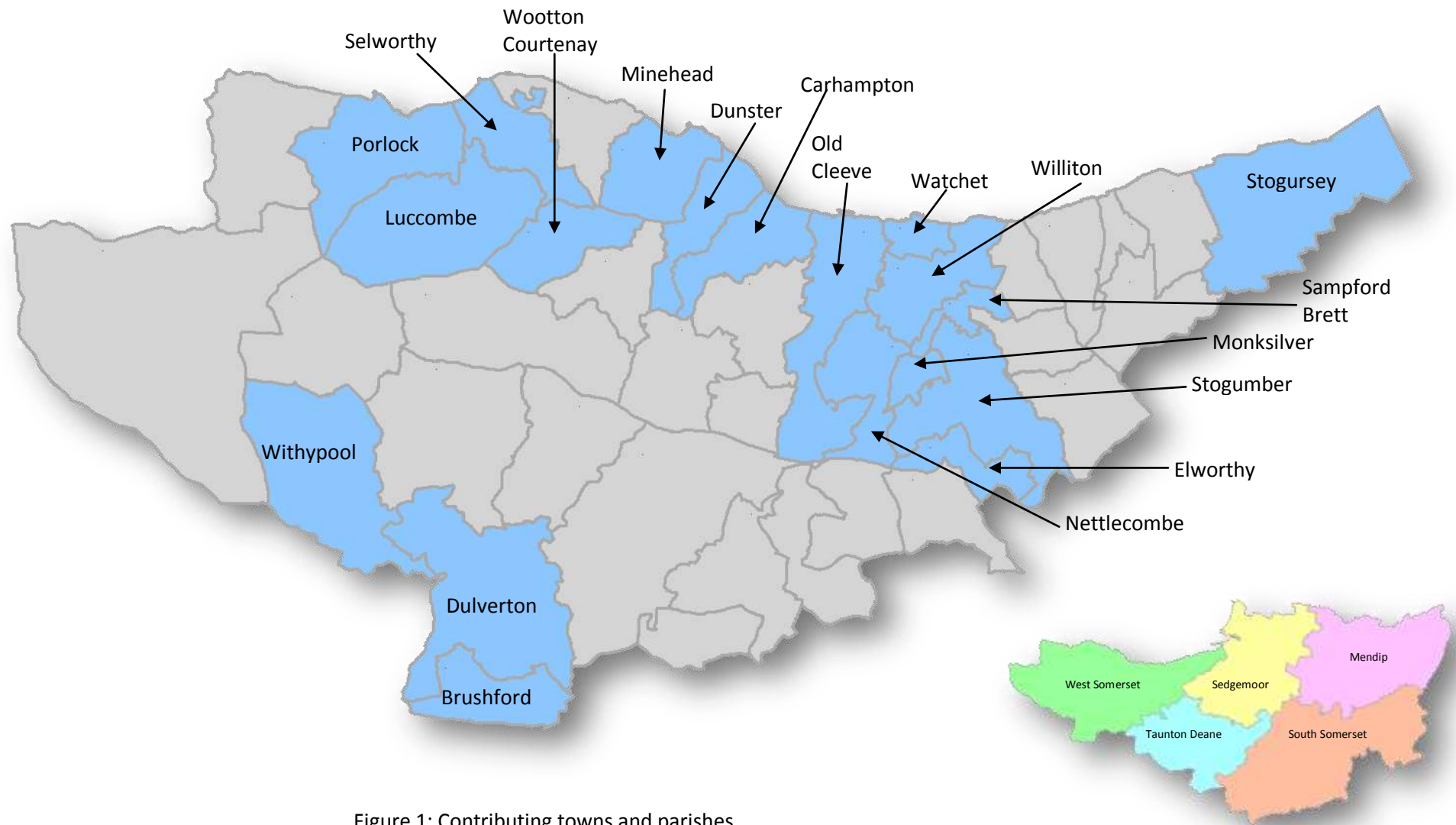


Figure 1: Contributing towns and parishes

FLOODING IN WEST SOMERSET: OVERVIEW OF LOCAL RISKS AND IDEAS FOR ACTION

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FLOODING IN WEST SOMERSET: OVERVIEW OF LOCAL RISKS AND IDEAS FOR ACTION

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1. Introduction

[1.1] Important decisions are being made in 2014 about priorities for tackling flooding in Somerset in the future. The draft *Somerset Levels and Moors Action Plan* represents a significant first step in this, while the 2014 *Local Flood Risk Management Strategy* from Somerset County Council (SCC) and the Environment Agency's 2012 catchment management plans offer a strong basis on which to build.

[1.2] In this ideas paper we hope to widen the scope of current collaborative thinking to allow a focus on the particular issues faced by West Somerset. We have a very different profile from that of the Somerset Levels. With high annual rainfall on its hills (80" per annum on the heights of Exmoor), steep valleys, communities strung along rapidly responding rivers and one of the greatest tidal ranges in the world, West Somerset offers a particular set of challenges in flood-risk management and calls for its own solutions. Some of these will, of course, chime with those in the *Levels and Moors Action Plan*, while others will place an emphasis on different areas of flood risk reduction and mitigation work (see Annexe F for feedback on the Levels and Moors plan).

[1.3] We hope that this document will help authorities and agencies in their work on flooding and will assist them in ensuring that public money spent on our area is directed in a cost-effective way towards the aspects of flood management that matter most to our communities.

[1.4] The West Somerset Flood Group is a group of town and parish councils (and one flood group) in the West Somerset area who are active in working to reduce and mitigate flooding at local level. As a consequence, we have gained first-hand knowledge and experience not only of the specific causes of flooding in our area but also of the challenges and issues facing authorities and agencies who tackle flooding. SCC as Lead Local Flood Authority (LLFA) and the Environment Agency (EA) in particular already provide substantial support and we have also been assisted by the Exmoor National Park Authority (ENPA), West Somerset Council (WSC) and the National Trust (NT). We need to build on this collaboration.

[1.5] In order to provide a starting-point for discussion this paper will:

- Provide an overview of the causes of flooding in the West Somerset area and describe the particular types of flood-event that occur here and their impact on the communities and infrastructure of the area
- Set out what work communities, authorities and agencies are doing to reduce and mitigate flooding in the area
- Highlight where the issues and needs lie in our work against flooding and suggest some ways in which these might be addressed.

[1.6] The paper draws on:

- information submitted by eighteen town and parish councils and one cross-parish flood group
- discussions with experts and officials
- discussions with local people
- supporting documents from authorities and agencies.¹

2. The environment of West Somerset and those who live there: a particular type of flood

[2.1] The majority of the West Somerset Streams that flow into the Bristol Channel and the rivers Barle and Exe have their headwaters and catchments high on Exmoor and in the Brendon Hills. High rainfall in the catchments, fast-flowing rivers, steep valleys with fast run-off, steep roads, lanes and tracks and remoteness of communities are all key factors in the way that floods occur and agencies respond to them. Rivers rise and fall relatively quickly and are therefore ‘flashy’ in their flood patterns (Barr and Woodley 2014: 2). Some riparian owners are farmers but there are also large estates (for example, the Crown Estate, National Trust at Holnicote) and, at the other end of the scale, individual home-owners with no experience of land management. The area also includes the northern part of the Quantock Hills, extending onto the fringes of the Levels to the East.

[2.2] Table I outlines key features of the environment of West Somerset and the way that people live in it, showing how these contribute to flood-risk.

TABLE 1: LANDSCAPE AND HUMAN INTERACTION WITH THE ENVIRONMENT: FEATURES THAT CONTRIBUTE TO FLOOD RISK IN WEST SOMERSET

FEATURE	CONSEQUENCE FOR FLOOD-RISK
THE PHYSICAL LANDSCAPE	
Steep valley sides and low permeability of ground	- Rapid run-off - Quick-rising ‘flashy’ watercourses
Wooded valleys	- Trees can block watercourses - More debris from banks to form blockages
High catchments	More frequent and heavier rainfall, saturated ground, more run-off, faster response of watercourses
Shale, pebbles as well as silt in river beds	Can build up and choke river course, create blockages
Very fast, high tides in Bristol Channel	Frequent threat from coastal flooding
Soft, clay and shingle cliffs subject to erosion	Threat of breaches in coastal protection

¹ See Annexe E for list of sources. The profiles submitted by individual towns and parishes are to be found in Annexe B. The main body of the paper provides summaries of this material but a fuller picture is provided by the individual returns.

HUMAN INTERACTION WITH THE LANDSCAPE	CONSEQUENCE
Agricultural land on hillsides: forestry and pasture in upper catchments; forestry, pasture and arable in mid and lower catchments	Run-off from fields and tracks (including logging tracks)
Steep roads with high banks	<ul style="list-style-type: none"> - Run-off from fields and adjacent land - Roads act as conduits for fast-flowing water - Gullies easily blocked by debris from fields and banks
Low and narrow bridges	Debris can block a river very quickly
Scattered population, small population centres strung along river valleys or on coastal strip at mouths of rivers	<ul style="list-style-type: none"> - Flooding occurs from many sources and in many places. Only a few more densely populated towns that might be protected by a single project or measure - Small communities mean greater impact on community from a relatively small number of properties flooding
Remoteness of population, difficult road access	Slow response-times for all services in an emergency (Fire and Rescue, Ambulance, Western Power, Highways, Wessex Water, Environment Agency) ²
Large number and variety of riparian owners	<ul style="list-style-type: none"> - Concerted action difficult, many riparian owners in catchments distant from properties at risk, hard to inspect or intervene - Different types of owner, not all are professional land managers. Very large landowners may not listen to local voice (ie Crown Estate), small landowners don't have expertise or resources to maintain watercourses (regardless of legal responsibilities)
Fish farms	Works on watercourses may be constrained by needs of fish farms (ie water quality)
Exmoor National Park and Quantocks AONB designations (as well as numerous SSSIs, nature reserves, SACs and scheduled monuments) ³	Additional care must be taken in preserving biodiversity etc. A number of historic structures cannot be adapted for flood relief purposes

[2.3] The factors in this table strongly influence the responses given by individual towns, parishes and groups. In particular, the importance of dealing very quickly with potential blockages in fast-rising rivers, the role of run-off from fields and that of roads as conduits for floodwater produce a profile significantly different from those of other areas of the county and the country. Clearing watercourses (by dredging or other means) to get water to flow away more quickly is certainly

² See Annexe A.

³ Environment Agency (2012: 4)

significant on the coastal strip, but for towns and villages in middle catchments, keeping banks free of hazardous debris and slowing the flow upstream without blocking rivers are just as significant.

3. Communities at risk: where we live and how we flood

[3.1] The population density of West Somerset is one of the five lowest of any local authority in England. In the South West, only the Isles of Scilly have a lower population density.

- Average population density of West Somerset: 0.5 per hectare
- Average population density of Somerset: 1.5 per hectare
- Average population density of England: 4.1 per hectare (ONS 2011 census)

[3.2] Our towns (Dulverton, Minehead, Williton and Watchet) are small, our villages smaller, and our population is scattered, with many hamlets and small groups of houses situated along watercourses.⁴ This low resident population is boosted by the influx of tourists staying in holiday lets, caravans, camping and holiday camps. Butlins, near Minehead is the largest of the last. We also have an unusually high proportion of elderly people compared with the national average (WSC 2013: 5).

[3.3] This density and distribution pattern is associated with local factors that any approach to flood action needs to bear in mind:

- Harder for SCC or EA to justify expensive flood schemes for such a low-density population (properties often flood in very small groups, see Table 2 and Annexe B)
- Significant impact on individual communities of just a small number of properties flooded
- Roads important for travel to work, school and commercial centres
- Roads carry high proportion of tourists
- Civil contingencies planning has to take account of tourist population
- Higher elderly population increases vulnerability
- Response times for Fire and Rescue (and other services) are longer than in towns and cities (see Annexe A)
- Potential for greater isolation
- Potential for greater self-sufficiency
- Small interventions can produce results with real benefits to groups of properties

[3.4] Table 2 gives a broad overview of how many houses, businesses, public buildings and amenities (schools, recreation grounds, etc.) are at risk from different types of flooding in those towns and parishes that have participated in this report. Where available, approximate numbers of holiday units, mobile homes, caravans and tents on holiday sites are also included. Figures are estimates based on local knowledge and Environment Agency statistics where available. See Annexe E for an explanation of how the information was gathered. See Annexe B for the full returns made by each town, parish or flood group.

⁴ The total population of West Somerset is 34,675. Of our towns, only Minehead has a population of over 4,000 (ONS 2011 Census of Population).

[3.5] The table provides a sense of the scale of the challenge in West Somerset and of the scattered distribution of vulnerable properties. The division into towns or parishes, while helping to demonstrate this pattern, still conceals smaller groups of vulnerable properties, for example, in Old Cleeve Parish alone, flooding occurs in five different villages and a variety of more isolated locations.

