

KENT FLOOD RISK MANAGEMENT COMMITTEE

Monday, 19th November, 2012

2.00 pm

Medway Room, Sessions House, County Hall, Maidstone



AGENDA

KENT FLOOD RISK MANAGEMENT COMMITTEE

Monday, 19th November, 2012 at 2.00 pm Ask for: **Andrew Tait**
Medway Room, Sessions House, Telephone: **01622 694942**
County Hall, Maidstone

Tea/Coffee will be available 15 minutes before the meeting

UNRESTRICTED ITEMS

(During these items the meeting is likely to be open to the public)

Item

- 1 Substitutes
- 2 Declarations of Members' Interest relating to items on today's agenda
- 3 Minutes of the meeting on 23 July 2012 (Pages 1 - 6)
- 4 Local Flood Risk management Strategy - pre-consultation draft (Pages 7 - 108)
- 5 Environment Agency Restructure - Oral presentation by Richard Knight from the Environment Agency
- 6 Kent Flood Update (Pages 109 - 110)
- 7 Dates of meetings in 2013
Friday, 15 March 2013
Monday, 22 July 2013
Monday, 18 November 2013
- 8 Other items which the Chairman decides are Urgent

EXEMPT ITEMS

(At the time of preparing the agenda there were no exempt items. During any such items which may arise the meeting is likely NOT to be open to the public)

Peter Sass
Head of Democratic Services
(01622) 694002

Friday, 9 November 2012

Please note that any background documents referred to in the accompanying papers maybe inspected by arrangement with the officer responsible for preparing the relevant report.

KENT COUNTY COUNCIL**KENT FLOOD RISK MANAGEMENT COMMITTEE**

MINUTES of a meeting of the Kent Flood Risk Management Committee held in the Romney Marsh Internal Drainage Board, New Hall, New Hall Close, Dymchurch, Kent TN29 0LF on Monday, 23 July 2012.

PRESENT: Mr R E King (Chairman), Mr A H T Bowles, Mr D L Brazier, Mr M J Harrison, Mr C Hibberd and Mr M J Vye

OTHER AUTHORITIES: Mrs J Blanford (Ashford BC), Mr H Rogers (Tonbridge and Malling BC), Mr J Scholey (Sevenoaks DC) and Mr M Tapp (River Stour IDB)

IN ATTENDANCE: Mr T Harwood (Senior Emergency Planning Officer), Miss N Gibbs (Emergency Planning Assistant), Mr R Knight (Environment Agency), Mr D Oliver (Romney Marsh IDB), Mr N Botting (Romney Marsh IDB) (Assistant Engineer) and Mr A Tait (Democratic Services Officer)

UNRESTRICTED ITEMS**7. Minutes of the meeting on 16 March 2012**

(Item 3)

(1) With reference to Minute 2 (6), the Committee accepted Mr Harwood's offer to contact the Environment Agency in order to provide an indicative priority ranking for Flood Defence Grants.

(2) RESOLVED that the Minutes of the meeting held on 16 March 2012 are correctly recorded and that they be signed by the Chairman.

8. Local Flood Risk Management Strategy

(Item 4)

(1) Mr Harwood introduced the report. He said that work on the production of the draft Local Flood Risk Management Strategy was well underway, having been discussed in detail at the last meeting of the Kent Flood Partnership.

(2) Mr Harwood continued by saying that the Strategy would be an overarching, holistic document. The aim of those preparing the document was that it should be as pragmatic as possible whilst ensuring that all the various agencies worked effectively together.

(3) Mr Vye asked to what extent the Committee could be held to account if the aims of the Strategy were not achieved. Mr Harwood replied that the responsibilities of the Lead Flood Authority were set out in the Flood and Water Management Act 2010. In terms of liability, the legal test would be "reasonableness", as it was for all local government functions.

(4) Mr Hibberd agreed that it would be wise not to proceed with a very detailed draft. He believed that the review period should be two years rather than the three envisaged. He also asked for the inclusion of the total number of organisations affected by Water Legislation. Mr Harwood replied that the Kent Flood Partnership had discussed similar concerns. He suggested that a “light touch” bi-annual review would be appropriate and agreed that the roles and responsibilities of key partners would be factored in to the Strategy.

(5) The Committee agreed that it would have sight of the Strategy before publication. It was agreed that the most appropriate approach would be for its Members to be sent an electronic version beforehand so that they could comment. In the event that Members had more fundamental concerns, there might need to be a special meeting of the Committee to consider the matter.

(6) The Chairman asked that any Member who, on receipt of the pre-publication draft, wished for a special meeting of the Committee to contact him at the earliest opportunity.

(7) RESOLVED that:-

(a) the report be noted; and

(b) a pre-publication draft of the Draft Local Flood Risk Management Strategy be circulated electronically at the earliest opportunity to all Members of the Committee in order to enable them to comment upon it and, if necessary, for a special meeting to be arranged before publication.

9. Presentation from the Environment Agency

(Item 5)

(1) Members of the Committee had visited the flood defences at Robertsbridge before the meeting (including an exercise with the flood alleviation scheme in partial operation). This had been followed by a visit to the Woodside Pumping Station, which was in the process of being repaired.

(2) The Chairman thanked the Environment Agency for the interesting and informative tour during the morning. He asked on behalf of the Committee whether there could be a second visit to the Woodside Pumping Station once the work had been completed.

(3) Mr Richard Knight from the Environment Agency began his presentation by explaining the very unusual weather patterns which had occurred over the previous months. The jet stream was further south than was normal, leading to low pressure systems moving north east across southern parts of England. Meanwhile, the surface temperatures in the North Atlantic had been higher than usual. It was possible (but not proven) that the shrinking polar ice cap was responsible for these conditions. In any case, these factors had brought about unusually high levels of rain in April and May.

(4) Mr Knight then said that the previous five summers had all been wetter than average and that there had been very unusual weather patterns in the whole of the Northern Hemisphere. In the UK, the effects had been similar to those of 2007. There had been floods in Wales, Cumbria, Hampshire, Dorset and East Anglia.

(5) Mr Knight went on to say that the Environment Agency's regional Instant response staff covered Kent, South East London, parts of Surrey and East Sussex. Their task had traditionally been to respond to severe weather which built up in a slow moving system over a long period. It was now increasingly the case that they had to respond to much more sudden rainstorms. Examples of these had occurred at Bearstowe in Surrey in June when 45 millimetres had fallen in 5 hours. In July, a storm had stopped above Edenbridge in Kent, depositing 40 millimetres.

(6) Mr Knight concluded his presentation by saying that the Incident Room in Addington had been opened on six occasions in June and July 2012 (the first time this had ever happened during these months).

(7) Mr Knight responded to Members' questions by saying that most scientists had concluded that extreme weather patterns would become more common as a result of global warming and melting ice caps. Ocean cooling did not necessarily result from melting ice caps. Scientists were well aware of the La Nina and El Nino effects in the Pacific Ocean area (where high or low sea temperatures could translate into their opposites in landed areas. It was quite possible that an effect along these lines could occur in the Atlantic area. It was, though definitely the case that the glaciers were retreating on an annual basis even though they did make up some of that loss during the winter months.

(8) Mr Knight responded to further questions by saying that DEFRA assumed an average increase in sea level of 6 centimetres per year. This was especially significant for Kent which had more people at risk of coastal flooding than any other authority in the UK. He was able to confirm that the multi-agency flood plans contained a comprehensive list of resources and equipment for flood prevention/mitigation.

(9) RESOLVED that Mr Knight be thanked for his informative and thought-provoking presentation.

10. Presentation on the work of the Internal Drainage Board

(Item 6)

(1) The Chairman thanked Romney Marshes Area IDB on behalf of the Committee for providing such a splendid venue for the meeting.

(2) Mr Nick Botting from Romney Marshes Area IDB gave a presentation which had originally been prepared by Mr David Oliver (who had been obliged to present his apologies at this point in the meeting).

(3) Mr Botting said that the Romney Marshes Area IDB had been formed in April 2001 as an amalgamation of the Denge and Southbrooks, Pett, Romney Marsh Levels, Rother and Walland Marsh IDBs. These had been formed in the 1930s by the

Land Drainage Act 1930. This Act had created an integrated drainage system in the lowland areas of Kent to be under the control of Catchment Boards (now the Environment Agency) who were responsible for the larger watercourses (Main River) and the sea defences. Land within an Internal Drainage District fell under the control of the IDBs, who were made responsible for managing effective drainage.

(4) Mr Botting went on to define an Internal Drainage District as a low lying area of land which was prone to flooding and where, consequently, works had to be undertaken to protect land and property. The current Romney Marshes Area IDB functioned under the Land Drainage Act 1991 and the Flood and Water Management Act 2010.

(5) Mr Botting next described the IDB's administrative area. It covered over 33,000 hectares (82,000 acres). Its catchment area (land draining into the district) was 94,000 hectares (232,000 acres). Much of the marsh land was Grade 1 arable land, but the IDB's area also covered the river valleys of the Rother, Brede, Tillingham and other tributaries.

(6) Most of the marsh was below mean tide level, which meant that it would be under water most of the time if it was not protected by the sea wall. Land levels in Romney Marsh were about 2 to 3 metres above Ordnance Datum Newlyn (AOD) (the main sea level to which all levels in the UK were related). In Walland Marsh, the levels varied between 5 metres AOD at Lydd and Midley to about 1 metre AOD at Fairfield. The soil on the marsh was quite varied. It was mainly alluvium, but also ranged from light sandy soil (which drained freely but did not hold water) to clay in the river valleys (which could cause flooding problems through rapid run-off). In many areas, the underlying stratum of peat from the ancient forests was quite close to the surface, leading to possible settlement problems when the land was drained.

(7) Mr Botting then said that the Romney Marshes Area IDB was one of about 150 boards in low-lying areas of the country. It was a self-funding public body, comprising 21 members elected by agricultural ratepayers and 22 members nominated by those Councils which paid levies to the Board. The Board employed a Clerk/Engineer, an Assistant Clerk/Engineer, a Water Bailiff and a part time Rating Officer. Contractors were employed to undertake maintenance work.

(8) Rates were collected by setting an agricultural rate paid by the occupiers of agricultural land and a special levy on the District Councils. These rates were used to pay for the maintenance or improvement of watercourses and structures. The IDB also paid a precept to the Environment Agency for the maintenance of their watercourses and sea defences as well as for administration of functions such as the Flood Warning Service. The Environment Agency in turn made a contribution to the IDB for accepting water from the catchment into the lowland area.

(9) The IDB maintained some 350 km of watercourses (petty sewers) and also owned and maintained 5 pumping stations. All of these watercourses discharged into main rivers maintained by the Environment Agency. The IDB owned none of these watercourses and its powers were permissive. This meant that it did not have to maintain them. The ultimate responsibility for maintenance lay with the riparian owner. The basic law of land drainage was that a person had to accept the natural flow of water from upstream and could not obstruct it. Under Section 23 of the Land

Drainage Act 1991, it was an offence to cause an obstruction or alter the flow of any watercourse without the written consent of the IDB.

(10) Mr Botting next said that maintenance of watercourses was done by “brushing” to clear the channel of weed growth. This took place annually in the late summer and autumn in order to remove vegetation, allow free drainage of the winter rains, minimise re-growth and to allow nesting birds to rear their young successfully. Brushing was carried out by excavators fitted with mechanical weed-cutting baskets. Since this mechanised system had been developed in the 1960s, dredging of the watercourses to remove the build up of silt needed to be undertaken less than once a decade.

(11) Stop boards were placed in structures across the watercourses during spring time to hold the water at a higher level in the summer. This water was used as wet fencing for livestock and for irrigation. Some of the stop boards had been in existence for hundreds of years. Since the Second World War, there had been an increase in arable farming over grazing. Because graziers generally required higher water levels than arable farmers, this meant that compromise and diplomacy was at a premium.

(12) Irrigation could place demands on water levels. Most farmers now had storage ponds for their irrigation needs; however some still had licences of right which permitted them to draw water direct from watercourses without compensation from their own reserves. During the summer months, evaporation could reduce water levels by as much as 9mm each day, and the Environment Agency provided summer feeding of water to the marsh in order to combat this effect. Water could be moved from the Rother, which usually had a steady flow of water from the upper reaches all year round. By pumping and opening sluices, it was possible to feed water from the Rother into the Royal Military Canal and then onto the marsh, thereby supplying water which would otherwise simply flow into the sea.

(13) Mr Botting concluded the presentation by saying that conservation played an important part in the IDB’s work. The Land Drainage Act specified that due consideration had to be given to enhancing conservation wherever possible. There were several SSSIs within the district requiring special consideration before a licence could be granted for the IDB to undertake its work.

