



# Section 19 Report

## **Purpose**

This document has been prepared specifically for the purpose of meeting the requirements of Section 19 of the Flood and Water Management Act 2010.

The report investigates which risk management authorities (RMAs) had relevant flood risk management functions during the flooding that took place in the winter of 2013/14. The report also



If you are aware of any historical flooding in the area which is not highlighted on the mapping please report it, with any evidence you have (for example photos or videos), to [flooding.enquiries@surreycc.gov.uk](mailto:flooding.enquiries@surreycc.gov.uk).

## **Other Data Sources**

The following sources of data have been used in preparing this report and its associated mapping:

### Geological information

Superficial geology (Geology of Britain Viewer; British Geological Survey)

Bedrock geology (Geology of Britain Viewer; British Geological Survey)

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# 1. Executive Summary

The purpose of this report is to investigate which risk management authorities (RMAs) had relevant flood risk management functions during the flooding that took place within the boundary of Elmbridge Borough Council (EBC) in the winter of 2013/14. The report also considers whether the relevant RMAs have exercised, or propose to exercise, their risk management functions (as per section 19(1) of the Flood and Water Management Act 2010). It does not address wider issues beyond that remit.

The flooding in Elmbridge was predominately due to fluvial sources. This was caused by

## 2. Introduction

### 2.1. Section 19 Investigation Requirement

Under the Flood and Water Management Act 2010 the Lead Local Flood Authority (LLFA) must (to the extent that it considers it necessary or appropriate) undertake an investigation upon becoming/IFA) m



## 2.2. Locations of the investigations

This report addresses sites that flooded within the Elmbridge Borough Council area. There are 47 sites in total, spread across three sub areas. There were approximately 100 incidents of internal property flooding in Elmbridge.

Due to the sensitivities in publishing property flooding information, this report does not contain a comprehensive list of the S19 sites but supporting maps showing the sub areas in more detail are available.



Figure 2-1 Location of Sub areas within Elmbridge Borough for this report



Even though Esher is downstream of Dorking and in the lower reaches of the catchment, the “flash” response can be seen in the figure below with the sharp peaks on the 24 December, 17

## 4. Identification of Relevant Risk Management Authorities

There are a range of RMAs which together cover all sources of flooding.

The EA is responsible for taking a strategic overview of the management of all sources of flooding and coastal erosion in England and Wales. They have prepared strategic plans which set out how to manage risk, provide evidence (for example their online flood maps), and provide advice to the Government. They provide support to the other RMAs through the development of risk management skills and provide a framework to support local delivery. The Agency also has operational responsibility for managing the risk of flooding from main rivers, reservoirs, estuaries and the sea, as well as being a coastal erosion risk management authority. Main Rivers are defined through an agreed map which is updated annually. These tend to be the larger rivers in the country and the EA have permissive powers to carry out maintenance works on them.

LLFAs are responsible for developing, maintaining and applying a strategy for local flood risk management in their areas. As part of this, the LLFA liaises regularly with the EA as well as the other RMAs to ensure that all sources of flooding in their area are being properly managed. They need to produce reports when there is a reported flood, and they have to keep a register of their flood management assets. They also have lead responsibility for managing the risk of flooding from surface water, groundwater and ordinary watercourses. Ordinary watercourses are rivers which are not designated as 'Main Rivers'.

District and Borough Councils can carry out flood risk management works on minor watercourses, working with the Lead Local Flood Authority. Through the planning processes, they control development in their area, ensuring that flood risks are effectively managed. If they cover part of the coast, then District and Unitary Councils also act as coastal erosion risk management authorities.

Internal Drainage Boards (IDB) are responsible for water level management in low lying areas. Not all areas require an IDB, and they currently cover approximately 10% of England. They work in partnership with other authorities and land owners to actively manage and reduce the risk of flooding.

Water and sewerage companies are responsible for managing the risks of flooding from drainage systems, including both their surface water only systems and combined sewer systems.

Highway Authorities are responsible for providing and managing highway drainage and roadside ditches, and must ensure that road projects do not increase flood risk.

Table 4-1 below summarises the RMAs responsible for the sites within this report. The ticks indicate which authorities have responsibility for which function. SCC is the LLFA. Thames Water is the water company that has responsibility for all sources of sewer flooding. There are no Internal Drainage Boards in Elmbridge.