TABLE 2: PATTERNS OF FLOOD RISK IN WEST SOMERSET COMMUNITIES⁵

Town, Parish or Flood group area	Total properties at risk [NB a property may be at risk from more than one source]	Sources of flooding: (figures provided if known)				
		Main River (zones 2 and 3) ¹	Ordinary water-courses	Surface water	Ground-water	Sea (zones 2 and 3) ¹
Aller and Horner Water FG						
Households	88	88				
Businesses	19	19				
Public buildings/amenities	1	1				
Brushford PC						
Households	15 [+13] ²	15 [+13] ²				
Businesses	[8] ²	[8] ²		13		
Public buildings/amenities						
Carhampton and Blue Anchor PC						
Households	25+ ³		15+	Y ³		10(?) ³
Businesses			1	1		2
Public buildings/amenities						2
Bridge			1	1		
Caravans (touring)	103 ⁴					103 ⁴
Static caravans (lower risk)	320 ⁴					320 ⁴
Dulverton TC						
Households	222	194	18	10		
Businesses	14	9	4	2		
Public buildings/amenities	3	3				
Caravans	70 ⁴	70 ⁴				
Dunster PC		Y ⁵				
Households				3+		

⁵ This does not represent all communities at risk in West Somerset, only those who have responded to the request for information.

Town, Parish or Flood group area	Total properties at risk	Sources of flooding: (figures provided if known)				
		Main River (zones 2 and 3) ¹	Ordinary water-courses	Surface water	Ground-water	Sea (zones 2 and 3) ¹
Elworthy PC						
Households	1			1		
Luccombe PC						
Households	1			1		
Businesses	1		1	1		
Minehead TC						
Households	1000+		500+	Y		800+
Businesses	200+		100+	?		200+
Public buildings/amenities	4		3	2		
Butlins (units)	1550					1550
Monksilver PC						
Households	26	9	11	6		
Businesses	2	1	1	1		
Nettlecombe PC						
Households	9	8	?	3	1	
Businesses	1	1	1			
Old Cleeve PC						
Households	97	80	28	39	5	1
Businesses	12	11	2	1		2
Public buildings/amenities	5	4		1		1
Porlock PC						
Households	242	202	20	Y		20+
Businesses	21	12	9			9+
Public buildings/amenities	7	2	3			4
Tents, caravans, motorhomes	150 ⁴	150 ⁴				
Sampfords Brett PC						
Households	6		6	6		
Selworthy PC		See Aller and Horner Water Community Flood Group figures				
Stogumber PC						
Households	11	6	4		1	
Businesses	2	1	1			
Stogursey PC						
Households	167		167	16		4
Businesses	12		12	1		
Public buildings/amenities (public houses)	2		2	1		

Town, Parish or Flood group area	Total properties at risk	Sources of flooding: (figures provided if known)				
		Main River ¹	Ordinary w'courses	Surface water	Ground-water	Sea ¹
Watchet TC						
Households	120	20				100+
Businesses	26	1				25+
Public buildings/amenities	11					10+
Williton PC						
Households	600-700	600	19		600	50
Businesses	37	33			33	4
Public buildings/amenities	1				1	
Holiday Park units, static caravans, etc.	250 ⁴					250 ⁴
Withypool + Hawkridge PC						
Households	8	8		8		
Businesses	4	4		4		
Public buildings	1	1		1		
Wootton Courtenay PC						
Households	6	6	2+			
Businesses	1	1	1			

Notes to Table 2

Note 1: EA flood risk zones 2 and 3 (see Annexe E for explanation)

Note 2: figures in square brackets relate to properties on the Devon side of the river

Note 3: Carhampton is in the process of collecting information and these figures are provisional

Note 4: Peak season

Note 5: EA figures suggest that a number of properties are at risk from main-river flooding in Dunster but the Parish Council has not included these in its return.

[3.6] In addition to the number of properties directly at risk from flooding, several towns and parishes have areas (or communities) that can be cut off by flooding. A number have no alternative access routes. Among those affected are:

- Carhampton (A39 blocked)
- Dulverton (town can be cut off)
- Old Cleeve (parts of Roadwater and Bilbrook, A39 blocked)
- Porlock (main roads can be flooded including A39)
- Stogursey (Shurton, Burton and Knighton)
- Williton (Liddymore Estate)

[3.7] Because our roads provide a vital link for school buses, businesses, etc. their closure has a major impact on the area's inhabitants. Somerset County Council (2014: 5) and Barr and Woodley (2014: 9) describe some of the social and economic impacts flooding can have on our communities.

4. Current community-based approaches to flooding and the work of agencies and authorities

Successes in community-based approaches to flooding in West Somerset

[4.1] Returns from individual towns, parishes and groups show extensive work by communities to increase flood resilience.

[4.2] Local communities carry out a range of activities including:

- Inspection of watercourses and report of problems to EA and SCC
- Clearing of sections of watercourses where it is possible, safe and legal to do so
- Dialogue with riparian owners on upkeep of banks and watercourses
- Helping individuals and businesses prepare for flooding
- Liaison with Authorities listed in Somerset Strategic Flood and Water Management Partnership
- Clearing of debris from roads and gully grilles (where safe)
- Distribution of sandbags

[4.3] Benefits of community-based approaches include:

- Local knowledge and experience
- strong motivation to achieve results
- stronger working links between communities and the authorities and organisations that can help them such as the Environment Agency, Somerset Flood and Water Management team and Somerset Highways

[4.4] Not all communities have formal flood plans. Where flooding is localised and communities have long-standing arrangements it is not always necessary. Alternatively, flooding may be part of a wider emergency plan.

Constraints on community-based approaches to flooding in West Somerset

[4.5] The communities of West Somerset are like any other group of people – there may be some members who are very active, but we cannot afford to assume that there will always be a friendly farmer ready to help remove a tree from a watercourse or that riparian landowners (especially those not directly affected by flooding) will always be prepared to do their duty either promptly or effectively. Equally, organising volunteer activities safely in a busy urban environment can be a challenge.

[4.6] Local communities have limited financial resources, administrative support and expertise. The contribution of volunteers is constrained by safety issues, competence, limited training, available equipment, time-commitment and availability, legal status and liability, etc. The sustainability of volunteer schemes is always vulnerable to attrition of commitment over time.

Communities working with authorities and agencies in West Somerset

[4.6] The returns in Annexe B show the help that is provided by those authorities and agencies concerned with flooding. The work that is already being done by the EA and SCC in particular is both

greatly appreciated and essential to the protection of communities. We would ask that there should be no move to reduce this fundamental work and that, in some cases, maintenance be returned to its former levels (for example, annual inspections and maintenance of main rivers by the EA), and that recently implemented patterns of working be reviewed and revised (for example gully-cleaning by SCC).

[4.7] The backbone of services that help protect our communities are:

1. Dealing with physical causes of flooding

- EA removal of blockages in rivers (perhaps the most important single service to help prevent fluvial flooding)
- EA regular inspection and maintenance of West Somerset Streams including maintenance of small-scale flood defences on the Lower Avill, Aller, Washford River at Roadwater, River Barle at Dulverton, etc. and assistance in bank repairs where necessary
- SCC Highways response to problems with debris against bridges, blocked culverts and blocked drains
- SCC and WSC maintenance of existing flood mitigation schemes (rhynes, weirs, culverts etc.) in their ownership
- WSC sandbag supply in certain circumstances

2. Providing advice to communities

- The EA Rapid Response Catchment Project, South West area, has given valuable advice and support to communities. This has been of benefit not only to communities on the particular rivers included in the project (Hawcombe Stream, River Aller, Horner Water, Doniford Stream and Washford River, River Barle), but to the area more widely. We will feel the loss of staff members when it comes to an end.
- SCC Highways and Flood and Water Management teams have given advice on possible ways of resolving problems.
- The Civil Contingencies Unit has provided help with emergency plans, liaison between authorities, and bids for funding.
- The National Trust has helped with the Aller and Horner Water flood plan and has (in association with Defra) pioneered the Holnicote local catchment management plan.
-

3. Providing one-off capital grants to communities, riparian owners and those at risk

- SCC Flood Mitigation Fund (including Stogursey, Nettlecombe, Old Cleeve, Wick in 2013).⁶
- Devon and Somerset Fire and Rescue (Old Cleeve sandstores)
- Wessex property-level protection scheme (Allerford, Bossington, Porlock, Roadwater and Washford)⁷

⁶ Unfortunately, changes to the criteria for grants under the 2014 SCC Flood Mitigation Fund, in particular, the exclusion of applications from individual householders and emphasis on matched funding, have made it harder for local communities to apply.

⁷ This scheme is available to properties at risk from main-river flooding that have flooded in the past 20 years.



Figure 2: DSFR and local people dealing with a blocked stream above Glen Lodge, Hawcombe, Porlock, Christmas 2013

5. Summary of key issues and needs and ideas for associated actions

[5.1] The EA predicts a 20% rise in peak river levels in West Somerset in the next decade associated with extreme patterns of rainfall (2012: 9). Climate change will result in a predicted sea-level rise of 500mm by 2100. Structures and defences which are now just adequate will not necessarily be able to cope with these rises. As a consequence, the number of properties at risk is also predicted to rise. For example, in the West Somerset Streams catchment alone, the current number of properties at risk from a 1% main-river flood event is 1600. This is predicted to rise to over 2040 in future (EA 2012: 1).

[5.2] Rapid river rise, high rainfall, remoteness, are all reasons for doing as much as possible *before* a flood. As events on the Levels have demonstrated, clear-up after flooding is a very costly way to approach the problem of flooding.

[5.3] In West Somerset, good maintenance of both watercourses and road drainage systems combined with relatively small capital projects appears to be the key to flood-risk reduction, along with community flood plans, particularly for isolated communities.

[5.4] Our practical concerns:

- Keep debris out of rivers and watercourses
- Ensure inspection and maintenance of rivers and watercourses
- Keep debris off roads
- Clear debris from roads before it blocks gullies
- Maintain existing flood defence and mitigation schemes
- Find ways to persuade riparian owners and farmers to take flood-risk reduction measures⁸
- Adopt a whole catchment approach

[5.5] Areas for concern in the way authorities and agencies are approaching flooding:

- Gaps and conflicts in legislation that affect the power of authorities to act
- Prospective increase in emphasis on responsibility of riparian owners to a point where it may lead to loss or weakening of safety net of professional intervention
- SCC strategic solutions (SCC 2014) that are mostly based on capital projects, not ongoing revenue-funded preventative maintenance
- Split of legal responsibilities and powers between authorities that makes it almost impossible to achieve successful solutions to problems (affecting both ownership of problem and practical measures)
- Despite predicted increase in flood risk and improved techniques in modelling and evaluating risk, approaches are based on past flood-history, not risk-assessment for future flooding (ie limits placed on eligibility for Property Level Protection scheme and Renew and Repair grants)

[5.6] Towns and parishes have identified the following key capital projects (some already in hand) that they see as providing an improvement to resilience in their area:

- Sandbag stores: Brushford (in hand)
- Attenuating pond: Carhampton
- Coastal defence work at Blue Anchor: Carhampton and Old Cleeve
- Tree-catcher: Dulverton
- Demountable Defence: Dulverton
- Camber change: Monksilver

⁸ The National Trust Holnicote Project, supported by Defra, has contributed to our understanding of the effects of land-management on flooding.

- Swing-gate: Nettlecombe
- Trash screen: Nettlecombe
- Total catchment multi-agency project: Porlock (initial steps already taken but funding required)
- Improve road drainage measures: Sampford Brett
- Attenuation scheme at bridge: Stogumber
- Slipway barrier: Watchet

[5.7] The following tables set out issues raised by towns, parishes and groups. They also draw on discussions with experts, officials and local people (see Annexe D). For each identified need, we suggest possible routes to resolution. Some issues are relevant to only one agency or authority, others are more complex and require a multi-agency approach. For ease of reference we have grouped them by authority or agency but we would welcome discussion on who might be best-placed to lead or contribute to future action. The creation of the Somerset Strategic Flood and Water Management Partnership should be of help in taking a multi-agency approach forward.

TABLE 3: ENVIRONMENT AGENCY

ENVIRONMENT AGENCY	
Issue/need	Recommendations
1. Keep main rivers clear of debris in ongoing programme.	Continue funding for inspection and maintenance ('walking the river') at least to current level. ⁹ Unfortunately, funding cuts mean that frequency has already been reduced for West Somerset Streams.
2. Maintain main-river banks and defences.	<ul style="list-style-type: none"> - Continue maintenance of flood defence schemes at current levels. - Continue to work with communities on small flood-reduction schemes.
3. Rapid response to potential hazards (ie fallen trees) within a critical time frame	<ul style="list-style-type: none"> - Continue current level of response to reports of problems. - Consider licensing more farmers, etc. to remove blockages when safe to do so.
4. Support riparian owners.	<ul style="list-style-type: none"> - Recognise that some essential works previously carried out by the EA are now being handed over to private individuals who need financial and practical support. - Recognise that cost of licence to carry out work on banks deters notification and thereby limits access to advice. - Find ways to raise riparian owners' awareness of responsibilities (not everybody reads booklets) without

⁹ The current service includes general channel maintenance for the Hawkcombe Stream at Porlock, the Washford River at Roadwater and Washford, the Monksilver Stream at Williton, the Doniford Stream at Doniford and the Pill River at Blue Anchor (EA 2012: 15). Walking the river used to take place annually. It has now been reduced to an approximately three-year cycle for most of the West Somerset Streams.

	generating resentment.
5. Support communities. If communities are to be more active in flood reduction and mitigation they must have professional support.	<ul style="list-style-type: none"> - Recognise that support for communities is a 'front-line' service that needs to be properly funded. - Continue schemes such as the excellent Rapid Response Catchment Project (SW) which have provided invaluable advice and benefits beyond designated rivers.
6. Use river modelling to improve local knowledge and target response to risk while recognising the limits of such modelling.	<ul style="list-style-type: none"> - To achieve this: <ul style="list-style-type: none"> o Invest in more powerful IT equipment so that models can be run in-house. o Ensure that models and reports produced by external agencies are checked by EA employees and/or local bodies to ensure that key local information is not ignored.
7. Whole-catchment approach (along lines of preliminary multi-agency approach in Porlock)	Allocate experts (such as geomorphologists) and staff time to lead and contribute to a multi-agency approach to catchment management in association with FWAG, SCC, ENPA and local communities.
8. Provide more detailed information on flood risk to planning applicants.	In addition to basic fluvial flood zone information provide applicants with information on surface-water flood risk or at least make it clear that this risk may exist.