(14) RESOLVED that Mr David Oliver be thanked for preparing a very informative presentation on the work of the Romney Marshes Area IDB.

11. Date of next meeting
(Item 7)

The Committee noted that its next meeting would be held at 2.00 pm on Monday, 19 November 2012 at County Hall, Maidstone.

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By: Max Tant, Flood Risk Manager
To: Floods Risk Management Committee
Subject: Local Flood Risk Management Strategy
Classification: Unrestricted

1. Introduction

The Local Flood Risk Management Strategy is a requirement of the Flood and Water Management Act 2010 (the Act) for all Lead Local Flood Authorities to prepare. KCC must prepare a Local Strategy that sets out how local flood risks will be managed in the county, who will deliver them and how they will be funded.

The Act gives county and unitary authorities a local leadership role and the Environment Agency a national overview role in relation to flood risk management. This strategy will be central to the implementation of the Act in Kent, and will provide a framework for all risk management authorities to manage local flooding in a co-ordinated way.

The Local Flood Risk Management Strategy must be consistent with the Environment Agency’s National Strategy. The National Strategy sets out how all flood risks and coastal erosion will be managed in England.

The relationship of the local strategy to other flood plans and strategic planning documents produced locally, regionally and nationally is shown in Diagram 1, along with the authorities responsible for producing them.

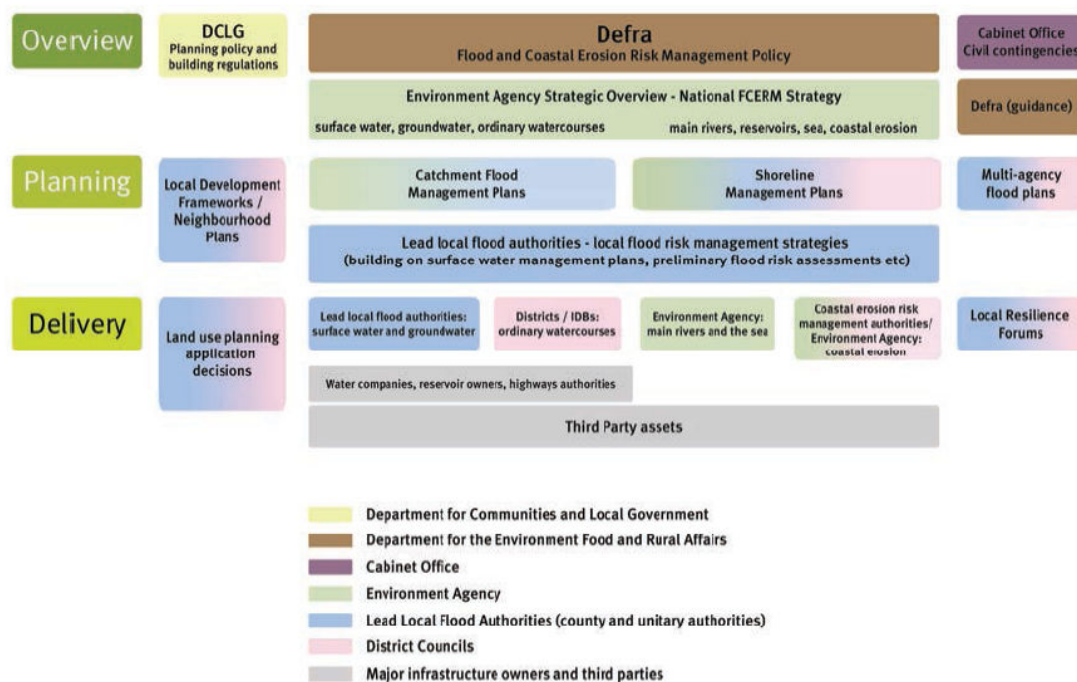


Diagram 1 Flood risk management overview

The local strategy is informed by regional and national flood strategies, including the national strategy, catchment flood management plans and shoreline management plans. In turn the local strategy will inform the delivery of flood risk management in Kent and local planning decisions.

The local strategy must be consulted on with the risk management authorities in the county and with the public.

2. Local Strategy requirements

The Act sets out the minimum that a local strategy must contain:

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

Delivering this for Kent in one document will be challenging. It is not possible to know at this stage what the measures are that will be delivered to meet the objectives or how these will be funded for the whole county over the whole lifetime of the local strategy.

It is proposed that the Local Strategy will provide a strategic guide to how local flood risk will be managed in the county by promoting good practice, helping risk management authorities to work together better and improving the understanding of flood risk for the public. One of the measures will be to improve our knowledge of flood risk in areas susceptible to local flood risk by undertaking Surface Water Management Plans. The delivery of local measures to manage these risks will be managed through these plans.

A plan of the measures that have been identified in the Surface Water Management Plans and other measures to meet the objectives of the Local Strategy that will be delivered over the following year will be updated annually.

3. Objectives

The objectives of the strategy are proposed as the following:

1. Improving the understanding of the risks of flooding from surface runoff, groundwater and ordinary watercourses in Kent.

In order to plan for and mitigate local flooding information needs to be gathered to assess the risks, which can then be used by the risk management authorities to identify the areas most at risk, to target responses and investigate what options may be available to manage them.

The information currently available about local flooding is inconsistent, scant and sometimes unreliable. Data on historic local flooding may not be available in some parts of the county, or is only available for some not all local flooding risks (for instance ordinary watercourse data is available but not surface water flooding). There is very little data about predicted risk of local flooding from models.

This reflects the focus on the more life threatening flood risk from rivers and the sea that have been the focus of flood risk management in the past two decades and of the fragmented responsibilities for local flooding amongst several risk management authorities.

In order to be able to make robust plans for local flood risks better data needs to be gathered about the history of flooding and the predicted risks that is consistent, reliable and available to all risk management authorities.

2. Reducing the impact of flooding on people and businesses in Kent.

Flooding causes damage, disruption, uncertainty and loss of business. The ultimate objective of flood risk management should be to reduce the impact of flooding wherever possible.

This does not always mean constructing formal flood defence works or the outright removal of the risk. The most sustainable ways to manage flood risks may be a simple intervention that achieves a significant reduction in the likelihood or consequences of a flood.

Flood risk management must focus on the highest risk areas, be cost-effective, sensitive of the needs of the local community and seek multiple benefits. Local communities should be involved in the development of flood mitigation actions and encouraged to help fund them.

3. Ensuring that development in Kent takes account of flood risk issues and plans to effectively manage any impacts.

The best way to prevent flood risk from increasing is to build new developments in a flood sensitive way, which includes avoiding areas of existing flood risk where possible and managing runoff sustainably.

Sustainable development helps to provide homes and communities that are pleasant places to live free of flood risk and enhance the surrounding communities and environments.

4. Providing clear information and guidance on the role of the public sector, private sector and individuals in flood risk management in Kent and how those roles will be delivered and how authorities will work together to manage flood risk.

Given the number of authorities that exercise flood risk management functions and recent changes to these it is important that clear, effective information is provided about how, when and where risk management functions will be exercised. This will help to improve the awareness of public that risk management functions are being undertaken and will help to identify opportunities to coordinate risk management functions.

The need for this was identified in the Pitt Review 2007, which states:

“we firmly believe that the public interest is best served by closer cooperation and a presumption that information will be shared. We must be open, honest and direct about risk, including with the public. We must move from a culture of ‘need to know’ to one of ‘need to share’”.

Sharing information and cooperation go hand-in-hand, only by knowing what roles and how we plan to deliver them can we work effectively together.

Everybody has a role to play in managing flood risk, by understanding our roles and how each of us will deliver them we can work together to effectively manage the risks.

5. Ensuring that emergency plans and responses to flood incidents in Kent are effective and that communities understand the risks and their role in an emergency.

Flooding cannot be prevented entirely. It is important to recognise and plan for eventualities that cannot be mitigated. Even with the collation of data and mapping of flood risk some risks are too expensive or technically unfeasible to remove the flood risk entirely. Even in cases where the flood risk can be managed there will remain a residual risk that the mitigation measure may fail. In all these cases the flood risks that remain must be managed through appropriate emergency responses.

These responses should use the best available information and be clear about what has to be done to manage the risks during and emergency to all stakeholders, including the public.

4. Delivery

The Local Strategy will set out how KCC will undertake its role as Lead Local Flood Authority for Kent and how it will deliver the new flood risk management functions it has been given by the Act. It will also set out how risk management authorities will work together to deliver the objectives of the Local Strategy.

The Local Strategy will include how it will prioritise the delivery of Surface Water Management Plans across the county, as these will be the primary means to assess local flood risk in the county and identify options to reduce it.

5. Timetable

The Local Strategy is currently being drafted. It is intended that it will be published for public consultation in September for three months. Consultation responses will be reviewed in early 2013 with the Local Strategy timetabled for cabinet approval in March 2013.

The Local Strategy will be reviewed three years from its adoption, to monitor the delivery of the measures proposed in it and to assess the relevance of the objectives. It is likely that future versions of the Local Strategy will have longer shelf lives. This first Local Strategy will help to put in place many of the mechanisms needed to manage our new functions and these will need to be reviewed sooner.

6. Recommendations

That the committee provide any comments about the objectives of the Local Strategy.

Background documents

The Floods and Water Management Act -

http://www.legislation.gov.uk/ukpga/2010/29/pdfs/ukpga_20100029_en.pdf

The Floods and Water Management Act explanatory notes -

http://www.legislation.gov.uk/ukpga/2010/29/pdfs/ukpgaen_20100029_en.pdf

What does the Flood and Water Management Act mean for Local Authorities, Defra -

<http://www.defra.gov.uk/environment/flooding/documents/policy/fwmb/fwma-lafactsheet.pdf>

National Strategy for Flooding and Coastal Erosion Risk Management, Environment Agency - www.environment-agency.gov.uk/research/policy/130073.aspx

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Kent County Council Local Flood Risk Management Strategy

First Draft

September 2012



EXECUTIVE SUMMARY

Introduction

Local flooding is defined as flooding that is caused by the following sources:

- **Surface water,**
- **Groundwater,**
- **Ordinary Watercourses.**

Local flooding has a significant impact on the people and economy of Kent and it is predicted to increase due to climate change, increasing development and changing land use practices that affect the way the land is able to naturally respond to rainfall.

This Local Flood Risk Management Strategy for Kent (the local strategy) sets out a countywide plan for managing the risks of local flooding. Other forms of flooding, such as fluvial (from rivers) or coastal flooding, are managed through other strategies.

The aim of the local strategy

The aims of the local strategy are:

- to coordinate the work of the management authorities to improve the understanding of these risks;
- to ensure that we work together to provide effective solutions to the problems where we can; and,
- to improve the understanding of the risks in Kent and how everyone can play a part in reducing them.

This local strategy will help to ensure that Kent County Council (KCC), the Environment Agency, local authorities, water companies, internal drainage boards and other partners work together to help protect the people and economy of Kent from flooding, whilst ensuring all other relevant considerations are taken into account. The geographical coverage for each of the authorities in Kent is shown in Figure 1.

It aims to encourage the use of all available risk management measures in a co-ordinated way that balances the needs of communities, the economy and the environment to reduce flood risk. To do this it considers:

- the functions of those involved in local flood risk management and how these organisations can work together better;
- what information is available to assess the risk and how this information can be improved;
- how we identify and prioritise measures that can be used to manage local flood risks;
- how work can be paid for;

- the guidance and advice available to help manage local flood risk.

Objectives

These are the objectives of the Local Strategy.

1. Improving the understanding of the risks of flooding from surface runoff, groundwater and ordinary watercourses in Kent.

In order to plan for and mitigate local flooding information needs to be gathered to assess the risks, which can then be used by the risk management authorities to identify the areas most at risk, to target responses and investigate what options may be available to manage them.

The information currently available about local flooding is inconsistent, scant and sometimes unreliable. Data on historic local flooding may not be available in some parts of the county, or is only available for some not all local flooding risks (for instance ordinary watercourse data is available but not surface water flooding). There is very little data about predicted risk of local flooding from models.

This reflects the focus on the more life threatening flood risk from rivers and the sea that have been the focus of flood risk management in the past two decades and of the fragmented responsibilities for local flooding amongst several risk management authorities.

In order to be able to make robust plans for local flood risks and allocate flood risk management resources effectively better data needs to be gathered about the history of flooding and the predicted risks that is consistent, reliable and available to all risk management authorities.

2. Reducing the impact of flooding on people and businesses in Kent.

Flooding causes damage, disruption, uncertainty and loss of business. The ultimate objective of flood risk management should be to reduce the impact of flooding wherever possible.

