

**Flood Risk Management
in
Worcestershire**

**Annual Report
2015**

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GLOSSARY

Acronym	Definition
CFMP	Catchment Flood Management Plan
CIL	Community Infrastructure Levy
Defra	Department for Environment, Food and Rural Affairs
EA	Environment Agency
EU	European Union
FDGiA	Flood Defence Grant in Aid
FMfSW	Flood Map for Surface Water
FRM	Flood Risk Management
FRMSCG	Flood Risk Management Strategic Co-ordinating Group
FRR	Flood Risk Regulations
FWMA	Flood & Water Management Act 2010
GIS	Geographical Information System
HRA	Habitats Regulation Assessment
IDB	Internal Drainage Board
LEP	Local Economic Partnership
LFRMS	Local Flood Risk Management Strategy
LLFA	Lead Local Flood Authority
LPA	Local Planning Authority
LRF	Local Resilience Forum
LSIDB	Lower Severn Internal Drainage Board
MAFP	Multi-agency Flood Plan
NFU	National Farmers Union
OWC	Ordinary Watercourse
PLP	Property level Protection
PFRA	Preliminary Flood Risk Assessment
RFCC	Regional Flood & Coastal Committee
RMA	Risk Management Authority
SAB	SUDS Approving Body
SEA	Strategic Environmental Assessment
SEP	Strategic Economic Plan
SFRA	Strategic Flood Risk Assessment
SLA	Service Level Agreement
STW	Severn Trent Water
SuDS	Sustainable Drainage Systems
SWMP	Surface Water Management Plan
SWDP	South Worcestershire Development Plan
WCC	Worcestershire County Council
WLDG	Worcestershire Land Drainage Group

1. INTRODUCTION

Flood risk management plays an important role in helping to deliver a range of key priorities for the Risk Management Authorities (RMAs) in Worcestershire. For example it contributes significantly to three of Worcestershire County Council's four corporate vision priorities ie 'the Environment', 'Health & Wellbeing' and 'Open for Business'.

The other RMAs are the District Councils, the Environment Agency (EA), Severn Trent Water Ltd (STWL) and the Lower Severn Internal Drainage Board (LSIDB).

During the last 12 months Worcestershire County Council, as Lead Local Flood Authority, has been designated a statutory consultee on Major planning applications with surface water implications in order to secure the appropriate inclusion of Sustainable Drainage Systems in proposals for development sites.

The principal of sustainable drainage has also been increasingly applied to the management of surface water and watercourses in rural settings where the emphasis is on using natural solutions to hold back and slow down water upstream of where it impacts on properties, businesses and infrastructure.

In early 2015 the draft County-wide Surface Water Management Plan report was completed bringing together several years of work to identify, map, investigate and prioritise over 1,700 past floodspots.

Using the SWMP as a key evidence base, the draft Local Flood Risk Management Strategy was also produced in early 2015 since when it has undergone a comprehensive period of consultation amongst key partners and stakeholders. The Strategy, which will undergo it's final public consultation phase during Winter 2014/15, defines how flood risk will be managed in Worcestershire over the next 6 years.

In the meantime the RMAs have worked closely with other partners, local communities and landowners to deliver more flood alleviation schemes, monitor and manage watercourses and surface water, develop resilience plans and improve and maintain drainage, sewerage and flood defence infrastructure.

2. UNDERSTANDING AND PRIORITISING FLOOD RISK

2.1. County-wide Surface Water Management Plan

The draft SWMP report was completed early in 2015 since when it has accompanied the Local Flood Risk Management Strategy (LFRMS) through its consultation with stakeholders and key partners.

Providing the key evidence base for the LFRMS, the SWMP has identified over 1,700 floodspots across Worcestershire – each one a location where a flood is known to have occurred which had an impact on property, business or infrastructure.

For each location data has been gathered about:

- The source of the flooding
- The impact of the flooding
- The status of any mitigation work and
- The RMA assigned to lead any mitigation work

The floodspots have been prioritised according to the extent of impact and this is helping the RMAs to target their efforts with regard to the development of flood alleviation schemes.

The data is also proving to be extremely useful in helping to plan new housing through the Local Plan process, business and infrastructure development.

Work is now underway on the investigation of locations which the SWMP and the EA's 'Communities at Risk' project have been identified as being at risk of flooding in the future but which haven't flooded in the past. These locations are being prioritised using the same impact-based criteria as past floodspots.

Figure 1 illustrates that the majority of floodspots (over 1,400) fall under the responsibility of the local authorities. Figure 2 illustrates that, of these local authority floodspots, significant progress has already been / is being made but there is a lot still to do.

2.2. Local SWMPs

Multi-agency groups have continued to assess and plan mitigation measures to address flooding where there are high concentrations of floodspots in and around Bromsgrove and Droitwich Town centres.