TABLE 4: SOMERSET COUNTY COUNCIL

SOMERSET COUNTY COUNCIL (LEAD LOCAL FLOOD AUTHORITY)	
Issue/need	Recommendations
1. Redress current weighting of funding focus towards capital projects and property-level-protection in SCC (2014) 5.4 and 5.6.	<ul style="list-style-type: none"> - Recognise that Highways maintenance of drainage system as well as gully flushing is an important part of the solution to flooding via the highway and allocate revenue funding for this. - Recognise that SCC may have to intervene over maintenance of ordinary watercourses and allocate appropriate revenue funding.
2. Keep rivers that are classified as ordinary watercourses clear of debris in ongoing programme.	<ul style="list-style-type: none"> - Address absence of inspection and maintenance programme for smaller rivers/streams (equivalent to that of Environment Agency) . - Develop a more widely-publicised and robust reporting system for problems. - Develop an advice service for riparian owners but be prepared to enforce.
3. Provide rapid response to potential hazards within a critical time frame.	<ul style="list-style-type: none"> - Continue Highways current level of emergency response to blocked bridges and culverts. - Create equivalent level of emergency response to blockages elsewhere in ordinary watercourses (currently, it is often the Environment Agency that has

	<p>to respond).</p> <ul style="list-style-type: none"> - If SCC Highways and EA are to be only emergency responders for blockages, ensure procedures and funding are robust enough to support service.
4. Tackle surface water run-off onto the highway that leads to flooding of properties (either directly, or by carrying debris onto the roads that then blocks gullies, see below).	<ul style="list-style-type: none"> - Highways remit is limited to water that falls on the highway. Develop more streamlined arrangements (practical and financial) between Flood and Water Management and Highways to address flooding issues beyond the latter's remit. - Explore how such work can be included in contractors' work-schedules without detracting from existing highway safety commitments. - Work with central government to change legislation to allow both SCC Flood and Water Management team and Highways to address surface-water run-off from fields more effectively. - Liaise with other agencies to tackle run-off onto roads in various ways.
5. Keep ditches and culverts clear of debris.	<ul style="list-style-type: none"> - Develop a more widely-publicised and robust reporting system for potential problems (as for rivers, above). - Develop a faster system for contacting private landowners who have a problem on their land and a faster process to resolve the problem.
6. Keep road gullies clear of debris. Gully-flushing is only effective if the arisings are removed. Mud, leaves and hedge-trimmings are carried by run-off down banks over time and become a flood risk.	<ul style="list-style-type: none"> - Recognise that debris on the highway is a primary cause of flooding because it blocks gullies. Highway safety criteria for removal of mud and debris are too restrictive. - Tackle 'verge creep' (where gullies become buried under banks and verges) in a regular maintenance programme. - Clear leaves and hedge-cuttings from any banks under Highways ownership in a regular maintenance programme. - Liaise with WSC (responsible for street cleaning) to find a way to remove debris more effectively and in a timely fashion (see Table 5 para 2). - Address legal restrictions on removal of arisings before asking communities to clear gully gratings (SCC 2014: AP17) and look for a way to deal with this issue. - Provide information to central government on the need to ensure that legal and practical mechanisms allow a sensible approach to this widespread problem.
7. Broaden parameters for one-off capital funding (ie Flood Mitigation Fund)	<ul style="list-style-type: none"> - Make capital funding available for advice to landowners on tackling run-off onto both rivers and roads through land-management

8. Support for communities	- Continue support from Civil Contingencies Unit, Flood and Water Management team and Highways
9. Consultation with communities	<ul style="list-style-type: none"> - Include town and parish council and flood-group representatives in Somerset Strategic Flood and Water Management Partnership - Feed back information from this partnership to communities

TABLE 5: WEST SOMERSET COUNCIL

WEST SOMERSET COUNCIL	
Issue/need	Recommendations
1. Maintain flood-reduction and mitigation schemes owned by WSC across the area, including weirs, rhynes, culverts.	<ul style="list-style-type: none"> - Oversee regular maintenance of WSC schemes. - Actively seek funding and solutions for maintenance. - Use regular inspections as triggers for timely action.
2. Clear debris on roads that blocks drains and causes flooding of property.	<ul style="list-style-type: none"> - Work with SCC to devise imaginative and constructive solutions to the following (see Table 4 para 6): <ul style="list-style-type: none"> o Debris at the edges of a highway may present no current risk to highway safety but can become a flood risk when it rains and the debris blocks gullies, causing water to run down roads and enter properties; o Much debris in high-sided country lanes takes months to work its way down onto highway and does not fit current street sweeping levels or schedules; o Roads that present this flood risk are not necessarily inhabited and therefore do not come within current restricted road-cleaning schedule; o Road-sweepers are designed only to deal with particular (largely urban) environments and other methods may be called for to clear highways; o The disposal of arisings cannot be legally carried out by volunteers or lengthsman and is not within the remit of SCC Highways. <p>NB. A starting-point might be to work on the issue of removing debris in locations designated by SCC's Flood and Water Management team as hotspots for surface-water flooding (SCC 2014: Figure 4-1).</p> <ul style="list-style-type: none"> - Continue to provide financial support for town and parish lengthsman schemes where these supplement services that are the responsibility of WSC
3. Use planning system to prevent	- Act more robustly in preventing development on flood

developments that present a flood-risk (where appropriate, in consultation with Parrett IDB)	<p>plains.</p> <ul style="list-style-type: none"> - Do not permit development on land prone to contribute to surface water run-off, especially if such development entails the removal of trees. - Develop a more effective way of identifying such land (see Table 3. para 8).
4. Support for communities	<ul style="list-style-type: none"> - Engage in dialogue with communities who have flood plans to ensure co-ordination of emergency response. - Review procedures for emergency supply of sandbags to include widely-available information on collection points and oversight of distribution and allocation. - Liaise with and assist communities who have their own sandstores to ensure all properties are protected.

TABLE 6: EXMOOR NATIONAL PARK AUTHORITY

EXMOOR NATIONAL PARK AUTHORITY	
Issue/need	Recommendations
1. Promote whole-catchment approach to reduce run-off.	<ul style="list-style-type: none"> - Examine patterns of land-use in light of flooding and explore what can be learned from existing projects such as mires project and National Trust's flood management project at Holnicote. - Work with communities to identify run-off issues in catchments. - Explore what funding is available to the National Park to help with flood-related land management (including European funding). - Explore how Forestry Commission might help in providing advice to riparian owners on land management related to flooding. - Liaise with Defra on the above.
2. Use planning system to prevent developments that present a flood risk.	<ul style="list-style-type: none"> - Continue to prevent development on flood plains. - Do not permit development on land prone to contribute to surface water run-off, especially if such development entails the removal of trees. - Use local knowledge to supplement what may be quite basic EA advice on flood-risk from sources other than main rivers (see Table 3, para 8, above).
3. Balance need for flood reduction with ecological and heritage requirements of National Park	<ul style="list-style-type: none"> - Assist in devising flood-reduction measures that will not compromise the environment/heritage of the Park. - Seek funding to deliver measures compatible with objectives of flood protection and purposes of the Park.

TABLE 7: DEFRA AND ASSOCIATED BODIES (see also Table 8)

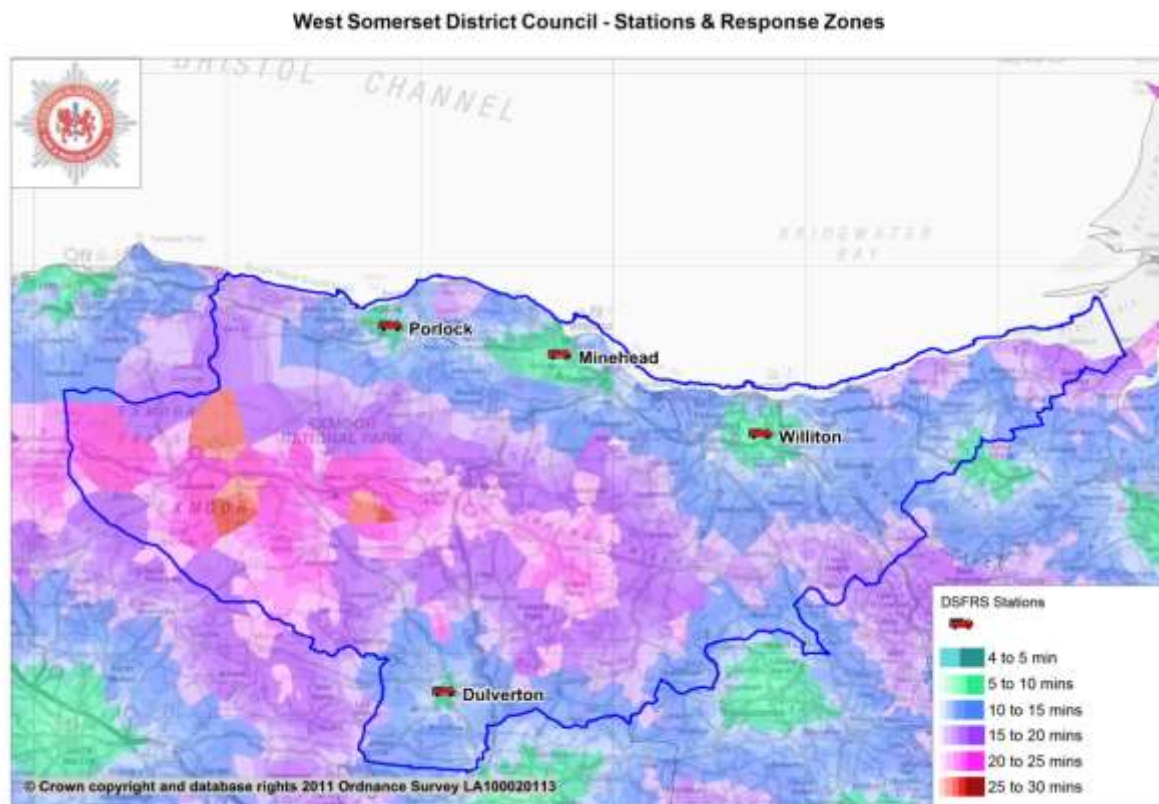
DEFRA/NATURAL ENGLAND/FWAG	
Issue/need	Recommendations
1. Advice and incentives for farmers on catchment-sensitive farming and the reduction of run-off into watercourses and onto roads.	<ul style="list-style-type: none"> - Extend and refine initial measures taken to incentivise farmers to carry out work to reduce run-off. The creation of buffer strips along watercourses is not enough; floods start at the tops of hills. - Consider urgently the problem of run-off onto highways as well as into watercourses (including possible changes to legislation). - Explore mechanisms to fund advice for farmers. - Re-consider hill-farm payment to clear trees and scrub.

TABLE 8: CENTRAL GOVERNMENT DEPARTMENTS (INCLUDING DEFRA)

CENTRAL GOVERNMENT	
Issue/need	Recommendations
1. Ensure that authorities and agencies have appropriate powers to carry out flood reduction and mitigation work effectively.	<ul style="list-style-type: none"> - Examine and revise legislation on statutory powers of Somerset Flood Risk Management team and Somerset Highways to act to reduce run-off onto highways. - Review legislation on removal of arisings from highways to find a way to dispose safely of this flood risk.
2. Address conflicts and gaps in legislation that prevent agencies from carrying out their work against flooding effectively.	<ul style="list-style-type: none"> - Ask team from Defra to lead review of legislative framework to see where further legislation or other mechanisms might be appropriate and feasible. In particular, work with DFT to explore potentially beneficial modifications to the Highways Act.
3. Review funding policies to ensure they allow most effective flood-risk management and mitigation measures.	<ul style="list-style-type: none"> - Ask Treasury to review the way that funding is allocated to ensure best use of public money. - Ask Treasury to re-examine flood-related funding formulae across relevant departments to ensure that the balance between revenue and capital payments matches local needs.

ANNEXE A

EMERGENCY RESPONSE INFORMATION



Poor accessibility for emergency services

All fire stations in West Somerset are retained stations and therefore have longer response times than in towns such as Taunton or Bridgwater. In addition, response times are affected by the fact that roads are often steep, narrow and winding. The above map shows response times for the area.

Vulnerable population

A higher proportion of West Somerset's population falls into high-risk group M58 (less mobile older people) than in other parts of Somerset. The number of those in M59 (people living in social accommodation designed for older people) is also relatively high.