**Table 4-1 Risk Management Authorities**

Flood Source	Environment Agency	Lead Local Flood Authority	Land Drainage Authority		Water Company	Highway Authority
		Surrey County Council	Borough/District Council	Thames Water	Surrey County Council	
Main River						
Surface Water						
Surface Water (on or coming off the highway)						

## 5. Strategic Actions and Flood Risk Management Functions

RMA's have defined flood risk management functions under the Flood and Water Management Act (2010). A flood risk management function is a function listed in the Act (or related Acts) which may be exercised by an RMA for a purpose connected with flood risk management. The following section sets out the strategic actions and relevant flood risk management functions that were carried out before, during and after the flooding that occurred across Surrey and particularly in Elmbridge during the winter of 2013/14.

### Environment Agency

The EA have a number of flood risk management functions, which include (but are not limited to); undertaking and maintaining flood mitigation works/defences, strategic responsibility for managing the risk of reservoir flooding, consenting and enforcement, the provision of strategic flood risk management plans, operation of flood alerts, flood warnings and flood risk management assets and designation of structures and features that affect flood risk. The relevant functions undertaken IN Elmbridge are listed below:

- Operated Flood Alert and Flood Warning service.

- Operated flood risk management assets during the flooding; along the River Thames the operation of the Jubilee River and the Thames Barrier reduced flooding to thousands of properties.

- Carried out flood risk mitigation works.

In addition, the EA carried out the following actions across the County:

- Participated in the Strategic and Tactical Command Groups once a major incident had been declared to respond to the flooding across Surrey.

- Opened their Area Incident Room (AIR) in Wallingford, Oxfordshire on 23 December 2013 to coordinate their response to the winter floods in the West Thames region. It was in operation for 46 days in total. For the majority of the incident it was manned 24 hours a day, and over the 46 days involved over 600 staff. It closed on 28 February 2014.

- Participated in the Strategic and Tactical Command Groups once a major incident had been declared to respond to the flooding across Surrey.

- Cleared 860 blockages and storm damage incident.

- Reported 1087 pollution incidents.

- 125 flood Ambassadors visited 95 locations.

- 70 flood data recorders sent to more than 100 locations.

- Supported (and are supporting) community groups to help develop their community flood/emergency plans.

- Sent out newsletters to inform residents of their site investigation works and are finalising plans for a regular community newsletter.

- Met with local people to discuss their ideas and are now studying these proposals in more detail.

- Are working with community groups to help them produce community emergency plans.

The EA carried out the following actions in relation to the River Thames:

- The removal of more than 200 tonnes of debris from the Thames weirs that were washed on to the weirs as a result of the floods.

- Carrying out tree works to the River Thames towpaths that they own.







Specifically in Elmbridge, SCC carried out the works below:

Closed a number of roads in Elmbridge.

### **Elmbridge Borough Council**

Elmbridge, as a Borough Council, have the following flood risk management functions: to designate structures and features that affect flood risk and they may also undertake works on Ordinary Watercourses to reduce flood risk, however this is a permissive power.

No specific flood risk management functions have been identified as being directly relevant to the 2013/2014 flooding incident in [insert area]. However, this investigation has identified other relevant actions carried out by EBC which are described below.

EBC met with the Flooding Task Group set up by SCC to evaluate resilience planning and actions taken during the flood events in order to improve response to future events.

### **All RMAs**

All RMAs under the Flood and Water Management Act (2010) have a responsibility to cooperate and coordinate with regards to their flood risk management functions, including raising awareness of flood risk and the sharing of information. Landowners also have riparian responsibilities under the Flood and Water Management Act (2010) to maintain and undertake any necessary works on assets on their Irel nvETBT1 0 0 1 144.26 469.87 s,

## 6.Format of Subsequent Sections

The sites in this report have been grouped into sub areas based on location.

There are 3 sub areas in this report, all within Elmbridge Borough Council.

Each sub area will be introduced and information relevant to the whole sub area presented. Responsible Risk Management Authorities will be identified at sub area level, and their response to the flood event summarised.