This consistent and collaborative Local SWMP approach is also being taken at other such locations for example Hagley, Bournheath and Kemerton.

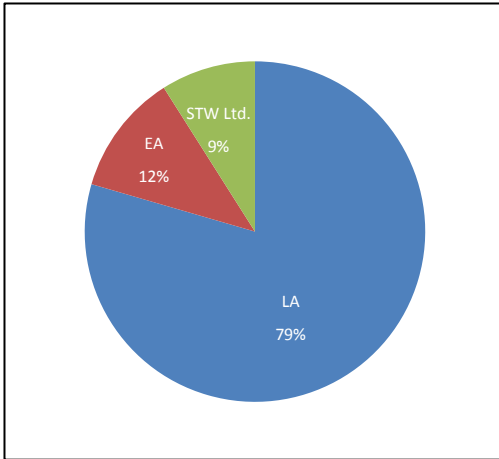


Fig 1 Percentage of floodspots per RMA

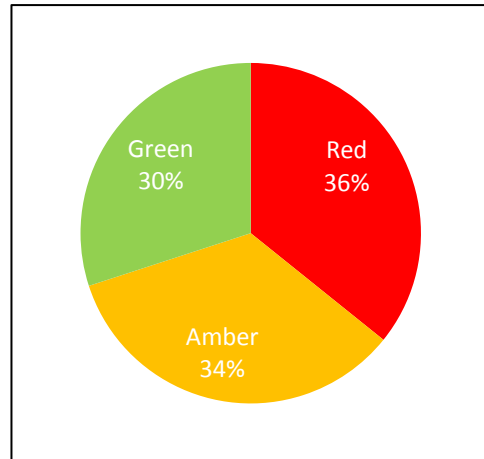


Fig 2 Mitigation status of LA floodspots

Green = mitigation complete
Amber = detailed investigation / mitigation underway
Red = only preliminary investigation carried out

2.3. Investigations

The RMAs have continued to carry out onsite and desk top investigations of hundreds of floodspots throughout the County to determine what, if any, interventions are appropriate and establish relevant roles, responsibilities, timescales and necessary resources.

In addition, more than 300 land drainage investigations and 1,500 highway drainage surveys and investigations have been carried out.

3. REDUCING THE LIKELIHOOD AND IMPACT OF FLOODING

3.1. Flood alleviation schemes

A number of flood alleviation schemes have been completed or further developed over the last 12 months reducing the risk of flooding to more properties, businesses and pieces of critical infrastructure.

3.2. Highway drainage improvement schemes

70 highway drainage improvement schemes have also been completed bringing the total number to over 850.

In addition, LEP funding has been secured to facilitate a three year programme of larger scale highway flood adaptation schemes at the following locations:

- Wood Norton
- Powick
- Pershore
- Worcester
- Upton-upon-Severn

At Powick, amendments to the central reservation will allow more flexible use of the dual carriageway when the outside lanes are flooded. At the other locations the road will be raised and drainage improved.

The schemes will increase the resilience of these key transport routes, helping to ensure that Worcestershire stays open for business.

3.3. Highway drainage maintenance

Essential ongoing maintenance of highway drainage infrastructure has continued over the last 12 months. For example over 200 broken gully connections have been repaired over the last 12 months and 17,500 gullies emptied since April 2015.

3.4. Planning & SuDS

The RMAs have assessed and commented on the drainage plans of over 1,700 planning applications over the last 12 months.

In April WCC, as Lead Local Flood Authority, was designated as a statutory consultee on Major planning applications with surface water implications. Since then it has commented on over 100 applications in order to ensure that appropriate sustainable drainage systems are included in the associated drainage plans and incorporated into the development.

Local SuDS guidelines have been produced to augment the revised National Guidelines which are due to be published shortly.

Other planning related work has included:

- Support for the South Worcestershire councils on the South Worcestershire Development Plan (SWDP) including attending the Examination in Public to discuss drainage and flooding policy
- Commencing discussion with Wyre Forest District Council on their revised Core Strategy
- Contribution to the development of Game Changer sites including Worcester Six, Redditch Eastern Gateway and the Efficient Infrastructure Report
- Contribution to the draft Infrastructure Strategy for the County and the Infrastructure Development Plans which support the emerging District Local Plans.
- Response to consultation on Neighbourhood Plans
- Response to consultation on the proposed policies and updates to the SWDP Strategic Flood Risk Assessment and Water Cycle Study
- Contribution to the development of the flood and drainage policy in Bromsgrove and Redditch Plans
- Contribution to the emerging Minerals Local Plan, and its water and flood risk management policies, and the restoration policies to ensure that the water environment is protected and enhanced
- Contribution to projects including Heritage Asset Disaster Planning and the Natural Capital Planning Tool
- Contribution to key infrastructure projects such as:
 - Hoo Brook Link Road
 - Hartlebury EfW
 - Worcestershire Parkway
 - Norton Roundabout
 - Southern Link Road Phase 3

3.5. **Ordinary Watercourse management**

The District Council land drainage partnerships and the Lower Severn Internal Drainage Board have continued to ensure that the extensive network of smaller watercourses and ditches are appropriately managed through the inspection of over 100km of the network, liaison with riparian owners and the effective delivery of the consenting and enforcement powers, delegated to them by WCC. In addition, the Lower Severn Internal Drainage Board has maintained 25km of watercourse in the Longdon and Eldersfield area of the County.