This does not always mean constructing formal flood defence schemes or the outright removal of the risk. The most sustainable ways to manage flood risks may be a simple intervention that achieves a significant reduction in the likelihood or consequences of a flood.

Flood risk management must focus on the highest risk areas, especially where these are disadvantaged, be cost-effective, sensitive of the needs of the local community and seek multiple benefits. Local communities should be involved in the development of flood mitigation actions and encouraged to help fund them.

3. Ensuring that development in Kent takes account of flood risk issues and plans to effectively manage any impacts.

The best way to prevent flood risk from increasing is to build new developments in a flood sensitive way, which includes avoiding areas of existing flood risk where possible and managing runoff sustainably.

Sustainable development helps to provide homes and communities that are pleasant places to live free of flood risk and enhance the surrounding communities and environments.

4. Providing clear information and guidance on the role of the public sector, private sector and individuals in flood risk management in Kent and how those roles will be delivered and how authorities will work together to manage flood risk.

Given the number of authorities that exercise flood risk management functions and recent changes to these it is important that clear, effective information is provided about how, when and where risk management functions will be exercised. This will help to improve the awareness of public that risk management functions are being undertaken and will help to identify opportunities to coordinate risk management functions.

The need for this was identified in the Pitt Review 2007, which states:

“we firmly believe that the public interest is best served by closer cooperation and a presumption that information will be shared. We must be open, honest and direct about risk, including with the public. We must move from a culture of ‘need to know’ to one of ‘need to share’”.

Sharing information and cooperation go hand-in-hand, only by knowing what roles and how we plan to deliver them can we work effectively together.

Everybody has a role to play in managing flood risk, by understanding our roles and how each of us will deliver them we can work together to effectively manage the risks.

5. Ensuring that emergency plans and responses to flood incidents in Kent are effective and that communities understand the risks and their role in an emergency.

Flooding cannot be prevented entirely. It is important to recognise and plan for eventualities that cannot be mitigated. Even with the collation of data and mapping of flood risk some risks are too expensive or technically unfeasible to remove the flood risk entirely. Even in cases where the flood risk can be managed there will remain a residual risk that the mitigation measure may fail. In all these cases the flood risks that remain must be managed through appropriate emergency responses.

These responses should use the best available information and be clear about what has to be done to respond to an emergency for all stakeholders, including the public.

Flood risks in Kent

Kent suffers from all forms of flooding, many to a significant degree. Kent is currently estimated to have approximately 64,000 properties at risk of river and coastal flooding, of which approximately 46,000 are residential properties. The Environment Agency manages the risks from these sources of flooding

and produces strategies to manage them. The local strategy provides links to the relevant strategies and plans for Kent.

The Preliminary Flood Risk Assessment that Kent undertook in September 2011 found that surface water flooding is estimated to affect 76,000 properties in Kent, of which approximately 60,000 are residential properties. This makes Kent the most at risk Lead Local Flood Risk Authority in England from local flooding. The areas affected by surface water, as found in the Preliminary Flood Risk Assessment, are shown in Figure 2.

Understanding the risks

The local strategy recognises the difficulty in setting a direction for flood risk management where there is insufficient information available to assess the risk. The local strategy sets two distinct policy categories to the areas of Kent:

- **Category A - Local flood risk information available:** areas where good local flood risk information is available (perhaps where surface water management plans have been undertaken or local flood history is available) and a flood risk management direction can be set. And,
- **Category B - Local flood risk information unavailable:** areas where there is little or no local flood risk information (where no surface water management plans have been undertaken and local flood history is unavailable or unreliable) and direction needs to be set for gathering more information, with which we can set a category A policy.

These policies are summarised below. The areas they are applied to are shown in Figure 3 and the policies that have been applied are shown in Figures 4 and 5.

Category A policies – areas with flood risk data available

Policy 1 Areas with complex local flood problems

The flood risks in these areas will be investigated as a priority. An action plan of feasible options to manage the identified risks will be developed and the relevant risk management authorities will deliver them.

Policy 2 Areas with moderate local flood problems

These areas may not need an in depth assessment of the risks and may be dealt with by ensuring the relevant risk management authorities work together effectively to investigate the problems although in some instances these may be necessary.

Policy 3 Areas with low local flood risk which are being managed effectively

Flooding in these areas will be monitored and problems will be dealt with reactively by the appropriate risk management authority.

Category B – policies areas with little or no flood risk available

Category A policies – areas with flood risk data available

Policy 1 Areas with complex local flood problems

The flood risks in these areas will be investigated as a priority. An action plan of feasible options to manage the identified risks will be developed and the relevant risk management authorities will deliver them.

Policy 2 Areas with moderate local flood problems

These areas may not need an in depth assessment of the risks and may be dealt with by ensuring the relevant risk management authorities work together effectively to investigate the problems although in some instances these may be necessary.

Policy 3 Areas with low local flood risk which are being managed effectively

Flooding in these areas will be monitored and problems will be dealt with reactively by the appropriate risk management authority.

Policy 4 Areas with perceived flood problem, further information a priority.

Local flood risk assessments will be undertaken in these areas in the short term (1-2 years) to identify the significance of any flood problems. Once these assessments are complete a relevant Category 1 policy will be allocated and an action plan will be developed where necessary.

Policy 5 Areas with no perceived local flood problems, further information not a priority but maintain a watching brief.

Further assessments of local flood risk will not be undertaken in these areas during this local strategy period. Flooding in these areas will be managed by the relevant risk management authorities as it arises. Flood investigations will be undertaken if necessary. Flooding reports will be monitored and this policy will be reviewed in the next local strategy.

Working together to manage local flood risks

Many authorities and businesses in Kent undertake functions that have direct and indirect impacts on flood risk management. For instance new developments can affect flooding, developers and planning authorities therefore have a role to play in managing flood risk. It is important that everyone that has a role to play or exercises flood risk management functions understand what part they play and we all work together to produce the best outcomes.

The local strategy sets out how the risk management authorities will work together to deliver the objectives.

Action plan

The local strategy includes a summary of the actions the risk management authorities in Kent will be undertaking over the next year and beyond to deliver the objectives of the local strategy. This list will be reviewed annually with progress on previous actions noted and new actions that have been identified added.

The action plan will contain a range of different actions that are planned to achieve the objectives of the local strategy. These include:

- broad scale strategic policies that are required to provide better management and/or coordination of flood risk information in the county;
- more geographically specific actions such as a surface water management plan in one of the policy areas to provide more information; or
- very localised actions that will provide a specific scheme to manage flood risk.

The action plan can be found in Tables 2, 3 and 4 of the local strategy.

CONFIDENTIAL

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1 INTRODUCTION

This is a Local Flood Risk Management Strategy for Kent (the local strategy), which aims to provide a framework to manage the flood risks from local flooding. Local flooding is defined by the Flood and Water Management Act 2010 as flooding from:

- **Surface water,**
- **Groundwater,**
- **Ordinary Watercourses.**

The flooding from these sources is generally more localised than flooding from rivers and the sea, which is managed through other strategies and plans.

There are many authorities that have a role to play in the management of these flood risks in Kent, including Kent County Council (KCC), the Environment Agency, District and Borough Councils, Internal Drainage Boards and Water Companies.

1.1 Why has a local strategy been produced?

This Local Flood Risk Management Strategy is a requirement of the Flood and Water Management Act 2010 (the Act) for all Lead Local Flood Authorities. It sets out how local flood risks will be managed in the county, who will deliver them and how they will be funded.

The Act gives county and unitary authorities a local leadership role and the Environment Agency a national overview role in relation to flood risk management. This strategy will be central to the implementation of the Act in Kent, and will provide a framework for all risk management authorities to manage local flooding in a co-ordinated way.

The Local Flood Risk Management Strategy must be consistent with the Environment Agency's National Strategy. The National Strategy sets out how all flood risks and coastal erosion will be managed in England. The national Strategy can be found here: <https://publications.environment-agency.gov.uk/skeleton/publications/SearchResults.aspx?name=GEHO0711BTZE-E-E>

The local strategy provides a framework for delivering local flood risk management in Kent. The relationship of the local strategy to other flood plans and strategic planning documents produced locally, regionally and nationally is shown in Diagram 1, along with the authorities responsible for producing them. The local strategy is informed by regional and national flood strategies, including the national strategy, catchment flood management plans and shoreline management plans. In turn the local strategy will inform the delivery of flood risk management in Kent and local planning decisions.

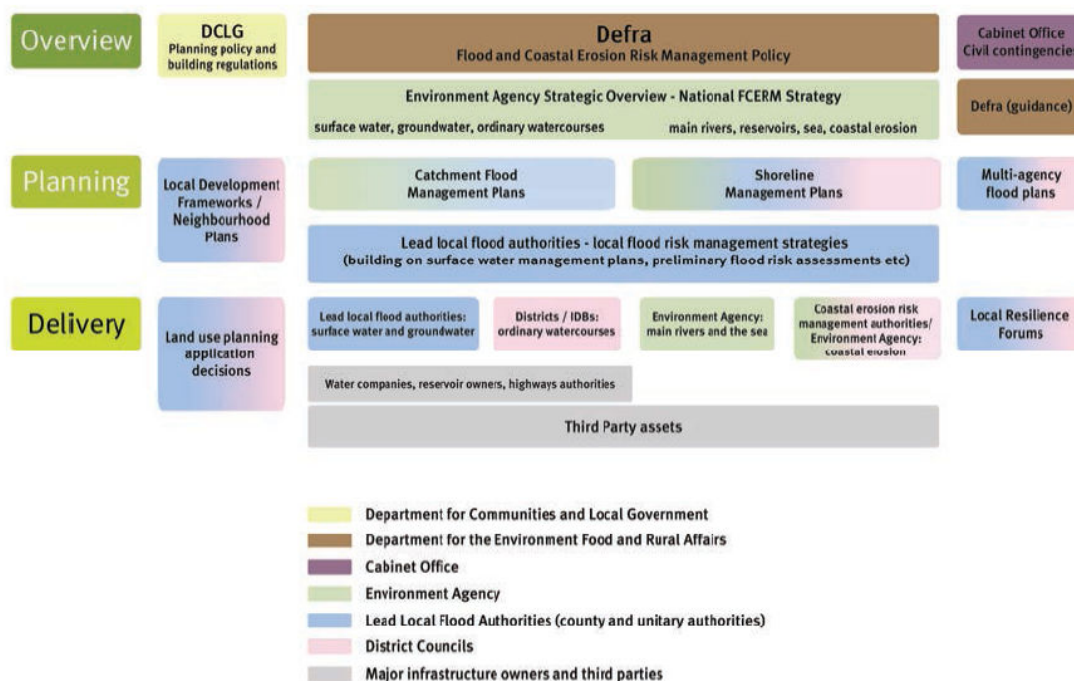


Diagram 1 Flood risk management overview

The local strategy has been produced by KCC through consultation with the Flood Risk Management Committee, which is a committee of KCC and district, borough and Internal Drainage Board members, and the Kent Flood Partnership, which is a partnership of all the risk management authorities in Kent (more details are provided in Section 3.2.2).

The aim of the local strategy

The aims of the local strategy are:

- to coordinate the work of the management authorities to improve the understanding of these risks;
- to ensure that we work together to provide effective solutions to the problems where we can; and,
- to improve the understanding of the risks in Kent and how everyone can play a part in reducing them.

1.2 What is local flood risk management?

Managing local flood risk involves:

- knowing where flooding may occur and what circumstances may cause such flooding;
- taking reasonable steps to reduce the likelihood of this flooding happening; and
- adapting to the risks and acting to reduce the risk to life, damage and disruption caused by flooding.

Local flooding is generally caused by short duration localised rainstorms, this means that effective forecasting is currently impossible. Local flood risk management must rely on adaptation and preparedness in advance of an event rather than mobilisation prior to flood events.

Examples of the assets that may reduce the likelihood of local floods include: green infrastructure, landscaped features that hold or direct water away from properties, and sustainable drainage systems (SuDS). A number of assets may be used together to manage the risk in a particular area, working in combination within a risk management system.

Examples of the steps that may be taken to reduce the damage and disruption when floods do happen include: controlling inappropriate development to avoid increasing risk; adapting buildings to minimise damage and making sure that a proper emergency response plan is in place and can be operated when needed as set out in the Local Multi-Agency Flood Plans.

Other steps that may be taken to manage risk include:

- transferring risk to other areas where the consequences are low, for example by allowing land to flood and contain floodwater to prevent flooding elsewhere;
- tolerating a residual level of risk, for example by accepting that a flood may cause some disruption that is prepared for or is dealt with when it occurs.