Individual site information has predominantly come from SCC existing information (collated from a variety of sources) and EA datasets. No site visits were undertaken as there are over 500 sites to report on in Surrey, however borough and district councils were consulted to collect any further information in relation to the flood events at the relevant sites. If further information is required in relation to any of the sites, requests should be submitted to Surrey CC via [flooding.enquiries@surreycc.gov.uk](mailto:flooding.enquiries@surreycc.gov.uk).

## 7. Sub Area: Cobham

### 7.1. Sub Area Definition

This sub area covers the area of Cobham. (See Figure 2-1, Section 2.2).

### 7.2. Location and Catchment Description

The major water course in the sub area is the River Mole, which flows from the south to the north of the sub area.

During the winter of 2013/2014, flooding in the sub area resulted in road closure and internal property flooding.

Flooding in December 2013 to February 2014 was caused by the River Mole overtopping its banks. There are no flood defences in Cobham.

The River Mole 2013/14 flood event at Esher is estimated at a 1 in 50 year annual chance event (2013-2014 Post Flood Event Analysis Kent and South London Area May 2015). Although the recorded flood water levels in the river were higher than for the 1968 flood event (EA Technical Report Winter Floods 2013/14 West Thames Area Flood) the flood extent is less than occurred in 2000 and 1968 (2013-2014 Post flood Event Analysis Kent and South London Area May 2015).

Cobham is located in the Middle Mole catchment and is at risk of flooding from fluvial flooding. The majority of the sub area is not at risk of fluvial flooding. However, the areas in close proximity to the River Mole are at a low to high risk of fluvial flooding, the high risk areas being the closest to the river.

The EA surface water flood maps indicate that the majority of the sub area is at low risk from surface water flooding. However there are some areas, particularly surrounding the River Mole, where there is a medium to high risk of surface water flooding. The EA surface water maps are based on topography and their accuracy is not as detailed as the fluvial flood maps; however they can be used to identify general flow routes.

The flood risk maps do not take into account climate change. They are designed only to give an

### 7.3. Identification of Relevant RMAs

Following a range of consultation events during and since the floods, the relevant RMAs in this sub area have been identified as being the EA, the Land Drainage Authority (SCC/EBC), the LLFA (SCC) and the Highway Authority (SCC).

### 7.4. Exercised Flood Risk Management Functions & Actions

#### Environment Agency

The operation of the sluices at Cobham Mill commenced prior to any flooding in Cobham in response to the forecasts for significant rainfall. The operation of the gates was monitored throughout the duration of the flood events.

EA Flood Ambassadors were on site for the December 2013 and Jan 2014 events. As there are no permanent flood defences at Cobham, the Environment Agency did investigate mobilising temporary flood defences but the investigations demonstrated that the ground conditions were not suitable for them to be effectively used.

The EA issued flood warnings to 190 registered property owners in December 2013, 196 in January 2014 and 199 in February 2014.

The EA had flood data recorders on site for the December 2013 and January 2014 events.

The EA have completed flood investigation reports analysing the technical gauge and rainfall data and their own actions and response to the flood events

Section 5 provides details of EA's wider flood risk management functions and other relevant actions prior to, during and since the flood incident.

#### Surrey County Council

SCC were responsible for a number of temporary road closures during the flooding including:

- Stoke Road (Cobham)
- Plough Lane (Cobham)
- Mill Road (Cobham)
- Old Common Road (Cobham)
- Portsmouth Road (Cobham)

Section 5 provides details of SCC's wider flood risk management functions and other relevant actions prior to, during and since the flood incident.

#### Elmbridge Borough Council

No flood risk management functions relevant to EBC have been identified as specific to the flood incident in this sub area.

Section 5 provides details of EBC's wider flood risk management functions and other relevant actions prior to, during and since the flood incident.

## 8. Sub Area: Esher & East Molesey

### 8.1. Sub Area Definition

This sub area covers the area of Claygate, East Molesey, Thames Ditton and West Molesey. (See map in 2.2). The Esher & East Molesey sub area is comprised of two discrete areas. For the purpose of this S19 report these will be referred to as Esher & East Molesey A (EEM-A) and Esher & East Molesey B (EEM-B).

### 8.2. Location and Catchment Description

East Molesey and Thames Ditton are located in the Lower River Mole and the River Thames catchment .

During the winter of 2013/2014, flooding in the sub area resulted in road closure and internal property flooding.