The information for this Annexe was supplied from current statistics by Devon and Somerset Fire and Rescue.

ANNEXE B

DETAILED RETURNS FROM COUNCILS AND GROUPS

RIVER ALLER AND HORNER WATER COMMUNITY FLOOD GROUP

NAME OF TOWN, PARISH OR GROUP: River Aller and Horner Water Community Flood Group (representing villages: Bossington, Allerford, Horner, Brandish Street, Piles Mill, West Luccombe and Lynch)	
DO YOU HAVE A FLOOD PLAN? (Y/N/in progress) Yes	
SECTION A:	
MAIN RIVER FLOODING	
Source(s) of flooding	Aller and Horner rivers
Approx no. of households at risk	88
Approx no. of business premises at risk	19
Approx no. of public buildings/amenities at risk	1
Current risk reduction and mitigation measures taken by Community flood group: Flood group formed to put together a flood plan and keep up to date. Wardens allocated to each area that would help in a case of flooding with checking everyone has heard the sirens. Help those in need such as the elderly or disabled with anything they may need. Give out useful information on what to do in a flood. Have a list of useful vehicles and first aid trained people. Organise a place of safety if necessary. Constantly liaising with Environment agency and the National Trust to organise personal property protection for the buildings in our area. Meet when necessary to discuss up dates and change of circumstances within the properties. Organise testing of the sirens when needed.	
Current risk reduction and mitigation measures taken by other bodies/agencies Environment agency / National Trust = personal property protection for vulnerable properties to be carried out in near future. Works already carried out to construct flood plain (levees for water storage).	
TOTAL PROPERTIES AT RISK FROM ALL SOURCES OF FLOODING	
Total households:	88
Total business premises:	19
Total public buildings/amenities:	1
SECTION B:	
SUMMARY OF AREAS WHICH REQUIRE ADDITIONAL RESOURCES	
Please summarise, briefly, the key areas of activity where further help is required to tackle flooding in your parish/town. If possible, please say which authority or agency would be involved in these actions (ie EA, SCC, DEFRA, etc)	
Matters in hand via Environment Agency and National Trust so far as known	

BRUSHFORD PARISH COUNCIL

NAME OF TOWN, PARISH OR GROUP: Brushford Parish Council
DO YOU HAVE A FLOOD PLAN? (Y/N/in progress) : In progress
SECTION A:
MAIN RIVER FLOODING
Source(s) of flooding :
1. River Exe (Note: Exe, Barle and Haddeo combine prior to Exebridge.
2. River Brocky (applies to Brushford and Exebridge Village including Brocksbridge)

Approx no. of households at risk: Exebridge (Somerset) : Twelve. Brushford : Three. Note: There are 13 households on the Devon side of the river that are affected by river flooding.
Approx no. of business premises at risk : None in Somerset, Five (plus three holiday cabins on Devon side of Exebridge)
Approx no. of public buildings/amenities at risk : None
Current risk reduction and mitigation measures taken by Parish/Town Council: Currently drawing up Flood Plan for Exebridge in association with EA
Current risk reduction and mitigation measures taken by other bodies/agencies
Further measures that would help alleviate flooding
SURFACE WATER FLOODING
Source(s) of flooding: 1. Ellersdown Lane : Water running off farmland at eastern end of lane. 2. Water runoff from 3 driveways entering the western end of Ellersdown Lane causing regular blockage of open gully and flooding in nearby The Green
Approx no. of households at risk: Item 1 : Ten Item 2 : Three
Current risk reduction and mitigation measures taken by Parish/Town Council. Item 1 : Increased ditching in farmland and clearance of track to TV Mast appear to have resolved the problem. Item 2 : Request for highways to clear gully regularly
Current risk reduction and mitigation measures taken by other bodies/agencies
Further measures that would help alleviate flooding
TOTAL PROPERTIES AT RISK FROM ALL SOURCES OF FLOODING
Total households: Twenty-eight
SECTION B:
SUMMARY OF AREAS WHICH REQUIRE ADDITIONAL RESOURCES
Please summarise, briefly, the key areas of activity where further help is required to tackle flooding in your parish/town. If possible, please say which authority or agency would be involved in these actions (ie EA, SCC, DEFRA, etc). Primarily Exebridge : Provision of sandbags and membranes. Flood Plan being drawn up. Matters in hand with negotiation with EA and Somerset Highways by Parish Council.

CARHAMPTON PARISH COUNCIL

NAME OF TOWN, PARISH: Carhampton Parish Council (Carhampton & Blue Anchor wards)
DO YOU HAVE A FLOOD PLAN? (Y/N/in progress) In progress
SECTION A:
ORDINARY WATERCOURSE FLOODING
Source(s) of flooding 1. Stream from Bridicott Farm to Windsor Lane 2. Ditch that runs down Park Lane and into Culvert on Winsors Lane 3. Drainage gully on Withycombe Lane and highway drainage gulleys on opposite side of road 4. Culvert under property known as Willow Cottage which becomes open stream that runs to Blue Anchor road and under highway. 5. Blocked overflow pipe that runs between the parallel ditches running below Tanyard Lane
Approx no. of households at risk 15 +
Approx no. of business premises at risk Chris' Crackers
Approx no. of public buildings/amenities at risk structural integrity of residential roads and bridge over A39

Current risk reduction and mitigation measures taken by Parish/Town Council
<ol style="list-style-type: none"> 1. Frequent requests to Highways for clearance of ditches and repair of drains. 2. Letters to Riparian owners from West Somerset Council to maintain streams/ditches.
Current risk reduction and mitigation measures taken by other bodies/agencies
<ol style="list-style-type: none"> 1. Highways carried out investigative work on the drains 2. Work at present being carried out to replace collapsed culvert along the A39
Further measures that would help alleviate flooding
<ol style="list-style-type: none"> 1. Regular Highway gully and ditch clearance, and removal of overgrown vegetation overhanging road drains, and debris clearance. 2. Reduction of run off from farmland (see no. 3) 3. Maintenance of water courses by riparian owners
SURFACE WATER FLOODING
Source(s) of flooding Farmland to the South of Carhampton
Approx no. of households at risk Residents of Park Lane, Winsors Lane, Woodland Close, High Street, The Court, Chestnut Close, Tanyard Lane, Hill Lane, Main Road, Orchard Road, Eastbury Road (<i>no. of houses not yet ascertained</i>)
Approx no. of business premises at risk Eastbury Farm
Approx no. of public buildings/amenities at risk Main Road A39, bridge over A39 and structural integrity of residential roads
Current risk reduction and mitigation measures taken by Parish Council Frequent requests to SCC Highways for clearance of ditches and repair of drains.
Current risk reduction and mitigation measures taken by other bodies/agencies Late April 2014 drainage work on Main Road A39 (joint works Somerset County Council and Crown Estate)
Further measures that would help alleviate flooding As detailed in 1999 Carhampton Land Drainage report, addition and improvement of gullies and culverts and other water channels at various locations on the East and West edges of Carhampton
COASTAL FLOODING
Source(s) of flooding High tides combining with storms in Blue Anchor Bay
Approx no. of households at risk 10 (?) PLUS multiple caravans
Approx no. of business premises at risk Hoburne Caravan Park, Driftwood Café
Approx no of public buildings/amenities at risk WSR station, Railway track & level crossing, A3191 road to Watchet. Public Toilets (in Old Cleeve Parish)
Current risk reduction and mitigation measures taken by Parish/Town Council
Current risk reduction and mitigation measures taken by other bodies/agencies
Further measures that would help alleviate flooding Management of the Blue Anchor beach profile, re-enforcement of the cliffs (in Old Cleeve Parish).
TOTAL PROPERTIES AT RISK FROM ALL SOURCES OF FLOODING
Total households: 25+ (those at risk from surface water flooding not included)
Total business premises: 4
Total bridges: 1
Total caravans (touring): 103
Total static caravans: 320
SECTION B:
SUMMARY OF AREAS WHICH REQUIRE ADDITIONAL RESOURCES
Please summarise, briefly, the key areas of activity where further help is required to tackle flooding in your parish/town. If possible, please say which authority or agency would be involved in these actions (ie EA, SCC, DEFRA, etc)
<ol style="list-style-type: none"> 1. Changes to management of farmland practices (i.e., ploughing across hillside) to the south and West of Carhampton to reduce run-off. Farmer/Landowner/DEFRA

<ol style="list-style-type: none"> 2. Re-instate attenuating pond at Bridicott Farm. Landowner /EA. 3. Regular clearing of gullies in the Park Lane / Winsors Lane area, and removal of overgrown hedges, and clearance of leaves and debris to prevent it re-entering the gullies. SCC and WSC. 4. Coastal defence improvements undertaken to East of the Blue Anchor beach to prevent coastal erosion to the cliff, the loss of the Hotel, and subsequently the road in order to avoid a serious breach that would allow inland flooding of the sea). (In Old Cleeve Parish, but without action this would have serious detrimental effects on Carhampton & Blue Anchor Parish). WSC, SCC and Environment Agency. 5. Regular maintenance of the Sea Defences along Blue Anchor beach. Environment Agency.
ACTIONS IN LEVELS AND MOORS ACTION PLAN WHICH COULD BE APPLIED IN WEST SOMERSET
<p>Please list the actions proposed in the draft 'Somerset Levels and Moors Flood Action Plan' that would be useful to your parish/town (the draft plan can be found at www.somersetnewsroom.com/flood-action-plan)</p> <p>Support farmers to maximise the benefits from Catchment Sensitive Farming, especially regarding run-off.</p> <p>Commit to providing strong local leadership, including a commitment to engage with the community to build consensus and agree which actions should be implemented and how the community can increase its own resilience</p>

DULVERTON TOWN COUNCIL

NAME OF TOWN, PARISH OR GROUP: Dulverton
DO YOU HAVE A FLOOD PLAN? (Y/N/in progress) Yes
SECTION A:
MAIN RIVER FLOODING
Source(s) of flooding River Barle
Approx no. of households at risk 194 Flood zone 2 plus up to an additional 70 Caravans visiting at the Exmoor House Caravan Club site.
Approx no. of business premises at risk 9
Approx no. of public buildings/amenities at risk 3
Current risk reduction and mitigation measures taken by Parish/Town Council Under the Flood plan, volunteers run a river watch scheme report debris, trees etc and report to flood coordinator. Letters written to riparian owners to ask them to remove debris. EA/Highways Bridges remove debris from bridge. Volunteers will help householders to prepare for flooding, providing sand bags, moving furniture, helping to fit individual house holders flood defences.
Current risk reduction and mitigation measures taken by other bodies/agencies The River Barle Flood defences which were put in place by the NRA in 1984-87. This included flood embankments and walls, plus Hollam Brook flood relief pipeline. EA monitors river levels in the Barle catchment there are no river level gauges in Hollam Brook
Further measures that would help alleviate flooding For the River Barle an annual inspection of the river and its banks to establish areas of high risk. To consider the build up of silt causing the river to lap unusual areas, look at the silting of the leat especially at the junction with Bridge Street (the depth of the leat at this point used to be deep enough to allow a child to walk under the bridge). Ensure the Weir is repaired and fully maintained in order that the speed of water can be slowed in high river times. Excess water can also be diverted through the Leat Stream and out 150 m below the ancient monument road Bridge in Dulverton. A tree catcher to be erected up stream above Marsh Bridge . To devise a Demountable Defence that can be placed on top of the 1987 scheme as the need arises. To establish a protocol for the faster removal of debris by riparian owners.
ORDINARY WATERCOURSE FLOODING
Source(s) of flooding at Hollam Brook, Dulverton
Approx no. of households at risk 18
Approx no. of business premises at risk 4
Current risk reduction and mitigation measures taken by Parish/Town Council Using the Parish

Lengthsman to ensure grips, gullies and where possible drains are kept clear. Volunteers to help residents with sandbags etc
Current risk reduction and mitigation measures taken by other bodies/agencies SCC Highways
Further measures that would help alleviate flooding Regular clearance of the drains and gullies by SCC Highways
SURFACE WATER FLOODING
Source(s) of flooding Hollam Lane from fields and and gullies Jury Road from fields
Approx no. of households at risk 10
Approx no. of business premises at risk 2
Current risk reduction and mitigation measures taken by Parish/Town Council Using the Parish Lengthsman to ensure grips, gullies and where possible drains are kept clear.
Current risk reduction and mitigation measures taken by other bodies/agencies SCC Highways
Further measures that would help alleviate flooding – A regular programme to keep drains and gullies free from silt and debris
TOTAL PROPERTIES AT RISK FROM ALL SOURCES OF FLOODING
Total households: 222
Total business premises: 14
Total public buildings/amenities: 3
SECTION B:
SUMMARY OF AREAS WHICH REQUIRE ADDITIONAL RESOURCES
Please summarise, briefly, the key areas of activity where further help is required to tackle flooding in your parish/town. If possible, please say which authority or agency would be involved in these actions (ie EA, SCC, DEFRA, etc) Rivers and the banks – EA, DEFRA, SCC Tree Catcher – EA Demountable Defense EA and ENP
ACTIONS IN LEVELS AND MOORS ACTION PLAN WHICH COULD BE APPLIED IN WEST SOMERSET
Please list the actions proposed in the draft 'Somerset Levels and Moors Flood Action Plan' that would be useful to your parish/town (the draft plan can be found at www.somersetnewsroom.com/flood-action-plan) OUT OF THE 6 KEY OBJECTIVES ALL BUT NUMBER 4 ARE RELEVANT TO THE PARISH OF DULVERTON. The bio-diversity, environment and cultural heritage of the parish and the Exmoor National Park is even more important to our residents than that of the Levels which is of course, in County terms, very important in that it has highlighted the issue of flooding in rural areas and the impact on the wider community.