The local strategy will set out a framework managing local flood risks in Kent, which will involve the following steps:

- investigating the areas at risk of flooding in Kent;
- prioritising which of these areas needs further investigation to develop flood risk management solutions; and,
- prioritising which flood risk management solutions need to be invested in.

Given the large area of Kent the local strategy cannot specify what individual flood risks are and what measures will be employed to manage them. Surface water management plans are local assessments of the local flood risks, these will be used to evaluate the risks and further studies of the management options will be used to design flood risk management solutions.

1.3 Who is the local strategy aimed at?

This strategy is aimed at the main flood risk management authorities that operate in Kent. The role of these authorities is identified in the Act and other organisations with local flood risk management roles. The geographical areas that these organisations cover in Kent is shown in Figure 1, their main functions are summarised below and set out in more detail in Section 3:

- Environment Agency functions locally include the strategic overview role for all sources of flooding, the delivery of flood risk management activities on main rivers and the coast and the regulation of reservoir

safety. It also works in partnership with the Met Office to provide flood forecasts and warnings;

- lead local flood authority functions include the development of local flood risk management strategies showing the extent of flood risk in the area and how it will be managed in partnership with others. In particular the local strategies will identify risks and include actions to alleviate flooding from surface water, groundwater and ordinary watercourses;
- district councils, internal drainage boards and riparian land owners/managers have a function in managing the risks of flooding from ordinary watercourses (for example streams and drainage channels);
- water companies, reservoir owners, highways authorities and other organisations have a flood risk management function in managing their own assets or structures where the structure forms part of a flood risk management system and to reduce the risk of flooding from their activities.
- Regional Flood and Coastal Committees have a key role in the co-ordination of flood risk management by advising on and approving the implementation of programmes of work for their areas, and supporting the development of funding for local priority projects and works. The committees also provide for local democratic input through the majority membership of representatives from lead local flood authorities.

The strategy will also be of interest to:

- organisations that manage land, property, cultural heritage and the natural environment in England such as landowners, farmers, Natural England, Crown Estates, navigation authorities and the Forestry Commission;
- important service and infrastructure providers such as water companies and other utility companies, highways authorities and Network Rail;
- non-government organisations such as the Royal Society for the Protection of Birds, Country Land and Business Association, National Farmers Union, the National Trust, Wildlife and Rivers Trusts, National Flood Forum, Association of British Insurers, and the Association of Drainage Authorities.

It will also be relevant to individuals, communities and businesses at risk of flooding and the general public.

1.4 How long will the local strategy be relevant?

As a lead local flood authority KCC must always have a local strategy, and it should be monitored and reviewed regularly to ensure that the objectives are being delivered and they are still relevant.

This is the first local strategy that KCC has produced since the Flood and Water Management Act 2010 and since being made a lead local flood authority. As such there are a number of new roles that have to be undertaken

in order for KCC to meet its new legislative requirements, which are set out in Section 5, that are important for the strategic delivery of local flood risk management. Therefore, this first local strategy will be reviewed in three years time to assess the establishment of this new role. Future local strategies will have longer review periods, according to the measures identified in each.

The flood risk management actions identified to be delivered will be reviewed annually and new actions that have been identified will be added to the action plan. In this way newly identified actions can be delivered according their relative priority, without having to wait until the next version of the local strategy. This is set out in Section 9.

1.5 Structure of the local strategy

The local strategy is formed of the following parts:

- Section 1 provides the background to the local strategy and an introduction to its purpose and who should use it.
- Section 2 gives an overview of the flood risks in Kent, including signposts to other relevant flood strategies and plans.
- Section 3 gives an overview of the other authorities in Kent with flood risk management functions.
- Section 4 sets out the guiding principles and objectives of this local strategy.
- Section 5 sets out how KCC will deliver the new flood risk management functions that we have as lead local flood authority.
- Section 6 sets out how all authorities with flood risk management functions will work together to deliver the objectives of this strategy.
- Section 7 gives an overview of the planning cycle for flood risk management schemes, the funding available for schemes and how schemes should be delivered to ensure they are best value.
- Section 8 sets out how flood risk management schemes should be delivered to ensure they are in keeping with the local environment and appropriate for the local community.
- Section 9 sets out an action plan of KCC lead projects and activities to help deliver the objectives of the local strategy and activities that other flood risk management authorities can undertake to help deliver the local strategy.

2 FLOOD RISKS IN KENT

Kent suffers from all forms of flooding, many to a significant degree. This section describes the various forms of flooding that are experienced in Kent and provides pointers to further information about these risks and how they are being managed by the relevant risk management authorities.

It is important to recognise that many forms of flooding do not happen in isolation and one form of flooding can cause and/or be caused by another form. For instance a flooding river may prevent local drains from discharging properly and therefore lead to sewer flooding. The solution to many flooding problems may be very complex and involve many forms of flooding and several risk management authorities.

2.1 Current flood risks

Only the risk from some forms of flooding can be quantified. The Preliminary Flood Risk Assessment that Kent undertook in September 2011 found that surface water flooding is estimated to affect 76,000 properties in Kent, of which approximately 60,000 are residential properties. This makes Kent the most at risk Lead Local Flood Risk Authority in England from local flooding. The Preliminary Flood Risk Assessment is discussed in Section 2.1.3.

The only other forms of flood risk that can be quantified are river and coastal flooding. As these forms of flooding tend to interact, as high tides influence flood levels on rivers and high river flows influence water levels in tidal areas there is no way to accurately separate these risks. Kent is currently estimated to have approximately 64,000 properties at risk of river and coastal flooding, of which approximately 46,000 are residential properties (some of these properties will also be at risk of surface water flooding, this number should not be added to the surface water figure to give a total).

The risks from other forms of flooding are not quantified as they are more complex to measure on a national scale.

2.1.1 River flooding

River flooding (sometimes known as fluvial flooding) is caused when rivers do not have enough capacity in their natural channel to contain the water flowing in them. Periods of heavy rainfall can cause river levels to increase and rivers can overtop and flood low-lying areas around them. River flooding can also occur if a river gets blocked by obstructions such as fallen trees or rubbish which reduce the capacity of the river.

Rivers are divided into two categories: main rivers and ordinary watercourses. The Environment Agency is responsible for managing flood risk from main rivers, which are rivers that can cause significant disruption if they flood and need special management to reduce the risks of flooding. Main rivers are identified on the Environment Agency Flood Map, which is available on their website: www.environment-agency.gov.uk. Ordinary watercourses are discussed in Section 2.1.5.

The management of flood risk from main rivers is set out in Catchment Flood Management Plans produced by the Environment Agency. These plans give an overview of the flood risk in each river catchment and recommend high-level policies for managing those risks now and over the next 50-100 years. The plans provide a long term policy framework, they do not determine how that policy will be delivered, the delivery mechanism is determined by specific flood management strategies.

There are four Catchment Flood Management Plans in Kent:

- [North Kent Rivers](#)
- [River Medway](#)
- [Rother and Romney](#)
- [River Stour](#)

These plans form the Environment Agency's framework for managing the risk of flooding from main rivers in Kent. They also provide background information on local flood risks.

This local strategy does not include any specific measures to manage flooding from main rivers. However, there are areas where main river flooding will effect local forms of flooding and these will be included in the local strategy.

2.1.2 Coastal flooding and erosion

Coastal flooding is caused by extreme weather conditions combined with high tides that can cause sea levels to rise forcing sea water onto the land. High tides and increased sea levels can also impede rivers and drains that flow into the sea, which can cause inland flooding. Coastal processes, tides and waves, can also cause coastal erosion, where the shoreline is worn away causing a loss of land and threatening properties. The Environment Agency manages flood risk from the sea. District and borough councils are responsible for managing coastal erosion, which is overseen by the Environment Agency.

The management of coastal flooding and coastal erosion risks is set out in Shoreline Management Plans produced by the Environment Agency and coastal districts in partnership. The purpose of these plans is to provide a large-scale assessment of the risks associated with coastal processes and a policy framework to reduce these risks, both to people and the environment, in a sustainable way over the next 100 years. Whilst the Shoreline Management Plan provides a long term policy framework, it does not determine how that policy will be delivered. A coastal strategy is developed from a strategic assessment that presents the defence options for a specific management unit of the coastline.

There are four Shoreline Management Plans that cover the coastline of Kent:

- [Medway Estuary and Swale](#)
- [Isle of Grain to South Foreland](#)
- [South Foreland to Beachy Head](#)

- [Thames Estuary 2100](#)

This local strategy does not include any specific measures to manage flooding from the coast. However, there are areas where coastal flooding will affect local forms of flooding and these will be included in the strategy.

2.1.3 Surface water

Surface water flooding occurs when heavy rainfall exceeds the capacity of the ground and local drainage network to absorb it. This can lead to water flowing across the ground and ponding in low-lying areas. This sort of flooding is typically caused by short intense rainfall events.

KCC published the Preliminary Flood Risk Assessment in September 2011 which used surface water mapping data provided by the Environment Agency to assess the risks in Kent and where further investigations should be prioritised. The areas affected by surface water, according to the surface water mapping available, are shown in Figure 2.

The Preliminary Flood Risk Assessment also found that the data currently available to assess surface water flood risk, including the data used in Figure 2, is not always consistent with other data and that it may overestimate the risk of flooding from this source.

In order to improve our understanding of surface water flood risks (and other local sources of flooding) surface water management plans have been undertaken into areas identified as high risk in the Preliminary Flood Risk Assessment. Surface water management plans are studies into the local flood risks of an area which tell us what risks the area faces and provide a plan for managing any significant risks. The areas covered by surface water management plans are regularly being updated, they can be found on our website here:

http://www.kent.gov.uk/environment_and_planning/flooding/how_we_manage_flood_risk/surface_water_management.aspx

This local strategy will identify areas where further surface water management plans are needed and, where better information is available, how the risks that are identified will be managed.

2.1.4 Groundwater

Groundwater flooding occurs as a result of water rising up from the underlying aquifer or from water flowing from ephemeral springs. This tends to occur after long periods of sustained high rainfall, and the areas at most risk are often low-lying where the water table is more likely to be at a shallow depth. Groundwater flooding is known to occur in areas underlain by major aquifers, although it is also being associated with more localised floodplain sands and gravels.

Groundwater flooding is very complex and is poorly understood. As such it is very difficult to assess the location, likelihood and volume of groundwater flooding. Consequently it is difficult to quantify the risk of groundwater flooding to Kent. The presence of major aquifers in Kent, the chalk of the North Downs

and the sandstone of the High Weald, mean that there is a risk of groundwater flooding in Kent.

Due to the complexities and uncertainties of predicting and mapping groundwater flooding it is not proposed to actively improve our understanding of this form of flooding through this strategy. Our resources are better used to manage other flood risks. Groundwater flooding incidents in the county will be monitored, along with other forms of flooding. This will be reviewed in the next local strategy.

2.1.5 Ordinary watercourses

Ordinary watercourses are small watercourses that are not designated as main rivers (see Section 2.1.1). The responsibility for ordinary watercourses lies either with district or borough councils or with Internal Drainage Boards where they operate.

The flooding mechanism for ordinary watercourses is similar to flooding from rivers, but the small nature of these watercourses means that the flooding is often on a local scale. However, Internal Drainage Boards often cover areas with a high concentration of ordinary watercourses where drainage is difficult and one rainfall event can cause flooding on several ordinary watercourses simultaneously in such areas. Ordinary watercourse flooding is also often effected by water levels in nearby main rivers that the ordinary watercourses would otherwise discharge into.

Ordinary watercourses are generally low risk systems that do not pose a flood risk on the same scale as main rivers, however they still pose a local flood risk. There is not very much data about the risk of flooding from ordinary watercourses and as such it is not possible to quantify the risk. Due to the small nature of ordinary watercourses and the sometimes complex drainage mechanisms they may have (such as sluice gates, weirs and pumps), the risk can be expensive to assess.

The local strategy will identify where ordinary watercourse flooding may be a risk that needs further investigation and how this will be prioritised.

2.1.6 Sewer flooding

Sewer flooding is caused by a volume of surface water entering the drainage network that exceeds the capacity of the network. The nature of the sewer network means that the flooding may occur away from the source of the surface water. This type of flooding is particularly severe when a combined sewer floods as it causes effluent to be discharged that can have health and environmental consequences.

Sewer flooding is the responsibility of the sewerage undertaker. They have statutory responsibilities to address internal flooding to properties that is monitored by Ofwat.

2.2 Future flood risks

Flood risk in Kent will change in the future as a consequence of the changing environment. It is important that any flood risk management measures make allowances for future changes to ensure that they deliver long term protection.