The Lower Mole Flood Alleviation Scheme (FAS) provides protection to an estimated 10,000 properties. The River Mole confluence with the River Thames is in East Molesey opposite Hampton Court.

The Claygate area is on the Woodstock Road, which does not appear to be at risk of fluvial flooding according to the EA flood maps, so this is most likely to be highway drainage or surface water flood risk.

In December 2013, there were no properties reported as being flooded from the River Mole or River Thames

In January 2014 one property in Molesey was reported as flooded from the Thames.

In February 2014 twelve properties in Molesey were reported as flooded from the Thames.

The 2013/14 flood event is estimated at a 1 in 50 year annual chance event at Esher.

On 13 December 2013 the gauge on the R

The sub area is predominantly underlain by London Clay, with Claygate Member making up half of EEM-B. The majority of the sub area is also underlain by Kempton Park Gravel Formation with deposits of alluvium to the south and the east of the area.

In large parts of the sub area there is a potential for groundwater flooding to occur at the surface in the areas surrounding the water courses. The remaining areas have little or no potential for groundwater flooding to occur.

### **8.3. Identification of Relevant RMAs**

Following a range of consultation events during and since the floods, the relevant RMAs in this sub area have been identified as being the EA, the Land Drainage Authority (SCC / Elmbridge Borough Council), the LLFA (SCC), the Highway Authority (SCC) and Water Company (TW).

### **8.4. Exercised Flood Risk Management Functions & Actions**

#### **Environment Agency**

The EA operated the Lower Mole FAS on the 24 and 25 December 2013. The Environment continued to operate the Lower Mole FAS as necessary throughout January and February 2014.

EA Flood Ambassadors were on site (Esher) for the January 2014 event.

EA Flood Ambassadors were on site (Molesey) for the February 2014 event.

The EA had flood data recorders on site (Esher) for the January 2014 event.

The EA had flood data recorders on site (Molesey) for the January 2014 and February 2014 events.

The EA issued River Thames flood warnings for Molesey to 1736 registered property owners in January 2014 and 1770 in February 2014.

The high flows caused some bank erosion to the Lower Mole FAS which has now been repaired by the EA.

The EA have completed flood investigation reports analysing the technical gauge and rainfall data and their own actions and response to flood events

Section 5 provides details of EA's wider flood risk management functions and other relevant actions prior to, during and since the flood incident.

#### **Surrey County Council**

SCC were responsible for a number of temporary road closures during the flooding including:

- Riverbank (Thames Ditton)
- Woodstock Lane South (Esher)

Section 5 provides details of SCC's wider flood risk management functions and other relevant actions prior to, during and since the flood incident.

### **Thames Water**

No flood risk management functions relevant to TW have been identified as specific to the flood incident in this sub area.

Section 5 provides details of TW's wider flood risk management functions and other relevant actions prior to, during and since the flood incident.

### **Elmbridge Borough Council**

No flood risk management functions relevant to EBC have been identified as specific to the flood incident in this sub area.

Section 5 provides details of EBC's wider flood risk management functions and other relevant actions prior to, during and since the flood incident.

## 9. Sub Area: Weybridge & Walton-on-Thames

### 9.1. Sub Area Definition

This sub area covers the area of Weybridge and Walton-On-Thames. (See map in 2.2). The Weybridge & Walton-on-Thames sub area is comprised of two discrete areas. For the purpose of this S19 report these will be referred to as Weybridge & Walton-on-Thames A (WWT-A) and Weybridge & Walton-on-Thames B (WWT-B).

### 9.2. Location and Catchment Description

During the winter of 2013/2014, flooding in the sub area resulted in road closure and internal property flooding.

Walton on Thames is located in the River Thames catchment and is at risk of flooding from the River Thames and from surface water flooding. Weybridge is located in the catchment for the River Wey close to the confluence with the River Thames. The flood plains for the two rivers combine here.

Levels in the River Wey rose on the 25 December 2013 reaching its peak on the 26 December 2013 though these were lower than the 1968 flooding event. Property flooding started in the afternoon of the 25 December 2013 with three properties in the vicinity of Wey Road being worst affected.

Levels in the River Thames rose higher in the February event and caused backing up in the River Wey and were the highest recorded



In the majority of sub area there is a potential for groundwater flooding to occur at the surface in the areas surrounding the water courses (Desborough Channel and the River Mole). The remaining areas have little or no potential for groundwater flooding to occur.