DUNSTER PARISH COUNCIL

NAME OF TOWN, PARISH OR GROUP: Dunster Parish Council ¹⁰
DO YOU HAVE A FLOOD PLAN? (Y/N/in progress) No
SECTION A:
SURFACE WATER FLOODING
Source(s) of flooding down from the hills above Dunster, down Conduit Lane and into St Georges St. This water brings down stones and debris into the road which then runs down into West St blocking drains on the way. Also High Street.
Approx no. of households at risk 3 flooded in High Street this year
Current risk reduction and mitigation measures taken by Parish/Town Council
Current risk reduction and mitigation measures taken by other bodies/agencies The ENP have tried

¹⁰ Flood defences on the River Avill in Dunster Parish are maintained by the EA but the council did not feel that flooding from this source is currently an issue for their parish.

various methods over the years to try and prevent this happening but so far none have been effective in very heavy and prolonged rainfall.
Further measures that would help alleviate flooding clear drains more frequently
TOTAL PROPERTIES AT RISK FROM ALL SOURCES OF FLOODING
Total households: not known

ELWORTHY PARISH COUNCIL (short return, see Table 2)

LUCCOMBE PARISH COUNCIL

NAME OF TOWN, PARISH OR GROUP: Luccombe Parish Council (for East Luccombe) see Aller and Horner Water return for West Luccombe
DO YOU HAVE A FLOOD PLAN? (Y/N/in progress) No
SECTION A:
ORDINARY WATERCOURSE FLOODING
Source(s) of flooding 2 minor rivers
Approx no. of business premises at risk 1
Current risk reduction and mitigation measures taken by Parish/Town Council
Current risk reduction and mitigation measures taken by other bodies/agencies small section of river finally dredged by council after years of requests
Further measures that would help alleviate flooding keep rivers dredged including minor ones especially near properties
SURFACE WATER FLOODING
Source(s) of flooding
Approx no. of households at risk 1
Approx no. of business premises at risk 1
Current risk reduction and mitigation measures taken by Parish/Town Council
Current risk reduction and mitigation measures taken by other bodies/agencies
Further measures that would help alleviate flooding keep road drains properly maintained. We make use of the lengthsman but our allocation is 3.5 days a year on pre-specified dates that are not conducive to keeping the drains clear exactly when they are needed to be.
TOTAL PROPERTIES AT RISK FROM ALL SOURCES OF FLOODING
Total households: 1
Total business premises: 1
SECTION B:
SUMMARY OF AREAS WHICH REQUIRE ADDITIONAL RESOURCES
Please summarise, briefly, the key areas of activity where further help is required to tackle flooding in your parish/town. If possible, please say which authority or agency would be involved in these actions (ie EA, SCC, DEFRA, etc) Dredge minor rivers, keep drains clear

MINEHEAD TOWN COUNCIL

NAME OF TOWN, PARISH OR GROUP: Minehead Town Council
DO YOU HAVE A FLOOD PLAN? (Y/N/in progress) No
SECTION A:
ORDINARY WATERCOURSE FLOODING
Source(s) of flooding Rhynes in Minehead and streams in Alcombe
Approx no. of households at risk not sure but around 500+

Approx no. of business premises at risk	Not sure but around 100+
Approx no. of public buildings/amenities at risk	3
Current risk reduction and mitigation measures taken by other bodies/agencies	Unsure what the present measures are
Further measures that would help alleviate flooding	dredging the rhynes
SURFACE WATER FLOODING	
Source(s) of flooding	Houses built on and near flood plains
Approx no. of households at risk	Unsure
Approx no. of business premises at risk	Unsure
Approx no. of public buildings/amenities at risk	2
Current risk reduction and mitigation measures taken by Parish/Town Council	Nil
Current risk reduction and mitigation measures taken by other bodies/agencies	Unsure what the present measures are
Further measures that would help alleviate flooding	- Stop building on flood plains
COASTAL FLOODING	
Source(s) of flooding	Bristol Channel
Approx no. of households at risk	800+
Approx no. of business premises at risk	200+
Approx no of public buildings/amenities at risk	Unsure
Current risk reduction and mitigation measures taken by Parish/Town Council	Nil
Current risk reduction and mitigation measures taken by other bodies/agencies	Unsure no communication
Further measures that would help alleviate flooding	
TOTAL PROPERTIES AT RISK FROM ALL SOURCES OF FLOODING	
Total households:	1000+
Total business premises:	200+
Total public buildings/amenities:	4 amenity areas
SECTION B:	
SUMMARY OF AREAS WHICH REQUIRE ADDITIONAL RESOURCES	
<p>Please summarise, briefly, the key areas of activity where further help is required to tackle flooding in your parish/town. If possible, please say which authority or agency would be involved in these actions (ie EA, SCC, DEFRA, etc) Internal Drainage Board, West Somerset Council, Somerset County Council, Environment Agency</p> <ul style="list-style-type: none"> • Minehead and Alcombe are fortunate to have not had the problems that have affected other areas of Somerset but we do need to be vigilant as we have a number of large blocked drains in strategic places that could lead to localised flooding around housing areas. • Severe flooding of the sea front is detrimental to tourism – all due to blocked drains that have apparently not been cleared out since they were installed. • Shops in the Parade flooded due to blocked culverts that have not been inspected or cleared out in a very long time. • Rhynes are not thoroughly cleaned out and dredged on a yearly basis leading to blockages. • Housing is now suggested in an area that has suffered localised 'run off' flooding during the winter. • A good communication link is required between all agencies and local town and parish councils. • A policy for the delivery of sandbags to collection points – not a free for all as it is at present. • There needs to be a scheme in place to help deliver sand bags to the less able and housebound – this could be delivered through the town / parish councils. 	

MONKSILVER PARISH COUNCIL

NAME OF TOWN, PARISH OR GROUP: Monksilver Parish
DO YOU HAVE A FLOOD PLAN? (Y/N/in progress) N
SECTION A:
MAIN RIVER FLOODING
Source(s) of flooding Monksilver Stream
Approx no. of households at risk 9 Front St. and Backway
Approx no. of business premises at risk 1
Current risk reduction and mitigation measures taken by Parish/Town Council none
Current risk reduction and mitigation measures taken by other bodies/agencies spillway into stream
Further measures that would help alleviate flooding
ORDINARY WATERCOURSE FLOODING
Source(s) of flooding Birds Hill Lane, Watchet Lane (Horseshoe Lane)
Approx no. of households at risk 11 in Front St. and High St.
Approx no. of business premises at risk 1
Current risk reduction and mitigation measures taken by Parish/Town Council Local clearance of storm drains and deployment of sand bags at bottom of Beech Tree Hill
Current risk reduction and mitigation measures taken by other bodies/agencies None
Further measures that would help alleviate flooding Camber change at bottom of Beech Tree Hill
SURFACE WATER FLOODING
Source(s) of flooding Birchanger Lane and Coombe Cross Hill
Approx no. of households at risk 6
Approx no. of business premises at risk 1
Current risk reduction and mitigation measures taken by Parish/Town Council Drain unblocking
Current risk reduction and mitigation measures taken by other bodies/agencies Drain unblocking
Further measures that would help alleviate flooding
TOTAL PROPERTIES AT RISK FROM ALL SOURCES OF FLOODING
Total households: 26
Total business premises: 2
SECTION B:
SUMMARY OF AREAS WHICH REQUIRE ADDITIONAL RESOURCES
<p>Please summarise, briefly, the key areas of activity where further help is required to tackle flooding in your parish/town. If possible, please say which authority or agency would be involved in these actions (ie EA, SCC, DEFRA, etc)</p> <p>SCC change camber of road at foot of Beech Tree Hill. EA regular monitoring of stream</p>

NETTLECOMBE PARISH COUNCIL

NAME OF TOWN, PARISH OR GROUP: NETTLECOMBE
DO YOU HAVE A FLOOD PLAN? (Y/N/in progress) Not officially but aware of danger areas
SECTION A:
MAIN RIVER FLOODING

Source(s) of flooding	Monksilver Stream
Approx no. of households at risk	8
Approx no. of business premises at risk	1
Current risk reduction and mitigation measures taken by Parish/Town Council – recent works undertaken at Woodford funded by Somerset Flood Mitigation Fund	
Current risk reduction and mitigation measures taken by other bodies/agencies – work at Nettlecombe Park Lane – SCC (Highways)	
Further measures that would help alleviate flooding – possible insertion of a ‘swing gate’ at Yarde to prevent the present problem with debris accumulating by the wall causing a blockage and consequent flooding at this point	
ORDINARY WATERCOURSE FLOODING	
Source(s) of flooding - leats	
Approx no. of households at risk - unsure	
Approx no. of business premises at risk - 1	
Current risk reduction and mitigation measures taken by Parish/Town Council – suggested to residents to keep them clear of vegetation and debris	
Current risk reduction and mitigation measures taken by other bodies/agencies	
Further measures that would help alleviate flooding – constant clearance	
SURFACE WATER FLOODING	
Source(s) of flooding - water running off fields, some flash flooding on roads	
Approx no. of households at risk 3	
Current risk reduction and mitigation measures taken by Parish/Town Council – meeting with SCC and some residents last year	
Current risk reduction and mitigation measures taken by other bodies/agencies - some residents are keeping vegetation to a minimum along the leats so the water can run into them and reduce flooding risk	
Further measures that would help alleviate flooding – drains kept cleared on all roads	
GROUND WATER FLOODING	
Source(s) of flooding – spring behind Yarde Farm	
Approx no. of households at risk 1	
Current risk reduction and mitigation measures taken by Parish/Town Council None	
Current risk reduction and mitigation measures taken by other bodies/agencies None	
Further measures that would help alleviate flooding – unsure	
TOTAL PROPERTIES AT RISK FROM ALL SOURCES OF FLOODING	
Total households: 8	
Total business premises: 1	
SECTION B:	
SUMMARY OF AREAS WHICH REQUIRE ADDITIONAL RESOURCES	
<p>Please summarise, briefly, the key areas of activity where further help is required to tackle flooding in your parish/town. If possible, please say which authority or agency would be involved in these actions (ie EA, SCC, DEFRA, etc)</p> <p>More work at Woodford to tidy up bridge where stones are falling into stream and helping to restrict flow – local contractor; possibly a big grille upstream to catch debris – local contractor; constant clearing of vegetation in all flood risk areas - residents. Further money may be needed for this.</p>	

OLD CLEEVE PARISH COUNCIL

NAME OF TOWN, PARISH OR GROUP: Old Cleeve (Roadwater, Washford and Old Cleeve wards)
DO YOU HAVE A FLOOD PLAN? (Y/N/in progress) Yes
SECTION A:

MAIN RIVER FLOODING
Source(s) of flooding Washford River at Roadwater, Hungerford and Washford; Pill River at Bilbrook and Blue Anchor, Traphole Stream, Traphole to Roadwater
Approx no. of households at risk 80
Approx no. of business premises at risk 11
Approx no. of public buildings/amenities at risk 4 (including school)
Current risk reduction and mitigation measures taken by Parish/Town Council Under Flood Plan, volunteers inspect river and report problems. Volunteers monitor river levels, help householders prepare. Parish Council supplies sandbags (from Autumn 2014)
Current risk reduction and mitigation measures taken by other bodies/agencies Washford River: EA respond to requests to remove trees etc that pose immediate threat. EA employ sub-contractors to inspect and clear to specification every 3-5 years. Pill River: EA clear Blue Anchor screen regularly. Highways clear Bilbrook ford when blocked.
Further measures that would help alleviate flooding Washford River: reinstate EA annual inspection and maintenance programme to keep banks clear; empty silt trap, dredge flood relief channel, correct weir construction at Roadwater to direct silt flows down main channel. Both rivers: assess upper catchments to see where further alleviation measures can be taken; create more efficient and faster process to get riparian owners to clear banks etc; provide incentives for landowners to manage run-off; keep road gullies clear
ORDINARY WATERCOURSE FLOODING
Source(s) of flooding Traphole Stream, Roadwater (Comberow to Traphole); leats at Roadwater Farm, Hungerford, Abbey Road, Washford; Halscombe Stream and alleviation scheme, Washford; culvert, Old Cleeve, blocked farm ditches, Chapel Cleeve
Approx no. of households at risk 28
Approx no. of business premises at risk 2
Current risk reduction and mitigation measures taken by Parish/Town Council Under Flood Plan, volunteers inspect watercourses regularly where access is possible and report problems; volunteers monitor water levels, help householders prepare; Parish Council supplies sandbags (from Autumn 2014)
Current risk reduction and mitigation measures taken by other bodies/agencies SCC flood engineer advises on measures; SCC enforces clearing by riparian owners where possible; SCC Highways undertakes works where powers and budget allow; EA/SCC Highways remove dangerous obstructions in emergency
Further measures that would help alleviate flooding More effective inspection and enforcement process; maintenance of watercourses and clearing of banks; help and advice to riparian owners; clarification of responsibilities and roles for emergency response to blockages; enlargement of Flood and Water management team. NB Although culvert repaired under A39 at Dragons Cross, road flooded again Jan 2014 (from BT drainage ditch behind bus stop?)
SURFACE WATER FLOODING
Source(s) of flooding off fields and down lanes, gullies blocked with debris and mud from banks, Roadwater, Washford, Bilbrook and Old Cleeve; also surcharging sewers, Roadwater and Washford
Approx no. of households at risk 39
Approx no. of business premises at risk 1
Approx no. of public buildings/amenities at risk 1
Current risk reduction and mitigation measures taken by Parish/Town Council Under Flood Plan, volunteers clear road gully grilles in villages and up lanes above villages whenever heavy rain is forecast; volunteers monitor hotspots and help householders prepare. Parish Council supplies sandbags (from Autumn 2014)
Current risk reduction and mitigation measures taken by other bodies/agencies Maintenance: Highways clear if risk to highway safety only; Highways flush gullies on request if more than 2 in a