More than 50 applications for land drainage consent were processed over the last 12 months, ensuring that works were carried out in an appropriate manner, and many additional formal applications were avoided by pre-application meetings and discussions.

3.6. **Main River management**

The Environment Agency has continued to deliver its responsibility for the management of flood risk on the 'Main Rivers' including:

- Development of improved equipment and processes at the Kempsey Flood Defence
- Further progression of the flood alleviation scheme on the Badsey Brook at Broadway
- Further investigation into the potential flood alleviation scheme at Severn Stoke
- Maintenance of existing flood defences and infrastructure
- Continued engagement with stakeholders and the public about future deployment of the temporary flood barriers at Beale's Corner in Bewdley
- Progression of the PLP scheme at Beale's Corner

In its strategic role, the EA has, during the last 12 months:

- Bedded in the new structure following removal of its regional layer of operations
- Administered and supported the Regional Flood & Coastal Committee
- Produced the Flood Risk Management Plan
- Co-ordinated the ongoing review and development of the RFCC 6 year medium term plan of FRM schemes
- Led or contributed to a number water quality / biodiversity enhancement projects
- Responded to planning application consultations
- Continued to implement the 'Rapid Response Catchment' project
- Developed the 'Communities at Risk' project which assesses future potential flood risk, including at locations where there has not been any flooding in the past

3.7. **Surface water management & natural solutions**

Over the last 12 months the RMAs and other key partners, particularly those in the Local Nature Partnership, have continued to explore ways in which water can be held back and slowed down upstream of where it has a negative impact.

A number of so called 'catchment based' initiatives have emerged which, in addition to reducing flood risk, have multiple potential benefits including improved biodiversity, landscape, water quality and recreation.

At a strategic level WCC has mapped the various initiatives in order to help improve co-ordination between them. At a tactical level WCC and its partners have begun to improve their familiarity with potential natural solution techniques, learning from initiatives such as the Stroud Valley Rural SuDS Project. At an operational level, upstream

natural solutions are already being deployed at a number of locations and others potential sites are being investigated.

These natural solutions are also being successfully applied to the management of upper watercourse catchments.

3.8. **Sewerage system management**

Severn Trent Water Ltd have carried out a wide range of flood alleviation and asset management improvement works over the last 12 months, working in increasing collaboration with the other RMAs.

Examples of their work include:

- Response to over 800 internal and external property flooding incidents (the vast majority caused by blockages etc)
- Monitoring and management of sewerage network telemetry, CCTV, asset surveys and hydraulic modelling
- Nearly £5m of capital schemes (2014/15) at locations including Leamington Rd, Broadway, Lansdowne Street and Hylton Road, Worcester, Flyford Flavell, Littleworth, Baughton, Qinitec, Malvern
- Successful submission of AMP6 to Ofwat, setting in place and action plan for the next 5 years
- Contribution to local SWMPs through the development of forthcoming sewer improvement schemes at locations including Bournheath, Hagley, Upton-upon-Severn, Bromsgrove, Droitwich and Bewdley
- Review and enhancement of Hylton Road pumps and sewerage system
- Contribution to the development of resilience plans at Beale's Corner in Bewdley

3.9. **Emergency planning and response**

WCC and district council emergency planning and drainage officers have worked with other local RMA partners, responders and the overarching West Mercia Local Resilience Forum in order to:

- Develop an updated and improved resilience plan for Beale's Corner in Bewdley
- Complete and update Multi-Agency Flood Plans
- Administer and support the Worcestershire Severe Weather Group
- Attend parish council emergency planning fora and work with local communities to develop local resilience plans
- Further develop individual organisation response plans
- Install more remote watercourse monitoring equipment
- Monitor and respond to watercourse gauge triggers
- Respond to localised flooding incidents

4. GOVERNANCE & PARTNERSHIPS

4.1. Regional Flood & Coastal Committee

The English Severn & Wye RFCC comprises elected representatives from each of the LLFAs within the catchment area along with a number of EA representatives and a number of co-opted specialists.

The RFCC plays an important role in having a strategic regional overview of flood risk management including assessing proposed flood related schemes and allocating both Local Levy and Central Government Flood Defence Grant in Aid capital funding.