Climate change is an obvious cause of change, current projections predict more intense storms, which is the sort of rainfall that leads to local flooding and the type that caused the floods in 2007. The latest UK climate projections (UKCP09) are that by the 2080s there could be around three times as many days in winter with heavy rainfall and it is plausible that the amount of rain in extreme storms could increase locally by 40%. These sorts of increases need to be taken account of when designing drains and flood management infrastructure.

Other changes also have a significant impact on flooding in the short to medium term. New development and the increasing density of our settlements can increase flooding as there are fewer areas available to absorb rainfall and store flood water. These factors are particularly important for local flooding. Planning policies already require new development to manage runoff sustainably, however, this does not mitigate all the affects of new development on runoff and they do not necessarily apply to permitted developments, which can increase the density of existing urban areas and increase the burden on local drainage infrastructure.

Ensuring that local flooding and future changes are considered in planning policies, development design and understood by landowners as they improve their property is essential to help manage local flooding.

3 FLOOD RISK MANAGEMENT ROLES IN KENT

The management of flood risk is shared by many different risk management authorities in Kent, each with different responsibilities, powers and duties. In order to adequately address the issues of flood risk management in times of austerity and where we face pressures from an increasing population and climate change, it is essential that we work together, coordinating activities and pooling resources.

This section explains who the main risk management authorities and partners in Kent are and summarises the functions they may exercise. It also gives an overview of partnerships that some or all risk management authorities are involved in to work together to deliver flood risk management functions. The areas that these organisations cover in Kent is shown in Figure 1.

3.1 Partners

Flood risk management authorities are defined by the Flood and Water Management Act 2010 as they have responsibilities for flood risk management. These authorities are required to act in accordance with this local strategy when undertaking activities that affect local flood risk management and the National Strategy when undertaking activities that affect all forms of flooding. The risk management authorities in Kent are described below, a fuller description is given in Annex A.

3.1.1 District and borough councils

District and borough councils have responsibility as a local planning authority, for ordinary watercourses (except where this is managed by an Internal Drainage Board) and for public open space. Kent includes 12 district and borough councils:

- Ashford Borough Council,
- Canterbury City Council,
- Dartford Borough Council,
- Dover District Council,
- Gravesham Borough Council,
- Maidstone Borough Council,
- Sevenoaks District Council,
- Shepway District Council,
- Swale Borough Council,
- Thanet District Council,
- Tonbridge and Malling Borough Council,
- Tunbridge Wells Borough Council.

As a unitary authority Medway Council are also a Lead Local Flood Authority and are responsible for preparing a local strategy for the Medway Council area.

Districts may also have responsibility for coastal erosion risk management if they have a coastline. As a coastal authority they have a responsibility for planning coastal erosion risk management schemes and contributing to Shoreline Management Plans.

3.1.2 Environment Agency

The Environment Agency has responsibility for main river and coastal flooding. It manages the assets on these waterbodies that prevent flooding. Its functions include bringing forward flood defence schemes, and it will work with lead local flood authorities and local communities to shape schemes which respond to local priorities.

It is also a consultee for the flood risk implications of planning applications and is the regulatory authority for reservoirs.

3.1.3 Internal Drainage Boards

Internal Drainage Boards are independent public bodies responsible for water level management and drainage in lowlying areas, internal drainage districts. Within their districts they exercise responsibility for ordinary watercourses, including the enforcement and consenting of works, the management of water level controlling assets and maintenance.

There are four independent internal drainage boards in Kent:

- Lower Medway Internal Drainage Board,
- Upper Medway Internal Drainage Board,
- River Stour (Kent) Internal Drainage Board, and
- Romney Marches Area Internal Drainage Board.

There are also two internal drainage districts that are managed by the Environment Agency:

- East of Gravesend Internal Drainage Board, and
- West of Gravesend Internal Drainage Board.

3.1.4 Sewerage Undertakers

Sewerage Undertakers (but not water supply companies) are responsible for the public sewer system and as such are responsible for managing the risks of flooding from surface water, foul or combined sewer systems. There are two such risk management authorities in Kent:

- Southern Water, and
- Thames Water.

3.1.5 Private individuals and land owners

Private property maybe in areas at risk of flooding or it may include flood defences or watercourses, which the owner may have a responsibility for maintaining. Members of the public have a responsibility to make themselves aware of flood risks they may face and to protect themselves from flooding and undertake any maintenance that maybe required.

Landowners should also be aware of their potential impact on flooding when undertaking works of their own as construction in the floodplain or a watercourse may increase flood risk. Paving of areas that were previously permeable may increase runoff and lead to local drainage problems or altering a ditch or watercourse near their land may impair its ability to drain effectively.

Information for owners of land adjoining a watercourse can be found in the Environment Agency's guide [Living on the Edge](#).

3.1.6 Other risk management functions of KCC

As a highways authority, KCC has lead responsibility for providing and managing highway drainage and roadside ditches under the Highways Act 1980.

KCC is also the planning authority for minerals and waste and for schools and roads that KCC is developing. KCC has a duty to ensure that flood risk is taken account of in planning these.

3.2 Partnerships

There are a number of partnerships in Kent where these risk management authorities and other agencies work together to deliver risk management functions.

3.2.1 Kent Flood Risk Management Committee

The Flood Risk Management Committee was established by KCC in 2009 following a recommendation of the KCC flooding select committee into the floods of 2009. Since the Flood and Water Management Act 2010 has been passed the committee has expanded to include members form the districts and boroughs and the Internal Drainage Boards of Kent. This provides a broad overview and countywide perspective of risk management as the county delivers its requirements under the Act.

The committee provides a forum for the members to understand the flood risks in Kent, discuss the implications of the Act, and communicate the issues to a local level. The committee also performs the role of scrutiny body for flood risk management in Kent, as required under the Act.

3.2.2 Kent Flood Partnership

The Kent Flood Partnership was established in 2010 following the passing of the Act to provide a forum for officers from risk management authorities to discuss the delivery of flood risk management in Kent. The officers represent all of the authorities in Kent with risk management functions: the district and borough councils (3 members), the Internal Drainage Boards (1 member), the

Environment Agency (1 member), the Sewerage Undertakers (1 member) and KCC (3 members, from Flood Risk Management, Emergency Planning and Highways and Transportation, and 1 chairman).

The partnership discusses the operational aspects of delivering flood risk management in Kent, the implementation of the Act and how authorities can work together to tackle the challenges of flood risk in Kent.

3.2.3 Kent Resilience Forum

The Kent Resilience Forum was established in 2004 in response to the Civil Contingencies Act 2004 and is aligned to the local police district. The aim of the Forum is to ensure that relevant agencies and organisations plan and work together to ensure a co-ordinated response to emergencies that could have a significant impact on communities in Kent.

Kent Resilience Forum partners maintain a suite of generic and incident-specific emergency plans and undertake regular training and exercising to ensure effective emergency responses. A 24 hour 7 day a week 365 day a year response capability is maintained across the emergency responders operating in Kent for all emergencies, including flooding. One of the key aims of the forum is to engender greater community resilience through initiatives such as flood response emergency planning across the County, which the forum delivers through workshops and regular liaison with local communities.

3.2.4 Regional Flood and Coastal Committee

Regional Flood and Coastal Committees are committees that span the Environment Agency region. All upper tier local authorities in the region have representation on the committee, which is proportionate to the number of Band D properties in their district. The committees approve the work of the Environment Agency in these regions, it is also a forum to share the work and progress of the Environment Agency in the region with local partners and ensure that local needs are met by the Environment Agency.

Kent is in the Southern Region Regional Flood and Coastal Committee, which stretches along the south coast from Hampshire to Kent. KCC has three members on the Regional Flood and Coastal Committee, from a total membership of 14. There are also eight technical appointees on the committee, who do not have voting rights. KCC three Regional Flood and Coastal Committee members also sit on the KCC Flood Risk Management Committee.

The committee is also responsible for administering the local levy, which is a fund paid into by each authority in the region according to the number of Band D properties in the authority. The local levy is described in Section 7.3.

4 LOCAL FLOOD RISK MANAGEMENT OBJECTIVES

The risks of local flooding in Kent are significant, many are not well understood and there many risk management authorities with risk management functions to manage them. It is important to have clear objectives to manage local flooding in order that the risks can be understood, managed in a cooperative way and that it is clear who is responsible. This will ensure that the available resources are directed towards the most effective solutions and we can prevent flood risk from being exacerbated.

This section sets out the local flood risk management objectives and explains the supporting principles from relevant documents that help to shape them

4.1 Objectives

The following objectives have been developed for the local strategy. They have been developed to be consistent with the National Flood and Coastal Erosion Risk Management strategy and the Vision for Kent, discussed in Section 4.2, and to address the needs of local flood risk in Kent.

All risk management authorities are required by the Flood and Water Management Act to work together to help to deliver these, how this will be achieved is set out in Section 6. The proposed actions that emerge from these objectives are set out in Section 9.

1. Improving the understanding of the risks of flooding from surface runoff, groundwater and ordinary watercourses in Kent.

In order to plan for and mitigate local flooding information needs to be gathered to assess the risks, which can then be used by the risk management authorities to identify the areas most at risk, to target responses and investigate what options may be available to manage them.

The information currently available about local flooding is inconsistent, scant and sometimes unreliable. Data on historic local flooding may not be available in some parts of the county, or is only available for some not all local flooding risks (for instance ordinary watercourse data is available but not surface water flooding). There is very little data about predicted risk of local flooding from models.

This reflects the focus on the more life threatening flood risk from rivers and the sea that have been the focus of flood risk management in the past two decades and of the fragmented responsibilities for local flooding amongst several risk management authorities.

In order to be able to make robust plans for local flood risks and allocate flood risk management resources effectively better data needs to be gathered about the history of flooding and the predicted risks that is consistent, reliable and available to all risk management authorities.

2. Reducing the impact of flooding on people and businesses in Kent.

Flooding causes damage, disruption, uncertainty and loss of business. The ultimate objective of flood risk management should be to reduce the impact of flooding wherever possible.

This does not always mean constructing formal flood defence schemes or the outright removal of the risk. The most sustainable ways to manage flood risks may be a simple intervention that achieves a significant reduction in the likelihood or consequences of a flood.

Flood risk management must focus on the highest risk areas, especially where these are disadvantaged, be cost-effective, sensitive of the needs of the local community and seek multiple benefits. Local communities should be involved in the development of flood mitigation actions and encouraged to help fund them.

3. Ensuring that development in Kent takes account of flood risk issues and plans to effectively manage any impacts.

The best way to prevent flood risk from increasing is to build new developments in a flood sensitive way, which includes avoiding areas of existing flood risk where possible and managing runoff sustainably.

Sustainable development helps to provide homes and communities that are pleasant places to live free of flood risk and enhance the surrounding communities and environments.

4. Providing clear information and guidance on the role of the public sector, private sector and individuals in flood risk management in Kent and how those roles will be delivered and how authorities will work together to manage flood risk.

Given the number of authorities that exercise flood risk management functions and recent changes to these it is important that clear, effective information is provided about how, when and where risk management functions will be exercised. This will help to improve the awareness of public that risk management functions are being undertaken and will help to identify opportunities to coordinate risk management functions.

The need for this was identified in the Pitt Review 2007, which states:

“we firmly believe that the public interest is best served by closer cooperation and a presumption that information will be shared. We must be open, honest and direct about risk, including with the public. We must move from a culture of ‘need to know’ to one of ‘need to share’”.

Sharing information and cooperation go hand-in-hand, only by knowing what roles and how we plan to deliver them can we work effectively together.

Everybody has a role to play in managing flood risk, by understanding our roles and how each of us will deliver them we can work together to effectively manage the risks.

5. Ensuring that emergency plans and responses to flood incidents in Kent are effective and that communities understand the risks and their role in an emergency.

Flooding cannot be prevented entirely. It is important to recognise and plan for eventualities that cannot be mitigated. Even with the collation of data and mapping of flood risk some risks are too expensive or technically unfeasible to remove the flood risk entirely. Even in cases where the flood risk can be managed there will remain a residual risk that the mitigation measure may fail. In all these cases the flood risks that remain must be managed through appropriate emergency responses.

These responses should use the best available information and be clear about what has to be done to respond to an emergency for all stakeholders, including the public.

4.2 Supporting documents

The following documents set out guiding principles that have been used to develop the objectives for this strategy and determine how they will be delivered.

4.2.1 Vision for Kent

The Vision for Kent sets out three Countywide Ambitions that will guide the direction of public services in Kent for the next ten years, these will also be ambitions of the local strategy. The three ambitions are shown below along with an explanation of how the local strategy can help to achieve them.