### 9.3. Identification of Relevant RMAs

Following a range of consultation events during and since the floods, the relevant RMAs in this sub area have been identified as being the LLFA (SCC), the Highway Authority (SCC), the EA, the Land Drainage Authority (SCC / EBC) and Water Company (TW).

### 9.4. Exercised Flood Risk Management Functions & Actions

#### Environment Agency

EA Flood Ambassadors were on site (Weybridge) for the December 2013 and January 2014 events.

EA Flood Ambassadors were on site (Walton) for the January 2014 and February 2014 events.

The EA had flood data recorders on site (Weybridge) for the January 2014 event.

The EA had flood data recorders on site (Walton) for the January 2014 event.

The EA issued flood warnings for Weybridge to 363 registered property owners in December 2013 and 383 for February 2014.

The EA issued flood warnings for Walton to 139 registered property owners in December 2013 and 139 for February 2014.

The EA has now adjusted flood warning trigger levels for properties in Hamm Court.

The EA have completed flood investigation reports analysing the technical gauge and rainfall data and their own actions.

Section 5 provides details of the EA's borough-wide flood risk management functions prior to, during and since the flood incident.

Since the 2013/2014 flooding the EA carried out maintenance work along the River Thames which included:

Carrying out asbestos surveys to EA weir sites, including Shepperton (on the boundary of the Weybridge & Walton-on-Thames sub area).

Carrying out six yearly Electrical Inspections to EA lock and weir sites including Shepperton (on the boundary of the Weybridge & Walton-on-Thames sub area).

Section 5 provides details of The EA's wider flood risk management functions and other relevant actions prior to, during and since the flood incident.

#### Surrey County Council

SCC were responsible for a number of temporary road closures during the flooding including:

Fordbridge Road (Sunbury On Thames)

Walton Lane (Weybridge)

Jessamy Road (Weybridge)

### Hilary Crescent (Walton)

Section 5 provides details of SCC's wider flood risk management functions and other relevant actions prior to, during and since the flood incident.

### **Thames Water**

No flood risk management functions relevant to TW have been identified as specific to the flood incident in this sub area.

Section 5 provides details of TW's wider flood risk management functions and other relevant actions prior to, during and since the flood incident.

### **Elmbridge Borough Council**

The following flood forum groups have been set up.

Walton Lane  
Wheatley's Eyot  
Thames Ditton Island  
Hurst Park

Section 5 provides details of EBC's wider flood risk management functions and other relevant actions prior to, during and since the flood incident.

# 10. Conclusion

The objective of this report is to investigate which RMAs had relevant flood risk management functions during the flooding and

prioritisation of drainage maintenance works and support business cases when bidding for Government contributions towards major flood defence schemes.

## 10.5. Recommendations

Based on the findings of this Section 19 investigation, it is recommended that:

All RMAs continue to improve their cooperation, coordination and communication with one another, particularly with regard to their flood risk management functions and during times of emergency.

All RMAs continue to raise awareness of flood risk and increase the resilience of communities and businesses to flood risk, across Surrey.

SCC and the EA further develop public awareness and understanding of riparian responsibilities, in order to improve the condition of watercourses across Surrey.

All RMAs review their current processes for data collection during a flood event, giving consideration to the best practice guidance produced by SCC and the EA.

All RMAs pass any records of future property flooding in Surrey to SCC for collation in a central database.

SCC undertake studies where there is significant groundwater flooding to better understand the nature of the flooding and the levels of risk.

All RMAs review the benefits of proposed flood schemes in the 6 Year Programme of Flood and Coastal Erosion Risk Management Schemes and consider whether partnership contributions may be justified.

SCC undertake detailed drainage surveys where asset information is limited or non-existent, prioritising areas at greatest risk of flooding.

SCC formalise the process for investigating major flood events under the S19 duty and agree this process with the Surrey Flood Risk Partnership Board, to ensure efficient partnership working and data sharing for future investigations.

## 11. Acknowledgements

Surrey County Council would like to thank the following organisations and groups for providing information and input into the Section 19 Flood Investigation Report:

The Environment Agency  
Elmbridge Borough Council  
Thames Water  
Atkins.