row are blocked; District sweeps main village streets but not surrounding lanes (main source of debris) Investigation: Highways investigate flows, culverts etc. when requested but often no power to act; FWAG has conducted a preliminary survey of run-off hotspots around Roadwater (2013) as part of a funding bid to SCC flood mitigation fund but no funding allocated to carry out further work
Further measures that would help alleviate flooding Powers and funding for SCC Highways to unblock culverts, bring drains into use, flush gullies more regularly and remove debris from highway that presents a flood risk; funding for WSC to provide means to remove mud, hedge-cuttings, leaves, etc. from road surfaces not on their street-sweeping rota; assessment of measures to reduce run-off from fields onto highway and incentives for farmers to implement measures.
GROUND WATER FLOODING
Source(s) of flooding rising water table next to Washford River at Roadwater and Traphole Stream
Approx no. of households at risk 5
Current risk reduction and mitigation measures taken by Parish/Town Council Under flood plan help homeowners to prepare
Current risk reduction and mitigation measures taken by other bodies/agencies
Further measures that would help alleviate flooding Sumps and pumps under Property Level Protection scheme
COASTAL FLOODING
Source(s) of flooding Bristol Channel at Blue Anchor Bay
Approx no. of households at risk 1
Approx no. of business premises at risk 2
Current risk reduction and mitigation measures taken by Parish/Town Council Under Flood Plan help homeowners to prepare
Current risk reduction and mitigation measures taken by other bodies/agencies Sandbags sometimes available from WSC
Further measures that would help alleviate flooding Coastal erosion control and beach profile management
TOTAL PROPERTIES AT RISK FROM ALL SOURCES OF FLOODING
Total households: 97
Total business premises: 12
Total public buildings/amenities: 5
SECTION B:
SUMMARY OF AREAS WHICH REQUIRE ADDITIONAL RESOURCES
Please summarise, briefly, the key areas of activity where further help is required to tackle flooding in your parish/town. If possible, please say which authority or agency would be involved in these actions (ie EA, SCC, DEFRA, etc) Emergency clearing of blockages: Main Rivers: EA need better funding to be able to respond adequately to requests for removal of trees etc that pose an immediate threat. Ordinary watercourses: SCC appears to depend on EA for this except where SCC Highways clear debris against bridges/blocked culverts under highway etc. More effective emergency response for ordinary watercourses. Surface-water flooding on roads: wider powers and finance for SCC Highways to deal with flood threat – additional gully-flushing, clearing debris from run-off, unblocking of culverts etc. that threaten properties, not just road safety. Clearer role for WSC in removing debris that poses a flood risk. Maintenance of all rivers and watercourses: increase EA revenue budget for inspection and maintenance. Find equivalent process for SCC. Develop engagement programme with riparian owners. Develop an enforcement process with teeth. A larger Flood and Water Management team is needed at SCC. Managing run-off in river catchments: funding of proper analysis of appropriate measures to slow flow and incentives for landowners to carry out works (Defra).
ACTIONS IN LEVELS AND MOORS ACTION PLAN WHICH COULD BE APPLIED IN WEST SOMERSET

Please list the actions proposed in the draft 'Somerset Levels and Moors Flood Action Plan' that would be useful to your parish/town town (the draft plan can be found at www.somersetnewsroom.com/flood-action-plan)

Most of these could usefully be applied but we have a need for a greater proportion of revenue funding and focus on measures that deal with rapid response catchments.

PORLOCK PARISH COUNCIL

NAME OF TOWN, PARISH OR GROUP: Porlock Parish Council
Do you have a Flood Plan - yes
SECTION A:
MAIN RIVER FLOODING
Source(s) of flooding Hawkcombe River
Approx. no of households at risk - 139 households
Approx no. of business premises at risk - 12 shop type + Sparkhayes Camping field (300-400 people at any one time) + Porlock Caravan Park approx 250 people at any one time (total of 150 tents/caravans, motorhomes)
Approx no. of public buildings/amenities at risk - St. Dubricius School - 90 pupils + staff + Church
Current risk reduction and mitigation measures taken by Parish/Town Council - Awareness raising by Floodwarden Scheme - inclusion on Flood Emergency Plan, application to Property Level Protection scheme(PLP), purchase of sandbags and storage facilities
Current risk reduction and mitigation measures taken by other bodies/agencies - EA - PLP scheme and grant for sandbags etc. hopefully surveys to be undertaken for the PLP scheme in the next few weeks
Further measures that would help alleviate flooding - regular clearance of culverts and drains. Clearance of debris on river banks by riparian owners
ORDINARY WATERCOURSE FLOODING
Source(s) of flooding Doverhay Stream and High Bank Stream
Approx no. of households at risk - 20
Approx no. of business premises at risk - 9
Approx no. of public buildings/amenities at risk - included in above + Recreation Ground (total 3)
Current risk reduction and mitigation measures taken by Parish/Town Council - as above
Current risk reduction and mitigation measures taken by other bodies/agencies - as above
Further measures that would help alleviate flooding - as above
SURFACE WATER FLOODING
Source(s) of flooding - A39 Holnicote straight, Piles Mill (A39), Hacketty Way (A39), Barns just before West Porlock (B3225)
Approx no. of households at risk - Not a risk to households but would affect access to and from Porlock as this is the end of the A39 and B3225 roads
Approx no. of business premises at risk - mainly farmland
Approx no. of public buildings/amenities at risk - mainly farms
Current risk reduction and mitigation measures taken by Parish/Town Council - none
Current risk reduction and mitigation measures taken by other bodies/agencies - none

Further measures that would help alleviate flooding - improved ditch alignment and clearance by landowner (Porlock Manor Estate)
COASTAL FLOODING
Source(s) of flooding The Bristol Channel
Approx no. of households at risk -20+
Approx no. of business premises at risk - 9+
Approx no of public buildings/amenities at risk - Car park & toilets, harbourmaster's office, sewage pumping station
Current risk reduction and mitigation measures taken by Parish/Town Council - Porlock Weir residents prefer to operate as a community and are well aware of sea conditions at all times
Current risk reduction and mitigation measures taken by other bodies/agencies - Wessex Water have upgraded risk level of the pumping station to allow for increased tanker age during high tides/storms
Further measures that would help alleviate flooding - Very long term ENP/Porlock Manor Estate may consider provision of houses at a higher level to replace existing housing at harbour level which may be lost due to rising sea levels
TOTAL PROPERTIES AT RISK FROM ALL SOURCES OF FLOODING
Total households: 179
Total business premises: 21+ camp site & caravan park
Total public buildings/amenities: 7
SECTION B:
SUMMARY OF AREAS WHICH REQUIRE ADDITIONAL RESOURCES
<p>Please summarise, briefly, the key areas of activity where further help is required to tackle flooding in your parish/town. If possible, please say which authority or agency would be involved in these actions (ie EA, SCC, DEFRA, etc)</p> <p>The Hawkcombe Stream Catchment - There is a multi-agency project at present underway to find a means of flood prevention throughout the catchment area - ENP/ EA/Hational Trust/Natural England/Parish Council/ - this would be a similar exercise to that undertaken by the National Trust at Holnicote but without Lottery Funding available. The Levels & Moors Action Plan could apply to this exercise</p>
ACTIONS IN LEVELS AND MOORS ACTION PLAN WHICH COULD BE APPLIED IN WEST SOMERSET
<p>Please list the actions proposed in the draft 'Somerset Levels and Moors Flood Action Plan' that would be useful to your parish/town (the draft plan can be found at www.somersetnewsroom.com/flood-action-plan)</p> <p>NO 3 - INCREASED RESILIENCE TO FLOODING</p> <p>No 5. - Ensure Strategic Transport</p>

SAMPFORD BRETT PARISH COUNCIL

NAME OF TOWN, PARISH OR GROUP: Sampford Brett Parish Council
DO YOU HAVE A FLOOD PLAN? (Y/N/in progress)
No
SECTION A:
ORDINARY WATERCOURSE FLOODING
Source(s) of flooding Un-named tributary of the Doniford Stream
Approx no. of households at risk 6

Current risk reduction and mitigation measures taken by Parish/Town Council Regular unblocking of drains; alerting vulnerable householders of risk when water levels rise; sandbagging of vulnerable properties;
Current risk reduction and mitigation measures taken by other bodies/agencies Clearing of drains when requested by Parish Council Revetement at road junction rebuilt
Further measures that would help alleviate flooding Regular drain clearance
SURFACE WATER FLOODING
Source(s) of flooding Run-off from agricultural fields between Capton and Sampford Brett, which are at a higher elevation than village. The problem is most acute when sudden torrential flows occur following the collapse of informal dams which develop either behind field boundaries (often where hedgerows have been removed) and/or where natural drainage routes are blocked by sticks and leaves. In Manor Farm Lane, surface water run-off meets with the water course flooding described above and overwhelms the stream/storm drain.
Approx no. of households at risk 6
Current risk reduction and mitigation measures taken by Parish/Town Council Regular unblocking of drains; alerting vulnerable householders of risk when water levels rise; sandbagging of vulnerable properties
Current risk reduction and mitigation measures taken by other bodies/agencies Clearing of drains when requested by Parish Council
Further measures that would help alleviate flooding Reinstatement of hedgerows; controlled diversion of floodwaters; reduction in area of uncultivated land during winter months; additional drainage measures in road to Manor Farm to divert surface water back into stream/storm drain.
TOTAL PROPERTIES AT RISK FROM ALL SOURCES OF FLOODING
Total households: 6
SECTION B:
SUMMARY OF AREAS WHICH REQUIRE ADDITIONAL RESOURCES
Please summarise, briefly, the key areas of activity where further help is required to tackle flooding in your parish/town. If possible, please say which authority or agency would be involved in these actions (ie EA, SCC, DEFRA, etc) Dialogue about reducing surface-water run-off with landowners (SCC); improvement of drainage measures in Manor Farm Lane (SCC)

SELWORTHY PARISH COUNCIL: see Aller and Horner Water return

STOGUMBER PARISH COUNCIL

NAME OF TOWN, PARISH OR GROUP: Stogumber Parish Council
DO YOU HAVE A FLOOD PLAN? (Y/N/in progress) No
SECTION A:
MAIN RIVER FLOODING
Source(s) of flooding: Doniford Stream (and tributary Doniford Brook) (Flood Zone 3 on Environment Agency map)
Approx no. of households at risk: 6
Approx no. of business premises at risk: 1
Current risk reduction and mitigation measures taken by Parish/Town Council: None
Current risk reduction and mitigation measures taken by other bodies/agencies: Monitored by EA but we do not know what other measures they undertake, other than that we know of two occasions when the EA

have rightly insisted upon removal of householder/landowner works (a levee and a bridge) that increased the flood risk to other properties.
Further measures that would help alleviate flooding:
ORDINARY WATERCOURSE FLOODING
Source(s) of flooding: Doniford Stream (just upstream of the Flood Zone 3 marked on the EA map) along Brook Street. There is a foot bridge and a road bridge which are too small for the stream when in flood, which therefore cause the water to back-up a flow onto the road and hence into houses. Also, the stream bed becomes thick with vegetation in the Summer, which it is feared increases the risk of flooding in Summer storms and could choke the road bridge; the vegetation used to be cleared annually by Somerset County Council, but we have been told that it will now only be cleared once every three years; residents are now clearing the vegetation.
Approx no. of households at risk: 4
Approx no. of business premises at risk: 1
Current risk reduction and mitigation measures taken by Parish/Town Council: None
Current risk reduction and mitigation measures taken by other bodies/agencies: Residents clearing stream-bed vegetation.
Further measures that would help alleviate flooding: increase capacity of both bridges (increasing the capacity of the road bridge would be quite a big project) or other measures to divert water from houses.
SURFACE WATER FLOODING
Source(s) of flooding: [included under 1. above is Lower Vellow where the channels under the road are too small for the streams in flood, causing the water up onto the Vellow Road creating flood risk for a number of cottages there.]
Approx no. of households at risk: ?
Current risk reduction and mitigation measures taken by Parish/Town Council: None
Current risk reduction and mitigation measures taken by other bodies/agencies:
Further measures that would help alleviate flooding
GROUND WATER FLOODING
Source(s) of flooding: cottage near Doniford Stream in Lower Vellow
Approx no. of households at risk: 1
Current risk reduction and mitigation measures taken by Parish/Town Council: None
Current risk reduction and mitigation measures taken by other bodies/agencies: None
Further measures that would help alleviate flooding: possibly very little; the cottage has a very low floor level but changing this would be difficult.
TOTAL PROPERTIES AT RISK FROM ALL SOURCES OF FLOODING
Total households: 11
Total business premises: 2
SECTION B:
SUMMARY OF AREAS WHICH REQUIRE ADDITIONAL RESOURCES
Please summarise, briefly, the key areas of activity where further help is required to tackle flooding in your parish/town. If possible, please say which authority or agency would be involved in these actions (ie EA, SCC, DEFRA, etc): increase the bridge capacity, or other measures, in Brook Street and at Lower Vellow; EA, SCC.