The RFCC has met 5 times over the last 12 months and its October meeting was successfully hosted by WCC at the Worcester Warriors Six-ways stadium.

4.2. Other groups, partnerships and fora

Officers from WCC, the district councils and often the other RMAs have attended meetings and fora with a range of other groups and organisations including:

- Worcestershire FRM Strategic Coordinating Group
- Worcestershire Land Drainage Group
- District Council Land Drainage Partnership Boards
- EA / LLFA Networking Group
- The West Mercia LRF (Worcestershire) Severe Weather Group
- The Local Government Flood Forum
- The Local Nature Partnership
- The Worcestershire Green Infrastructure Partnership
- The Worcestershire Infrastructure Steering Group
- WCC Transport Package Panel

5. COMMUNICATIONS & ENGAGEMENT

5.1. Local flood groups

Officers from the RMAs have worked closely with a number of community flood groups over the last 12 months and some examples include:

- Sedgeberrow about potential upstream catchment management on the River Isbourne
- Kemerton about drainage through the village and potential land management changes above the village on Bredon Hill
- Astley about early warning systems on the Dick Brook and resilience plans
- Kempsey about improved processes surrounding operation of the pumps
- Wick about PLP
- Bewdley about the temporary barriers and PLP
- Callow Brook about watercourse maintenance and the new flood alleviation scheme
- Catshill about the new flood alleviation scheme

This work will be significantly bolstered by the imminent arrival of a new Community Engagement Officer, employed via the Bewdley based charity the National Flood Forum.

5.2. Parish Lengthsmen

Parish Lengthsmen have continued to play an increasingly important local role in contributing to the maintenance of drainage infrastructure such as clearing gullies and maintaining gripps in the highway verge.

5.3. Flood action campaign

The EA's Autumn 2015 flood action campaign aims to encourage those potentially at risk of flooding to take positive action to assess the risk and prepare for and reduce the potential impact of flooding to their homes and businesses.

This largely social media based campaign has been complimented by local web site bulletins and press releases and further regular press releases and bulletins will follow to promote other key flood risk messages such as the role and responsibilities of riparian owners.

5.4. Web site

The WCC website has been updated and made more streamlined and accessible. It includes information about roles, responsibilities and key contacts and provides advice about actions to take before, during and after a flood.

6. PLANS, POLICIES & STRATEGIES

6.1. Local Flood Risk Management Strategy

Over the last 12 months the draft Strategy has been completed and a thorough informal consultation exercise held with stakeholders and key partners.

Feedback has been fed into a further draft which will undergo the statutory 12 week public consultation period during the Autumn / Winter of 2015/16.

6.2. Surface Water Management Plan

The draft SWMP Report was completed early in 2015 and stakeholders and key partners were consulted on it alongside the LFRMS.

The final report is currently being completed and it will be published on the WCC website in due course.

6.3. Other related plans, policies and strategies

A range of other related plans, policies and strategies have been produced and / or contributed to by the RMAs over the last 12 months including:

- Multi-Agency Flood Plans
- Worcs Green Infrastructure Strategy
- Green Infrastructure Concept Plans
- Worcs Infrastructure Strategy
- Minerals Local Plan
- District Local Plans
- Neighbourhood Plans
- Catchment Flood Management Plan
- Flood Risk Management Plan

7. FUTURE SCOPING

7.1. Future actions

Significant progress has been made over the last 12 months but climate change projections illustrate that momentum needs to be maintained and investment continued in order that flood risk and its potential impacts can be further reduced.

Priorities for the next 12 months include:

- Adoption and implementation of the Local Flood Risk Management Strategy
- Implementation of the Surface Water Management Plan
- Engagement with further stages of the Flood Risk Management Plan which covers Worcestershire
- Securing core budget and highways capital and maintenance funding for beyond 2017-18
- Securing alternative sources of funding for FRM delivery
- Completion of schemes already on the RFCC 6 year programme
- Introduction of new schemes onto the 6 year programme
- Completion of outstanding highway drainage schemes
- Greater use of upstream natural solutions
- Further development and exercising of emergency plans
- Continued maintenance of FRM infrastructure inc highway drainage and FRM schemes
- Further completion of the Register & Record of flood risk assets and features
- Designation of key flood risk assets and features
- Further engagement with communities and landowners including development of shared responsibilities and local resilience
- Ongoing contributions to the review of the Wyre Forest Core Strategy
- Ongoing commitment to comment on 'Major' planning applications and improve the quality of surface water management in the county
- Co-ordination of training on SuDs and surface water management
- Securing sufficient core LLFA capacity
- Exploration of options for the future maintenance of SuDS
- Exploration of the potential to adopt new by-laws
- Installation of more remote watercourse monitoring equipment
- Installation of more whether monitoring equipment