To grow the economy

Flooding causes disruption, damage and uncertainty. It can impact business and recovery from flooding has an impact on the economy. Even local flooding, which may not flood properties, can effect transport infrastructure and close roads impacting on the local economy. Reducing local flooding through this strategy can reduce this impact.

To put the citizen in control

Flooding affects the citizens of Kent, who can often feel powerless to prevent it. Providing a clear plan for flooding risk management, identifying the bodies responsible for flood risk management and telling them how they can protect themselves can help citizens to understand what is happening in their community to manage flooding and how to identify who can help them tackle flooding issues. Giving the communities of Kent the opportunity to contribute to flood risk management schemes will allow them to have a say in how they are undertaken.

To tackle disadvantage

Flooding causes disadvantage and disproportionately effects disadvantaged areas. Reducing flood risk and prioritising flood management in disadvantaged areas will help people in Kent to feel optimistic and secure about their communities and futures.

4.2.2 National Strategy

The National Strategy sets out six guiding principles. These are also used as the guiding principles of the local strategy in Kent to ensure consistency between the two. These guiding principles provide guidance on how flood risk management should be delivered to ensure that all aspects of schemes are considered. As such they influence the objectives and also how the objectives will be delivered, which is considered primarily in Sections 5, 6 and 8.

The six guiding principles are:

Community focus and partnership working

Risk management authorities need to engage with communities to help them understand the risks, and encourage them to have direct involvement in decision-making and risk management actions. Working in partnership to develop and implement local strategies will enable better sharing of information and expertise, and the identification of efficiencies in managing risk.

A catchment and coastal “cell” based approach

In understanding and managing risk, it is essential to consider the impacts on other parts of the catchment or coast. Activities must seek to avoid passing risk on to others within the catchment or along the coast without prior agreement.

Sustainability

We should aim to support communities by managing risks in ways that take account of all impacts of flooding (for instance on people, properties, cultural heritage, infrastructure and the local economy) and the whole-life costs of investment in risk management. Where possible, opportunities should be taken to enhance the environment and work with natural processes. Risk management measures should also be forward looking, taking account of potential risks that may arise in the future and being adaptable to climate change. Government guidance has been developed to set out the link between sustainable development and risk management to support the implementation of the strategy, which can be found here:

www.defra.gov.uk/publications/files/pb13640-sdg-guidance.pdf

Proportionate, risk-based approaches

It is not technically, economically or environmentally feasible to prevent all flooding and coastal erosion altogether. A risk-based management approach targets resources to those areas where they have greatest effect. All aspects of risk management, including the preparation and implementation of local strategies, should be carried out in a proportionate way that reflects the size and complexity of risk. The assessment of risk should identify where the highest risks are and therefore the priorities for taking action.

Multiple benefits

As well as reducing the risks to people and property flood risk management can bring significant economic, environmental and social benefits. In

developing and implementing flood risk management plans we should help deliver broader benefits by working with natural processes where possible and seeking to provide environmental benefit as required by the Habitats, Birds and Water Framework Directive. Measures such as the use of SuDS to manage risk should be considered as they can also deliver benefits for amenity, recreation, pollution reduction and water quality.

Beneficiaries should be allowed and encouraged to invest in local risk management

The benefits achieved when flood and coastal erosion risks are managed can be both localised and private, through the protection of specific individuals, communities and businesses. In developing flood risk management plans opportunities to seek alternative sources of funding, rather than relying on Government funds, should be considered. This will enable more risk management activity to take place overall.

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5 STRATEGIC OVERVIEW OF LOCAL FLOOD RISK MANAGEMENT

National policy for flood risk management is set by Defra. The strategy for the management of all sources of flooding is given by the National Strategy for Flooding and Coastal Erosion Risk Management (the National Strategy), which is prepared by the Environment Agency. The Environment Agency also has a strategic overview role for all forms of flooding and coastal erosion risk management.

As Lead Local Flood Authority Kent County Council has a strategic overview of the management of local flooding in Kent and is responsible for preparing this Local Flood Risk Management Strategy.

This section sets out how KCC will exercise the powers and duties that we have under the Flood and Water Management Act 2010 and how we will undertake risk management activities that will help to deliver the objectives of this strategy and perform the strategic overview of local flooding role.

5.1 Definition of significant flooding

The Flood and Water Management Act 2010 gives Lead Local Flood Authorities and other risk management authorities some duties where the risk of a flood is considered significant. The Flood and Water Management Act 2010 defines a flood as:

“any case where land not normally covered by water becomes covered by water.”

According to this definition a puddle could be considered a flood. In order to provide some consistency and clarity as to how and when these duties will be exercised KCC has developed a definition of a significant flood in consultation with some of the risk management authorities in Kent.

Position 1

A significant flood event in Kent is defined as one that causes the following:

- internal flooding to one or more properties;
- external flooding of five or more properties;
- flooding of roads, rail and other transport infrastructure to an extent that they become impassable by vehicles;
- flooding of or near locally important services or infrastructure, for example health centres and electricity substations, to an extent that they cannot function normally.

This definition will be kept under review and will be adapted as required in future versions of the local strategy.

5.2 Register and record of structures and features

KCC has a duty to maintain a register of features and structures that in the opinion of the authority are likely to have a significant effect on a flood risk in its area. The register must be available to the public at reasonable times. The purpose of the register is to allow for quicker identification of the responsible authority in incidences of flooding and to identify who is responsible for maintenance of assets.

KCC also has a duty to maintain a record of structures and features that will contain the ownership details of the structures and features in the register. The record does not have to be made available to the public.

The sorts of structures and features that are likely to be included in the register include trash screens, weirs, sluice gates, manmade watercourses etc., which if they were to fail might cause flooding.

The responsibility for proposing structures for the register falls to the relevant risk management authority for the water feature that the structure is part of or for the flooding that the structure would prevent. For instance a reinforced watercourse bank would be proposed by the body responsible for the watercourse, which could be the local authority, Internal Drainage Board or the Environment Agency; a drainage ditch would be proposed by either the local authority, Internal Drainage Board or the Lead Local Flood Authority.

Once Schedule 1 of the Flood and Water Management Act has been commenced, risk management authorities will be able to designate third party structures and features. Once designated these structures and features cannot be altered or removed without the permission of the designating authority. The owners of the structure or feature will be notified that it has been designated and will have the right to appeal. The designated features will also be listed on the register.

Each risk management authority may choose which structures and features it considers are significant, however, through consultation with the risk management authorities in Kent, we have developed the following guidelines:

Position 2

Features and structures that have a significant effect on flood risk will be ones which, if compromised in any way, may contribute to a risk of a significant flood event, as defined in Section 5.1 of the Local Flood Risk Management Strategy for Kent.

5.3 Flood investigations

As Lead Local Flood Authority KCC has the power to undertake flood investigations into floods in Kent. The purpose of the investigation is to determine which risk management authorities have relevant flood risk management functions and whether those risk management authorities have exercised those functions in response to the flood. Having carried out an investigation KCC must publish the results and notify the relevant risk management authorities.

A flood investigation is only required where no risk management authority has exercised or is proposing to exercise its functions in respect of the flood. A flood investigation does not necessarily require a thorough investigation of the flood and its mechanisms, only the determination of the risk management authorities who have the relevant functions. However, we may choose to undertake a more detailed investigation into a flood incident in order to better deliver the objectives of this strategy, for instance to improve understanding of flood risk.

KCC will undertake flood investigations in the following circumstances:

Position 3

Flood investigations will be undertaken where no other risk management authority is exercising or is proposing to exercise its functions in respect of the flood and where the flood is significant, as defined by Section 5.1 of the Local Flood Risk Management Strategy for Kent.

5.4 Regulation of ordinary watercourses

The Flood and Water Management Act 2010 has transferred existing powers to regulate the proper function of ordinary watercourses to KCC. These powers consist of two parts:

- The enforcement obligations to maintain flow in a watercourse and repair watercourses, bridges and other structures in a watercourse; and
- The power to give consent for structures in the watercourse and changes to the alignment of the watercourse.

These functions only relate to ordinary watercourses that are outside of Internal Drainage Districts. Within Internal Drainage Districts it is the responsibility of the Internal Drainage Board to exercise these powers. Similarly the Environment Agency is responsible for exercising these powers in relation to main rivers.

The enforcement powers have been transferred from local authorities and the consenting powers have been transferred from the Environment Agency.

These are permissive powers, not duties, KCC can choose to exercise them. At this time there is not very much data available about how often these powers would be exercised in Kent.

Position 4

KCC will develop a policy to determine how we exercise these powers.

Where appropriate and mutually agreeable, KCC will devolve these powers back to the local authorities.

Details of how to apply for consent for works is published on our website:

www.kent.gov.uk/land_drainage_consent

It is advised that anyone considering any works in or near a watercourse contact the relevant authority to discuss the need for a consent. KCC also has powers to undertake enforcement of structures that are constructed in a watercourse but have not been given consent. KCC will consult with local risk management authorities about consent applications that we receive or enforcement action we will take for unconsented works.

5.5 Recording flood incidents

In order to improve the data regarding flooding and help to understand which areas are at risk of local flooding, as part of delivering Objective 1 of this local strategy, KCC will maintain a record of local flood incidents in Kent.

Fluvial and coastal flooding events are generally well documented by the Environment Agency, however the records of local flood events is less consistent. This is partly due to the number of different authorities that have responsibility for aspects of local flooding and the difficulty sometimes in differentiating one type of local flood from another.

Position 5

KCC will develop a flood incident recording tool and work with risk management authorities to determine the best ways to ensure that all authorities that receive notification of a flood incident can record it in this tool.

It is not intended at this stage to develop a common reporting tool (that is, a tool to report an incident that requires a risk management response, rather than simply recording the incident as flood intelligence). This is due to the complexities in integrating different software platforms used by the various authorities. In future it may be possible for a common reporting tool to be developed, this will be reviewed in future local strategies.

5.6 Drainage approval and adoption of SuDS

Sustainable Drainage Systems (SuDS) are a means of managing rainwater using and mimicking natural processes so that the volume and flow rate of water from developments is similar to natural land. SuDS can have a significant role in preventing local flooding by managing the amount of rainwater that is discharged. Additionally, they also provide water quality improvements, open space that can also be used as public amenity and they can provide wildlife habitat.

The Pitt review into the summer 2007 floods proposed that the government find a way to increase the use of SuDS as this key tool in managing local flooding was not being used as widely as it could. The lack of defined responsibility for adoption of SuDS was identified as a barrier to their inclusion and implementation.

The Flood and Water Management Act 2010 proposes to give the responsibility for SuDS maintenance to Lead Local Flood Authorities. This responsibility includes the duty of approving all new drainage and ensuring the proposed drainage meets certain national standards. In exercising these

duties, Lead Local Flood Authorities will be known as the drainage Approving Body (sometimes SuDS Approving Body or the SAB).

As of December 2012, the relevant parts of the Flood and Water Management Act 2010 have not yet been commenced and a commencement date has not been indicated. The government has consulted on the national standards and the secondary legislation that is required for Approving Bodies to exercise their duties. Until these are published it is not possible to say what is to be expected and how KCC will deliver this role.

Position 6

In the interim KCC's position on SuDS is as follows:

- KCC will prepare for its role as the SAB for Kent by developing a protocol for approval and adoption to be implemented once the SAB role commences;
- After the government has published its response to the national standards consultation, KCC will publish local guidance on our SuDS requirements;
- KCC will provide advice in the interim for developments that are likely to be affected by these new requirements; and
- KCC will promote the adoption of sustainable drainage within the highway boundary.

Any local guidance that KCC offers will be in addition to the national standards, it will not supersede or replace the national standards.

For the latest advice on drainage approval and SuDS in Kent please visit our website:

http://www.kent.gov.uk/environment_and_planning/flooding/how_we_manage_flood_risk/sustainable_drainage_systems.aspx

5.7 Local flood risk management plans

In order to better understand the local flood risks in Kent and set a direction for the management of these risks, local studies of the history of flooding and potential risks are required in areas at risk of local flooding. These studies are known as surface water management plans (the name came before the publication of the Flood and Water Management Act 2010, which defined local flooding, these plans include all local flood risk sources, not just surface water flooding).

In some areas KCC has already undertaken surface water management plans, as they have been identified as high risk in the Preliminary Flood Risk Assessment. In these areas we can set a direction to manage the risks identified. In the other areas we may need to undertake surface water management plans to gather information before we can confidently set an appropriate policy to manage the risks.

Surface water management plans are studies into the local flood risks of an area which tell us what risks the area faces and provides a plan for managing

any significant risks. It is important to understand that undertaking a surface water management plan does not mean that there is necessarily a local flood risk problem in that area. The data available about local flood risk issues is unreliable and it is important that we establish which areas have local risks that need to be managed by gathering more information and, just as importantly, where the risks are low.