STOGURSEY PARISH COUNCIL

NAME OF TOWN, PARISH OR GROUP: Stogursey Parish Council
DO YOU HAVE A FLOOD PLAN? (Y/N/in progress) Y
SECTION A:
ORDINARY WATERCOURSE FLOODING
Source(s) of flooding Stogursey Brook, Bayleys Brook, Bum brook – all affected by high tides

Approx no. of households at risk 167
Approx no. of business premises at risk 9 Farms, 1 Fish Farm
Approx no. of public buildings/amenities at risk 2 Pubs
Current risk reduction and mitigation measures taken by Parish Council SCC – Castle St residents have won £48,000 bid to prevent/alleviate flooding. Wick residents have already taken measures following successful bid (£5000) NB Shurton, Burton and Knighton become inaccessible in bad weather. The planned EdF emergency road for HPC comes out in the centre of the floods
Current risk reduction and mitigation measures taken by other agencies None
Further measures that would help alleviate flooding Regular dredging / clearing of watercourses and maintaining banks. Proper use of sluice gates
SURFACE WATER FLOODING
Source(s) of flooding Flooded fields and high ground run off
Approx no. of households at risk 16
Approx no. of public buildings/amenities at risk 1 Pub
Current risk reduction and mitigation measures taken by Parish/Town Council 1. Parish lengthsman clears ditches around the parish. 2. Flood plan is in operation
Current risk reduction and mitigation measures taken by other agencies None
Further measures that would help alleviate flooding 1. Ditch clearing and drain unblocking 2. Highways need to look at drains under local roads eg C182 which floods from surface water
COASTAL FLOODING
Source(s) of flooding Bristol Channel with high winds and high tides
Approx no. of households at risk 4
Current risk reduction and mitigation measures taken by Parish Council None
Current risk reduction and mitigation measures taken by other agencies None
Further measures that would help alleviate flooding
TOTAL PROPERTIES AT RISK FROM ALL SOURCES OF FLOODING
Total households: 167
Total business premises: 9 Farms, 1 Fish Farm
Total public buildings/amenities: 2 Pubs
SECTION B:
SUMMARY OF AREAS WHICH REQUIRE ADDITIONAL RESOURCES
Please summarise, briefly, the key areas of activity where further help is required to tackle flooding in your parish/town. If possible, please say which authority or agency would be involved in these actions (ie EA, SCC, DEFRA, etc) a. Farmers need an edict to clear ditches around and on their land (Defra) b. To advise farming community to alter farming practices in water catchment areas to capture excess rainfall (Defra) c. Dredge/clear ordinary watercourses (three brooks), maintain and properly use sluices (SCC)
ACTIONS IN LEVELS AND MOORS ACTION PLAN WHICH COULD BE APPLIED IN WEST SOMERSET
Please list the actions proposed in the draft 'Somerset Levels and Moors Flood Action Plan' that would be useful to your parish/town town (the draft plan can be found at www.somersetnewsroom.com/flood-action-plan) As section B 1., above.

WATCHET TOWN COUNCIL

NAME OF TOWN, PARISH OR GROUP: Watchet Town Council
DO YOU HAVE A FLOOD PLAN? (Y/N/in progress) town emergency plan currently under review
SECTION A:
MAIN RIVER FLOODING
Source(s) of flooding Washford River
Approx no. of households at risk 20
Approx no. of business premises at risk 1
Approx no. of public buildings/amenities at risk 1
Current risk reduction and mitigation measures taken by Parish/Town Council none
Current risk reduction and mitigation measures taken by other bodies/agencies n/k
Further measures that would help alleviate flooding
COASTAL FLOODING
Source(s) of flooding Bristol Channel. Main threat up West Street slipway.
Approx no. of households at risk 100+
Approx no. of business premises at risk 25+
Approx no of public buildings/amenities at risk 10+
Current risk reduction and mitigation measures taken by Parish/Town Council review of emergency measures, correspondence with other bodies, especially WSC
Current risk reduction and mitigation measures taken by other bodies/agencies existing barrier at top of main harbour slipway, supply of sandbags
Further measures that would help alleviate flooding Barrier at top of West Street slipway of same type as at main harbour. The latter was effective in January 2014, protecting properties such as London Inn and Bell Inn and those in Market Street.
TOTAL PROPERTIES AT RISK FROM ALL SOURCES OF FLOODING
Total households: 120
Total business premises: 26
Total public buildings/amenities: 11
SECTION B:
SUMMARY OF AREAS WHICH REQUIRE ADDITIONAL RESOURCES
Please summarise, briefly, the key areas of activity where further help is required to tackle flooding in your parish/town. If possible, please say which authority or agency would be involved in these actions (ie EA, SCC, DEFRA, etc) Further collaboration and communication with other agencies. Installation of barrier at top of West Street slipway.

WILLITON PARISH COUNCIL

NAME OF TOWN, PARISH OR GROUP: Williton
DO YOU HAVE A FLOOD PLAN? (Y/N/in progress) Yes
SECTION A:
MAIN RIVER FLOODING
Source(s) of flooding : Monksilver and Doniford Stream
Approx no. of households at risk : 600
Approx no. of business premises at risk : 8 in the village plus the Industrial Estate (25 units)
Current risk reduction and mitigation measures taken by Parish/Town Council : Flood Plan
Current risk reduction and mitigation measures taken by other bodies/agencies : N/K
Further measures that would help alleviate flooding : Maintenance and repair of river courses and land. Planned programme of repairs with Flood Wardens.

ORDINARY WATERCOURSE FLOODING
Source(s) of flooding : Stream running parallel to Doniford Road, which receives water from the leats that run from Mamsey Lane.
Approx no. of households at risk : New houses at the Paddocks, 19
Current risk reduction and mitigation measures taken by Parish/Town Council : Flood Plan
Current risk reduction and mitigation measures taken by other bodies/agencies : Maintenance carried out by land owners and County Council.
Further measures that would help alleviate flooding
SURFACE WATER FLOODING
Source(s) of flooding : Water running off of land along Doniford Road, both sides.
Approx no. of households at risk : Liddymore Estate becomes marooned when the Doniford Road/Liddimore road becomes impassable due to flooding by water that runs off of the fields.
Approx no. of business premises at risk : N/K
Approx no. of public buildings/amenities at risk : N/K
Current risk reduction and mitigation measures taken by Parish/Town Council : Monitoring of the area by Flood Wardens, removing debris safely, and notifying other bodies who are responsible.
Current risk reduction and mitigation measures taken by other bodies/agencies : Maintenance of the river courses.
Further measures that would help alleviate flooding : Maintenance of the land by the landowners, and/or their tenants.
GROUND WATER FLOODING
Source(s) of flooding : associated with main river flooding
Approx no. of households at risk : as for main river
Approx no. of business premises at risk : as for main river
Approx no. of public buildings/amenities at risk : Recreation Ground
Current risk reduction and mitigation measures taken by Parish/Town Council : Flood Plan
Current risk reduction and mitigation measures taken by other bodies/agencies : Maintenance of the rivers, culverts and drains.
Further measures that would help alleviate flooding : County Council are aware of certain drains and culverts that lift and claim to be monitoring. When money becomes available they will do the work.
COASTAL FLOODING
Source(s) of flooding Doniford Stream and Bristol Channel
Approx no. of households at risk : 11, static holiday homes 35
Approx no. of business premises at risk : 4, including Holiday Park (200+ units), holiday complex (15 units); 2 Farm businesses (with restaurant etc.)
Current risk reduction and mitigation measures taken by Parish/Town Council : Flood Plan
Current risk reduction and mitigation measures taken by other bodies/agencies : Not aware of any.
Further measures that would help alleviate flooding : Management of the land.
TOTAL PROPERTIES AT RISK FROM ALL SOURCES OF FLOODING
Total households : 600 - 700
Total business premises : 37
Total holiday units : 250+
Total public buildings/amenities : 1
SECTION B:
SUMMARY OF AREAS WHICH REQUIRE ADDITIONAL RESOURCES
Please summarise, briefly, the key areas of activity where further help is required to tackle flooding in your parish/town. If possible, please say which authority or agency would be involved in these actions (ie EA, SCC, DEFRA, etc) : We have an ongoing maintenance programme in which the EA and CC have and are involved. If a problem arises we contact the relevant body. We also have a working in progress with the main landowner, Wyndham Estate, and Magna Housing. This direct contact has worked well in the last year, and we have recently reviewed the work required for this year.

WITHYPOOL AND HAWKRIDGE PARISH COUNCIL

NAME OF TOWN, PARISH OR GROUP: Withypool and Hawkridge
DO YOU HAVE A FLOOD PLAN? (Y/N/in progress) No
SECTION A:
MAIN RIVER FLOODING
Source(s) of flooding River Barle
Approx no. of households at risk 8
Approx no. of business premises at risk 4
Approx no. of public buildings/amenities at risk 1
Current risk reduction and mitigation measures taken by Parish/Town Council Use sandbags
Current risk reduction and mitigation measures taken by other bodies/agencies
Further measures that would help alleviate flooding dredge river/remove trees, empty gullies/clean drains
SURFACE WATER FLOODING
Source(s) of flooding Drains, down road
Approx no. of households at risk 8
Approx no. of business premises at risk 4
Approx no. of public buildings/amenities at risk 1
Current risk reduction and mitigation measures taken by Parish/Town Council Use sandbags
Current risk reduction and mitigation measures taken by other bodies/agencies
Further measures that would help alleviate flooding empty gullies/clean drains
TOTAL PROPERTIES AT RISK FROM ALL SOURCES OF FLOODING
Total households: 8
Total business premises: 4
Total public buildings/amenities: 1
SECTION B:
SUMMARY OF AREAS WHICH REQUIRE ADDITIONAL RESOURCES
Please summarise, briefly, the key areas of activity where further help is required to tackle flooding in your parish/town. If possible, please say which authority or agency would be involved in these actions (ie EA, SCC, DEFRA, etc) dredge river/remove trees, empty gullies/clean drains

WOOTTON COURTENAY PARISH COUNCIL

NAME OF TOWN, PARISH OR GROUP: Wootton Courtenay Parish Council
DO YOU HAVE A FLOOD PLAN? (Y/N/in progress) No
SECTION A:
MAIN RIVER FLOODING
Source(s) of flooding Hanny River
Approx no. of households at risk 6
Approx no. of business premises at risk 1
Current risk reduction and mitigation measures taken by Parish/Town Council
Current risk reduction and mitigation measures taken by other bodies/agencies
Further measures that would help alleviate flooding clearance of river silt trap, overhanging trees
ORDINARY WATERCOURSE FLOODING
Source(s) of flooding Butts Lane culvert/stream
Approx no. of households at risk 2+
Approx no. of business premises at risk 1 farm
Current risk reduction and mitigation measures taken by Parish/Town Council culvert occasionally

cleared
Current risk reduction and mitigation measures taken by other bodies/agencies
Further measures that would help alleviate flooding
TOTAL PROPERTIES AT RISK FROM ALL SOURCES OF FLOODING
Total households: 6+
Total business premises: 1
SECTION B:
SUMMARY OF AREAS WHICH REQUIRE ADDITIONAL RESOURCES
Please summarise, briefly, the key areas of activity where further help is required to tackle flooding in your parish/town. If possible, please say which authority or agency would be involved in these actions (ie EA, SCC, DEFRA, etc) Clear silt trap on Hanny River to stop build-up under bridges etc (EA)

ANNEXE C

SUMMARY OF ACTION SUGGESTIONS FROM TOWNS AND PARISHES BY TOPIC

(See Annexe B for individual returns)

MAIN RIVER FLOODING

Maintenance:

Annual river inspection and maintenance: Dulv, OC

Riparian owner maintenance: Dulv, OC, Por

Maintain and repair: Will

Maintain and clear: With, WC

Drains, gullies, culverts clear: Brush, OC, Por, With

Capital projects:

Measures to deal with silt: Dulv

Repair weir: Dulv

Tree catcher above bridge: Dulv

Swing gate: Net

Reverse weir: OC

Processes and procedures:

Protocol for faster removal of debris by riparian owners (under EA oversight): Dulv, OC, Por

Help and advice to riparian owners: OC

ORDINARY WATERCOURSE FLOODING

Maintenance:

Regular dredging and/or maintenance of watercourses: Lucc, Nett, OC, Stogurs

Gullies, ditches drains, culverts, rhynes: Car, Dulv, Lucc, Minehead, Net, OC, Por, SB, Stogurs

Lengthsman useful: Dulv, Stogurs

Removal of debris by riparian owners: OC, Por

Regular clearing of banks: OC, Stogurs

Capital projects:

Attenuation scheme at bridge: Stogum

Camber Change: Monk

Processes and procedures:

Protocol for faster removal of debris by riparian owners (under SCC oversight): OC

Help and advice to riparian owners: OC

SURFACE WATER FLOODING

Maintenance:

Address run-off: Car

Riparian owners and landowners – maintenance and management: Car, OC, Por, SB, Will

Clear gullies, drains: Car, Dulv, Dunster, OC, Stogurs

Planning:

Don't build on flood plains: Mine

Capital projects:

Reinstate hedgerows: SB

Improve gullies/drains: Car, OC, SB, Will

Divert floodwaters: SB

NB Lengthsman being used : Lucc, Stogurs

COASTAL FLOODING

Capital projects:

Manage beach profile: Car

Coastal erosion control to prevent breach: Car, OC

Re-locate housing (v long term): Por

Slipway barrier: Wat

WHAT CONTRIBUTORS VIEW AS KEY ISSUES

Catchment and land management (both higher catchment farmers and riparian owners):

Changes to management of farmland practice (farmer, landowner, Defra): Car, OC, Por, Stogurs

Dialogue with owners on run-off: OC, SB

Oblige farmers to clear ditches (Defra): Stogurs

Total catchment multi-agency approach: Por

Advice for catchment management: OC

Maintenance - Roads:

Clear gullies: Car, Mine, OC, With

Clear debris and leaves to prevent it re-entering gullies: Car, OC

Clear culverts: Mine

Keep ongoing maintenance programme going: Will

Maintenance - Rivers/Ordinary Watercourses:

Dredge OWs: Stogurs

Maintain and properly use sluices: Stogurs

Inspect and clear rivers and banks: Dulv, OC, With

Inspect river: Monk

Keep leats clear of vegetation: Net

Total catchment multi-agency project: Por

Keep ongoing maintenance programme going (EA, SCC, Parish): Will

Clear silt trap: WC

Existing flood defence/mitigation schemes:

Maintenance of flood defence measures owned by District ; Dulv (weir) Mine (sea front drains, rhynes)

Maintenance of sea defences: Car

Capital projects:

Sandbag stores: Brush (in hand)

Attenuating pond: Car

Tree-catcher: Dulv

Demountable Defence: Dulv

Camber change: Monk

Trash screen: Net

Total catchment multi-agency project: Por

Improve road drainage measures: SB

Attenuation scheme at bridge: Stogum

Slipway barrier: Wat

Processes and procedures:

Communication between agencies and local town and parish councils: Mine, Wat (and Car in comment on Levels Plan)

Clarification of sandbag policy by WSC: Mine

SUMMARY

Section A: most-mentioned shared issues:

1. Clearing drains (12 respondents)
2. River/watercourse maintenance (9 respondents)
3. Riparian owners (6 respondents)

Section B: most-mentioned key issues:

1. Capital projects (10 respondents)¹¹
2. River/watercourse maintenance (9 respondents)
3. Catchment management (6 respondents)
4. Road drainage maintenance (4 respondents)

¹¹ A further 8 capital projects appear in Section A but are not considered by respondents to be 'key' projects.

ANNEXE D

WHAT PEOPLE SAY

The following quotations are drawn from discussions with local people and with experts over the past few years. They provide a living snapshot of some of the situations and difficulties that flood coordinators and wardens encounter when working to prevent or mitigate flooding. They have been anonymised for data protection reasons.

Rivers and watercourses – problems relating to riparian ownership

‘We can’t go clearing our river banks just because some local councillor has told us they represent a flood risk to the village. We would have to see if it is in our national policy to clear river banks’.
(representative for a major landowner)

‘I’m not going to fill in a form and pay £50 to the Environment Agency to be allowed to work on my own river bank’. (riparian owner)

‘In the past we were told not to touch the river banks by the Water Board so I have never dared clear anything’. (riparian owner)

‘We would like to clear our part of the river but we are worried that we will do the wrong thing and make it worse’. (riparian owner)

‘There’s no problem with my ditches and you’d be trespassing if you went to check on them’.
(farmer)

Roads and drainage systems

‘We are only required to deal with water that has fallen on the highway itself’. (SCC Highways engineer)

‘I have cleared leaves and mud away from the drains on my section of the hill nearly a hundred times in the past five months, but there is nowhere to put the mess where it will not just wash back into the drains again. Why will nobody help us?’ (volunteer)

‘Highways told us that if only one drain was blocked they couldn’t come and clear it. They said to call them again if a second drain became blocked or if the road flooded. It did flood and so did the house. Then they cleared the drain.’ (householder)

‘This is supposed to be a tourist destination but the seafront is a mess because the drains in the flood defences are not regularly cleared and become blocked.’ (Town Clerk)

‘I had to make a detour along narrow lanes to get from my home to the main road for four months because nobody in authority could find anywhere to get rid of the shingle that was blocking the ford’. (resident)

‘I was sent home early from school because the school buses might not get through the flood water on the A39’. (schoolchild)

Trees in the river

'I can't offer to help those two people from the Environment Agency to pull the tree out of the river with my tractor because I am not on their list of approved contractors'. (farmer)

'I reported the tree in the river to the Environment Agency and they removed it within a few days. It was a great relief.' (local resident)

Where flooding starts

'Farmers need to think about their top fields, not just the ones near the river'. (FWAG adviser)

Funding for repair work

'The only way we can try to find funding to correct this structure's design fault is to include it in work required under EU directives on fish migration' (Environment Agency employee)

ANNEXE E

LIST OF SOURCES AND METHODOLOGY

The information in this document is drawn from the following sources:

Published Sources:

Barr and Woodley (2014) *Flooding and the River Barle Catchment: co-producing flood knowledges: a catchment based approach*, Exmoor National Park

Environment Agency (2012) *Managing Flood Risk. West Somerset Catchment Flood Management Plan. Summary Report June 2012* Environment Agency

Office for National Statistics (2011) *2011 census for England and Wales*

Somerset County Council (2014) *Flood and Water Management Act 2010 Local Flood Risk Management Strategy. Somerset's flood risk management strategy for surface water, groundwater and ordinary watercourses* Somerset County Council, February 2014

West Somerset Council (2013) *The West Somerset Local Plan to 2032. Revised Draft Preferred Strategy*, June 2013

Further sources of information:

Devon and Somerset Fire and Rescue (response times, see Annexe A)

Environment Agency (main-river and coastal flooding information)

West Somerset Council (map of participating towns and parishes)

West Somerset Flood Group (survey of West Somerset Towns and Parishes, see Annexe B)

The information in Annexe B was collected as follows:

The form: what it asked for

The survey form was drawn up and agreed by a group of representatives from five towns and parishes (Dulverton, Old Cleeve, Porlock, Selworthy, Williton), all of whom have fully developed flood plans in operation in their areas and are therefore well placed to judge what information would be useful.

It was decided to divide information on those at risk into the categories of households, businesses and public buildings/amenities (such as village halls, schools, recreation grounds etc.) as a simple way to capture the immediate impact of flooding on communities. Numbers of caravans, tents, holiday park units, etc. are also provided where available as the influx of tourists to the area has an impact on who needs protection and on contingency planning for emergencies.

For main-river and coastal flooding, it was decided to ask for information on properties lying within the Environment Agency's Flood Zones 2 and 3 (zone 2: greater than 1 in 1000 chance of flooding;

zone 3: greater than 1 in 100 chance of main-river flooding or 1 in 200 chance of coastal flooding). Properties in these two zones are those covered by the Environment Agency's Flood Warning service. Zone 2 is large (probably over-large for our purpose) but to limit figures to Zone 3 would have excluded too many properties liable to flood (in particular, those with between a 1 in 100 and 1 in 200 chance of fluvial flooding) from the table. It was therefore decided to err on the side of generosity, rather than leave vulnerable properties out. Although the Environment Agency kindly provided some of the total figures by Parish for these categories of flooding, most figures provided are towns and parishes' own estimates. Not all contributors followed the guidance notes and in some cases have listed only properties known to have flooded, while others were unable to estimate the number of properties involved in a particular category. This can therefore *only* be a rough guide.

Figures for flooding from other sources (ordinary watercourse, surface water, groundwater) are based on local knowledge and experience. Of these, the hardest to estimate was the risk from surface water. Although all figures provided are estimates, we hope they will nevertheless be a useful source of community-generated information for agencies and authorities (if only because they give an insight into community perceptions). On the whole, they tend to be more conservative than those for main-river and coastal flooding, probably reflecting a level of risk equivalent to Zone 3 (greater than 1 in 100 chance of flooding), being largely based on actual flood events (or near misses).

The form also provided the opportunity to comment on the draft *Somerset Levels and Moors Plan*. A full response to this plan is to be found in Annexe F.

How communities sent in their ideas and were involved in the creation of the document

The form was sent to all Town and Parish Clerks (other than in cases where it had been ascertained that there was no flood risk) in West Somerset with an explanatory letter and notes on the completion of the form. Each Town, Parish or Flood Group was free to choose how much information it provided and asked to prioritise its key ideas. All participating towns, parishes and groups were given the opportunity to comment on a draft of the document and to finalise their individual returns.

How the information was used

The information sent in by towns, parishes and groups appears in full in Annexe B. It forms a basis for sections 4 and 5 of the main document. Annexe C provides a summary of action suggestions from this information-gathering exercise.

Collecting comments from the community and those working to reduce flood risk (Annexe D)

Annexe D contains a number of quotations from various sources that give a sense of what we are being told by people we have come into contact with while working to reduce flood risk. We cannot be responsible for the accuracy or otherwise of the views expressed, but they represent a cross-section of what people involved in flooding are saying and thinking. They have been anonymised for privacy reasons.

ANNEXE F

Response to draft *Somerset Levels and Moors Flood Action Plan*

West Somerset Flood Group

General

This draft action plan is a significant step in collaborative thinking on future approaches to flooding in Somerset. West Somerset also suffers from many of the root causes of flooding outlined here, although we also experience other causes and types of flooding which require their own solutions (see our discussion document, *Flooding in West Somerset: overview of local risks and ideas for action*, forthcoming, June 2014). We therefore hope that the Levels and Moors local plan will be extended to create an Action Plan for the whole of Somerset that would take account of the particular needs of each area.

We support the plan's call for strong local leadership, engaging with the community to build consensus on which actions should be implemented and on how the community can increase its own resilience.

Detailed Response

HOW WILL THE PLAN BE DELIVERED

p. 3 We welcome the move towards a new way for all agencies both local and national to work together to identify the best package of actions and hope that this collaboration will continue beyond the immediate work on the Levels and Moors plan.

p. 3 We agree with the statement that funding flood-risk management activities can avoid costs.

p. 3 We welcome the promotion of a whole-catchment approach to flood risk management.

SECTION 1

DREDGING AND RIVER MAINTENANCE

P. 4 Dredging is not such an issue in West Somerset but is required in certain cases on small sections of rivers. We strongly support the statement that it involves both one-off investment and regular ongoing maintenance.

pp. 5-6 We cannot comment on specific plans but support the general combination of dredging and maintenance proposed.

pp. 5-6 We are interested in the concept of a 'Somerset Rivers Board' but feel this might be too narrow a title for more general flood and water management.

LAND MANAGEMENT

p. 7 We strongly support a catchment-based approach to land management, although we would remind readers that 'upper catchments' for the Levels may be seen as inhabited 'higher middle catchments' from a West-Somerset viewpoint.

p. 7 We consider all the land-management recommendations to be excellent.

p. 7 We would comment that the vast majority of our river catchments equal the Somerset Levels in their international environmental importance.

pp. 7-8 We strongly support farm-based advice and would wish to see this extended to West Somerset. The Holnicote project in West Somerset is clearly a flagship project in this area.

pp. 7-8 We support all these measures but would point out that the CAP requirement for a buffer strip along watercourses only tackles problems at the bottom of a river valley, not on the top of the hill where flooding starts. Likewise, it only addresses run-off into watercourses, not onto roads.

URBAN WATER MANAGEMENT

p. 9 Attention should be given not only to development *within* the flood plain but also to developments in river catchments and areas of high run-off. Also, when building on a flood plain, it is not only the resilience of the new development itself that should be considered but also the fact that it occupies land that might otherwise be used for attenuation purposes.

RESILIENT INFRASTRUCTURES

p. 11 We consider the analysis to be very sensible. All of the South West is affected by this too.

p. 11 We approve the principles relating to access roads for recognised communities, strategic connectivity and the resilience of agreed alternative routes while acknowledging that in practice this is not always possible to achieve.

p. 12 Work on infrastructure resilience should not forget the role of roads in carrying flood water.

BUILDING LOCAL RESILIENCE

p. 13 We support all these proposals. Sadly, because much of the worst flooding in West Somerset occurred in 2012, many of our own flood victims do not qualify for the 2014 Repair and Renew grants.

SECTION 2

We take an interest in the debates on major infrastructure capital projects. Those relating to trunk roads, motorways and rail are of most interest to us as these routes connect us to the rest of the country. Other capital projects are clearly more speculative in nature.

Back cover photograph: swing gate at Nettlecombe financed by SCC 2013 Flood Mitigation Fund.
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