For the purposes of determining where surface water management plans will be undertaken and how we will manage the risks in areas already investigated, Kent has been divided into the Local Flood Risk Policy Areas. The policy areas are shown in Figure 3. These areas have been determined according to their potential for local flooding, this is described in Annex B. The Local Flood Risk Management Policies and the Policy Areas have been developed as part of the Kent local strategy.

Each of these policy areas has been assigned a Local Flood Risk Management Policy, which are divided into two categories:

- **Category A - Local flood risk information available:** areas where good local flood risk information is available (perhaps where surface water management plans have been undertaken or local flood history is available) and a flood risk management direction can be set. And,
- **Category B - Local flood risk information unavailable:** areas where there is little or no local flood risk information (where no surface water management plans have been undertaken and local flood history is unavailable or unreliable) and direction needs to be set for gathering more information, with which we can set a category A policy.

The surface water management plan policies are:

Category A policies

Policy 1 Areas with complex local flood problems

The flood risks in these areas will be investigated as a priority.

This policy will be applied to areas where we are aware of flood risk issues that are complex, that is the problems are technically challenging to understand or there are a number of different risk management authorities that may be involved in their resolution. These areas will typically have local flood risks that affect large areas, for instance a town centre or suburb. An action plan of feasible options to manage the identified risks will be developed and the relevant risk management authorities will deliver them.

Policy 2 Areas with moderate local flood problems

Opportunities will be identified to investigate and manage these issues over the medium term, three to five years, lead by the relevant risk management authority.

This policy will be applied to areas where there are known local flood problems which need to be investigated but they are relatively straight-forward. These areas will typically have local flood risks that affect localised areas, for instance one or two roads, that require more in depth assessment and interventions than have been used in the past. These areas may not need an in depth assessment of the risks and may be dealt with by ensuring the relevant risk management authorities work together effectively to investigate the problems although in some instances these may be necessary.

Policy 3 Areas with low local flood risk which are being managed effectively

Flooding in these areas will be monitored and problems will be dealt with reactively by the appropriate risk management authority.

This policy will be applied to areas where local flooding risks are currently not significant. That does not mean that these areas are not at risk of local flooding, but the risks can be managed by each risk management authority undertaking its duties effectively.

Category B policies**Policy 4 Areas with perceived flood problem, further information a priority.**

Local flood risk assessments will be undertaken in these areas in the short term (1-2 years) to identify the significance of any flood problems.

This policy will be applied to areas where local flood risk assessments will be undertaken to further understand the local flood risks. These areas have been identified according to their geography that makes them potentially prone to local flooding, for instance urban areas or poorly draining areas. This policy does not mean that there are significant local flood risks in these areas, only that there is a potential for local flooding problems that need to be assessed.

Once assessments are complete a relevant Category 1 policy will be allocated and an action plan will be developed where necessary.

Policy 5 Areas with no perceived local flood problems, further information not a priority but maintain a watching brief.

Further assessments of local flood risk will not be undertaken in these areas during this local strategy period.

This policy will be applied to areas where there are few records of local flooding and the geography of the area means that they are unlikely to suffer from much local flooding. This does not mean that local flooding has not occurred or will not occur in these areas, only that the local flooding is likely to be localised and manageable by the risk management authorities.

Flooding in these areas will be managed by the relevant risk management authorities as it arises. Flood investigations will be undertaken if necessary, as set out in Section 5.3. Flooding reports will be monitored and this policy will be reviewed in the next local strategy.

Figure 4 shows the category A policies that have been assigned to the policy areas and Figure 5 shows the category B policies. As more information is gathered about the local flood risks in Kent the policy areas and the policies will be reviewed and adjusted as necessary.

Given the size of Kent, the large number of areas that are at risk of local flooding and the time it will take to deliver the surface water management plans, it is unrealistic to record local flood risk management actions in the local strategy.

Position 7

Specific actions to manage local flood risk will be identified and planned through the surface water management plans.

In this way the actions that are identified can be targeted at the local area and specific to the needs of that local community rather than determined through a countywide strategy. The surface water management plans will allow more engagement with local partners and all relevant stakeholders can share in determining the local priorities and best options to resolve them.

The findings of the surface water management plans will be used to prioritise further investigations and, where appropriate, flood risk management schemes. How these schemes are prioritised is discussed in Section 5.8.

5.8 Local flood risk management measures

KCC will undertake the preliminary study of local flood risks in Kent, as outlined in Section 5.7, and gather data on flood risks reported to us and other risk management authorities as outlined in Section 6.1. This will identify where there are local flood risks that need to be managed. The type of flood risk management that is required in the areas identified as at risk will vary according to the specific flood risks, but they are likely to fall into one of two categories described below.

5.8.1 Schemes of national importance

These are likely to be large scale schemes that deliver flood risk management benefits of national significance and will be eligible for grant in aid (how grant in aid is allocated is discussed in Section 7.2).

The limited resources available to KCC and the cost of taking schemes through the planning development process mean that KCC is unable to fund schemes from initial identification all the way to their delivery. Where there are viable schemes identified the appropriate risk management authority (which may be KCC, but could also be another authority) will need to apply for grant in aid to support the next stage of their development. KCC and the Environment Agency will assist with this application.

Position 8a

Beyond the preliminary study stage, KCC will promote projects that are likely to attract grant in aid funding. Where schemes will require partnership contributions, KCC will try to identify any potential sources of funding that may be available to deliver them. These schemes will be prioritised according to the flood risk and disadvantage in the area.

KCC may use the Defra grant to provide partnership contributions for schemes that require it, however this can only be done where funds are available from the flood risk management budget.

5.8.2 Schemes of local importance

These schemes are to manage flood risk that is more localised and require works that are small, therefore they may not be eligible for grant in aid these, but they are still locally important.

Position 8b

KCC will work with local communities and other risk management authorities to identify minor schemes and potential sources of funding for them.

Other sources of funding are discussed in Section 7. These schemes will be prioritised according to the flood risk, other factors that will be considered in prioritising schemes include:

- disadvantage in the area;
- additional funding opportunities are available;
- critical infrastructure at risk;
- simple, cost-effective solutions are identifiable;
- opportunities to work with other risk management authorities to develop an integrated flood risk management solution;
- opportunities to develop or retrofit sustainable management practices;
- opportunities to protect or enhance the natural or historic environment;
- opportunities to improve safety and the effectiveness of emergency responses.

6 WORKING TOGETHER TO DELIVER THE LOCAL FLOOD RISK MANAGEMENT STRATEGY

Risk management authorities have a duty to cooperate with one another in undertaking flood risk management functions. This is required by the Flood and Water Management Act 2010.

Through cooperation organisations and individuals can achieve more effective results than they could achieve through working alone. Cooperation requires trust, good communication, sharing information and resources, and an improved understanding of the mutual benefits it can bring. Cooperation respects the interests of those concerned, while at the same time promoting the wider interests of the group and its stakeholders.

This section describes how all risk management authorities will work together to achieve the objectives of this local strategy. These objectives do not relate solely to local flood risks, other forms of flood risk and coastal erosion also need to be considered as it is important that all flooding is managed consistently and other forms of flooding can cause or worsen other forms.

6.1 Improving the understanding of the risks of flooding from surface runoff, groundwater and ordinary watercourses in Kent

6.1.1 Recording flood incidents

All risk management authorities receive reports of flood incidents. It is important that all of this information is collated in a consistent way and stored so that it is easily available to all risk management authorities. KCC will develop a flood incident record for local flooding that can be accessed by all risk management authorities. All risk management authorities are encouraged to record all incidences of local flooding that they are aware of in this record, even if it is not a form of flooding they have responsibility for. Fluvial and coastal flooding should be reported to the Environment Agency.

This record will be available to all risk management authorities to assist them in identifying flood prone areas that they may need to focus on or to use in studies of flooding.

6.1.2 Registering flood assets

Registering assets in the features and structures register (Section 5.2) that have a potentially significant impact on flooding is the responsibility of individual risk management authorities. KCC will maintain the register, as outlined in Section 5.2, but it is the duty of all risk management authorities to register assets in the register. KCC will provide guidance on how to do this. The register is intended to be a useful tool to identify the ownership of important flood risk management assets, it is not intended to be a regulatory burden. Risk management authorities may use the register as they see fit, there is no specific duty to register assets or a timetable to complete the register.

6.1.3 Surface water management plans

Surface water management plans are an important tool to understand where local flood risks are and how they may arise. KCC will undertake these plans as set out in Section 5.7. All risk management authorities in these areas are encouraged to take part in these plans to share knowledge and expertise to ensure that they deliver the best possible plan. Where appropriate these plans may assign actions to the risk management authorities to deliver. Risk management authorities will be consulted about any actions they may be assigned before the plan is published, once the actions are agreed the risk management authorities should deliver them within the specified timeframe. These plans will be published by KCC for anyone interested to view them.

Risk management authorities are encouraged to undertake their own plans into flood risks they may be responsible for. Surface water management plans do not have to be undertaken by KCC, other risk management authorities may undertake them if they consider them useful. KCC will work with risk management authorities who undertake their own flood risk investigation if they are invited. Risk management authorities are encouraged to publish any findings of plans or investigations they undertake for any interested parties to view.

6.2 Reducing the impact of flooding on people and businesses in Kent

6.2.1 Surface water management plans

Areas at greatest risk of local flooding will be identified through the work KCC is doing to deliver surface water management plans, as described in Section 5.7. Actions to deliver flood risk benefits will be given by the management plans and agreed by the partners involved. Risk management authorities are encouraged to work together to identify mitigation opportunities and to deliver flood risk management schemes, sharing resources, expertise and maintenance.

6.2.2 Asset management

Reducing the risk of flooding also includes the on-going maintenance and management of flood risk management infrastructure. Risk management authorities are encouraged to ensure that the management of their assets is the most effective available, that is takes account of the impacts up- and downstream and that other risk management authorities affected by their assets understand how they manage them. KCC will help to develop an integrated drainage asset management strategy.

6.2.3 Coordinated flood risk planning and delivery

Flood risk mitigation should be risk based, focussing on the areas that are at the greatest risk and most badly affected by flooding, disadvantaged areas at risk of flooding should also be prioritised in determining where to allocate resources.

Flood risk mitigation should be planned effectively for the long term and provide a clear picture of how the risks will be managed and by whom. All relevant studies and plans that relate to the flooding should be considered and relevant partners involved in the planning to ensure that all risks can be considered and planned together where feasible. In this way opportunities for multiple benefits can be identified, for instance including amenity space or providing habitat.

Planning flood management schemes should include the local community to ensure that they understand the risks, how they can be managed and what their role will be in managing them.

Not all flood risks can be mitigated and investment should be focussed where it can make the most difference. In order to determine this, assessments of flood risk mitigation options will develop benefit-cost assessments that indicate the value of a scheme. More details on how flood defence projects are prioritised and funded can be found in Section 7.

6.2.4 Flood defence financing

Risk management authorities and local communities also have a role to play in the financing of flood management schemes, which will now only be partly financed by government grant. By contributing to flood management schemes partnership contributors can have more say in how the risks are managed and delivered.

6.3 Ensuring that development in Kent takes account of flood risk issues and plans to effectively manage any impacts

6.3.1 Flood risk and planning

Planning authorities have to undertake Strategic Flood Risk Assessments as a requirement of the National Planning Policy Framework to assess the impact of proposed developments on flood risk. These assessments should include a thorough assessment of all flood risks, however historically they have focussed largely on fluvial and coastal flood risks and not adequately dealt with local flooding. The Strategic Flood Risk Assessment should help to develop policies to manage flood risk from all sources that can be adopted in Local Plans.

Development may need to be located in areas at risk of flooding. This should only occur where it is justified, having been through all the relevant tests required by the National Planning Policy Framework, supported by a Strategic Flood Risk Assessment, if the flood risk can be managed safely and if it does not increase flood risk elsewhere. However, planning authorities should bear in mind that any new development constructed after January 2012 will no longer be considered in allocating government grants for flood defences. Therefore if the area benefits from flood defences or will need flood defences in future (taking into account climate change) these new developments will not be considered in the benefit calculation (grant in aid for flood defences is discussed in Section 7.2). The potential impact of new development on the financial viability of flood defences, that will be needed or need refurbishment,

should be considered in Strategic Flood Risk Assessments along with any options to mitigate the impact.

In undertaking Strategic Flood Risk Assessments, making planning policy and planning decisions planning authorities should consult with the Environment Agency, the lead local flood authority and internal drainage boards as appropriate.

6.3.2 Sustainable drainage and planning

New development should manage runoff in a sustainable manner, where possible using natural processes. Local plans and strategies should adopt policies that encourage new developments to use these techniques.

KCC will issue guidance for other risk management authorities, developers and other interested parties how it will undertake the role of drainage approving body and how to apply for drainage approval once Defra has published details of how this role will be undertaken. In the meantime KCC will provide advice to any prospective developer about how to implement sustainable drainage.

6.4 Providing clear information and guidance on the role of the public sector, private sector and individuals in flood risk management in Kent and how those roles will be delivered and how authorities will work together to manage flood risk

6.4.1 Communication

Annex A provides a summary of the main flood risk management functions each risk management authority has. Each risk management authority should make clear how they intend to carry out their functions. The information provided should include the area and features they have responsibility for, schedules for routine maintenance, records of maintenance having been undertaken, plans for improvement works, plans for new flood management measures and relevant contact details.

Members of the public are often unaware of which risk management authority is responsible for the type of flooding they are experiencing. If an inappropriate authority is contacted regarding a flood event they are encouraged to take the details to pass them on to the appropriate authority and let the customer know the details of the report that has been made. In this way members of the public need only contact one authority.

6.4.2 Cooperation

All risk management authorities have a duty to cooperate and share information with another risk management authority that is exercising a risk management function (as required by the Flood and Water Management Act 2010). Risk management authorities should refer to the Environment Agency's guidance on appropriate practice for sharing information and cooperating, Co-operation and requesting information in flood and coastal erosion risk management (Environment Agency, 2011). As part of this risk management

authorities must share information that is requested of them for flood risk management purposes in a timely manner, they may remove personal information but this is not a reason not to share the information. Risk management authorities should also make it clear how other authorities can cooperate with them to achieve risk management benefits, this can include authorising another risk management authority to undertake risk management functions on their behalf.

6.4.3 Private land

Members of the public and land owners often assume that the responsibility for maintaining watercourses lies exclusively with a formal risk management authority. Even if an authority does undertake maintenance on a watercourse this is only as a permissive power, not a duty. Land owners adjacent to a watercourse have a duty for the maintenance of that watercourse.

It is important that members of the public understand the role they play in flood risk management and how they can protect themselves from flooding. Risk management authorities should make clear to members of the public and land owners what their obligations are to manage flood risks within the authority's area and relevant to the risk management functions they have.

6.5 Ensuring that emergency plans and responses to flood incidents in Kent are effective and that communities understand the risks and their role in an emergency

It is the duty of a range of agencies to plan for and respond to flood events. Emergency responders include the emergency services, Kent County Council, district councils, Environment Agency, Highways Agency and water utilities. Responders coordinate their planning and responses to flood emergencies under the umbrella of the Kent Resilience Forum (see Section 3.2.3).

Planning and response to flood emergencies is informed by Multi-Agency Flood Plans, Rapid Response Catchment Emergency Plans and relevant generic and specific contingency plans, maintained by Kent Resilience Forum partners. It is important that these plans continue to use the latest flood information available and are updated as new information becomes available.

KCC will share the outputs of the surface water management with the Kent Resilience Forum partners to be used in planning emergency responses. The other risk management authorities are recommended to provide any data on flood risks, including local flood risks, to the Kent Resilience Forum. Close inter-agency working, sharing data and resources, is vital for the emergency responders in Kent to maintain and continue to build resilience to local flooding and other flood risks within the County.

7 FLOOD RISK MANAGEMENT PLANNING AND RESOURCES

The way that flood risk management schemes are funded has recently changed. Government grants will not fully fund all schemes, local contributions will have to be found for many schemes to precede. This change provides an opportunity for local communities to have more influence on how flood defences are delivered in their communities. However it also means that local communities may have to find funds to contribute to flood risk management schemes.

This section explains how government grants for flood defences are allocated and how flood defence projects are prioritised.

7.1 Defra grant

In order to support the delivery of the Flood and Water Management Act 2010 Defra provide a grant to lead local flood authorities for the duration of the current spending review period (2011/12-2015/16). Kent County Council received £260,000 in 2011/12 and will receive £750,000 for the other four years of the spending review period (2012/13-2015/16).

This money will be used by KCC to fund the new responsibilities we have under the Act, as outlined in Section 5. This includes hiring staff to undertake these new responsibilities and financing investigations into local flooding. Where possible KCC will seek to find savings in how these duties and powers are undertaken. We already work in partnership with other neighbouring lead local flood authorities on a number of areas, including the delivery of the drainage approving role and we are working the Environment Agency on a number surface water management plans where they are undertaking other related assessments.

7.2 Flood defence grant in aid

Flood defences and coastal erosion risk management schemes are funded from a government grant called Flood Defence Grant in Aid (grant in aid) which is administered by the Environment Agency on behalf of Defra. Until recently schemes would receive full grant in aid funding if they met a certain cost-benefit ratio, while schemes that did not achieve this ratio would receive no grant. Under this mechanism many schemes never achieved the required cost-benefit ration and could never be delivered.

Defra has changed to the way grant in aid will work from April 2012. Now schemes will receive funding according to the benefits they deliver against defined outcome measures. For instance the number of homes protected or the amount of habit created. The funds allocated like this may be sufficient to develop the scheme. If they are not sufficient the difference will have to be made up from partnership funding, that is contributions for local partners who also see a value in the scheme.

Diagram 1 illustrates how the scheme will work compared to the previous mechanism.

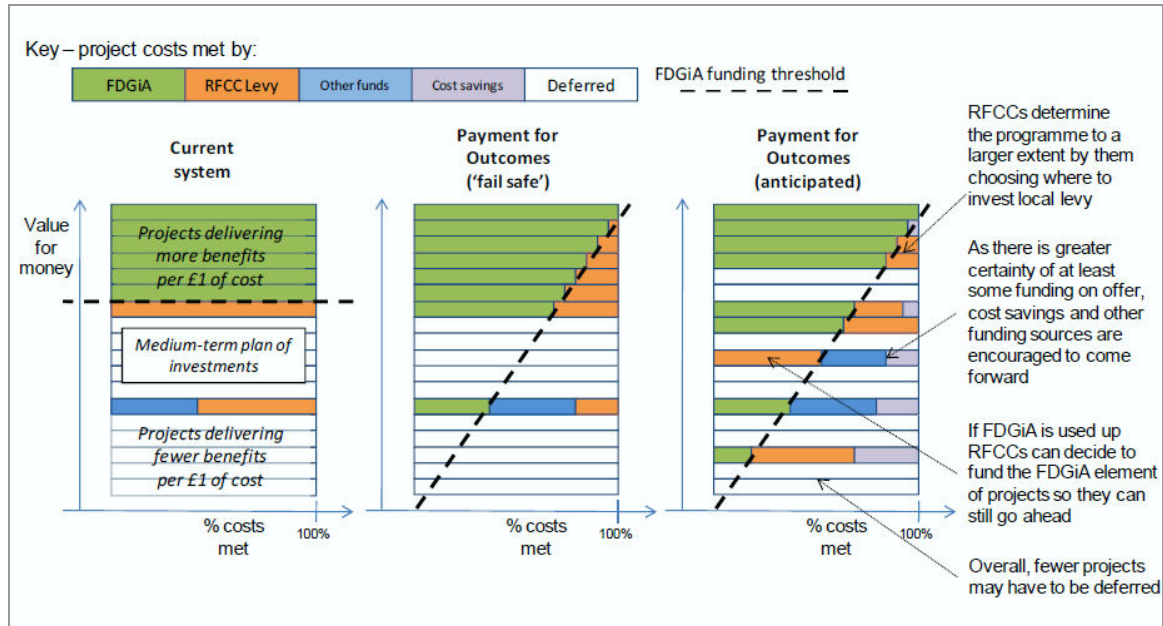


Diagram 2 Comparison of old and new grant in aid funding mechanisms

In this way all schemes can receive some grant in aid so long as they can find the necessary partnership funds to cover the costs of the scheme, which means that a scheme that may not have received any grant in aid under the old mechanism may now receive some with the additional of local funds. By requiring local contributions for many schemes there will be more local involvement in determining how the schemes are developed.

To assess the value for money, the Outcome Measure, of a scheme the benefits are calculated (according to specific criteria) and divided by the cost of the scheme. Any scheme with an outcome measure above 100% represents value for money, however, due to the current competition for grant in aid the threshold to qualify for government assistance is set at 120%. This means that even schemes whose outcome measure score is below this threshold must secure partnership funding that gives a score above 120% in order to receive grant in aid. The lower the score the larger the proportion of partnership funding that is required. In order to qualify for any grant in aid funds under this mechanism any necessary partnership funding must be secure before an application can be made. The threshold score changes every year, according to the competition for grant in aid.

In deprived areas, Defra will pay higher amounts of grant in aid, up to 225% more in the 20% most deprived areas. This means that flood risk management measures that in disadvantaged areas are prioritised.

This new funding mechanism applies to schemes that refurbish existing defences as well as constructing new ones. Further, the grant in aid benefit calculation will not take account of any benefit to properties built since January 2012, as the government does not want to increase the number of properties at risk, even if the risk is residual. This will include properties built in

areas that already benefit from flood defences, even if they replace existing stock. Therefore the construction of new homes in place of existing ones in a defended flood plain may make existing flood defences financial non-viable as the new properties will not be used in calculating the outcome measure in the way the old ones would have.

More details about the grant in aid scheme can be found on the Environment Agency's website: <http://www.environment-agency.gov.uk/research/planning/134732.aspx>

7.3 Local levy

The local levy is administered by the Southern Region Regional Flood defence Committee. The Southern Region local levy is currently approximately £1.177m, which is one of the lowest in the country, KCC currently makes the largest contribution to the southern region local levy, approximately £330k annually.

The local levy can be distributed to flood defence schemes at the discretion of the RFCC. It is often used to fund locally important schemes which would otherwise not receive funding or to provide partnership contributions for grant in aid funding.

7.4 Water company planning

Water company investment in infrastructure they manage has to be agreed by the water company regulator, Ofwat, this is done on a five-yearly cycle called an Asset Management Plan (AMP). We are currently in the fifth AMP period, AMP5, which runs from 2010 to 2015. AMP6 will begin in 2016. The work that water companies undertake in each AMP period is determined by plans they submit to Ofwat prior to each AMP period, this is called the periodic review. The next periodic review submissions will be made in 2014.

In order to ensure sewerage improvement works can be carried out they must be identified in time to be included in the periodic review.

KCC does not have a responsibility to oversee the management of water company assets or the performance of sewerage undertakers. Similarly sewerage undertakers only have a duty to manage their assets and ensure they perform to the appropriate criteria, they do not have a duty to manage or prevent other flooding. However, there are clearly common areas of concern for many risk management authorities and sewerage undertakers where a joint approach may be mutually beneficial.

KCC will work with the sewerage undertakers in Kent to identify any opportunities to jointly fund projects, using all available funding sources, to be put forward into the appropriate periodic review.

7.5 Other sources of funding

Due to the nature of the grant in aid scheme, any source of funding can be used as the partnership contribution. Flood risk management schemes may have many benefits, including helping to protect property, providing amenity space, wildlife habitat and more. These other benefits may provide sources of

funding through local investment funds, new developments, habitat grants and local landowners that can contribute to the costs of flood risk management.

7.6 Planning flood risk management schemes

There are a number of steps that have to be taken to deliver a flood management scheme from identifying the need for a scheme, through designing it and construction/delivery. Table 1 shows an outline of the steps that can be taken to deliver a flood risk management project.

Table 1 Stages in the development of a flood management scheme

Project Stage	Description
Preliminary Study	Assessment of flood risks
Initial Assessment	Study to scope potential flood defence options
Business case	Feasibility study of preferred flood defence option(s)
Detailed design and contract award	Detailed design of flood mitigation scheme
Project Implementation	Delivery of flood mitigation scheme

Each step in this process generally requires more funds as more detailed investigations are required. Not all stages are always required and some stages can be combined, for instance the initial assessment could be combined with the business case, especially for smaller schemes. The identification of a flood risk does not inevitably lead to a flood defence scheme being delivered, as the mitigation options identified may not be feasible for a number of reasons (including cost, availability of land, effectiveness of the available solutions and negative consequences that outweigh the benefits).

All of these stages can receive support from grant in aid, but the potential benefits of the investment must be justified at each stage and each stage will require a separate request for grant in aid, which will be measured against national priorities.

Grant in aid funding is allocated to projects annually by the Environment Agency. In order to receive grant in aid a submission to the Environment Agency must be made that provides the appropriate details, it will then be assessed against the other schemes put forward for that year and if it meets the criteria it will be placed on the medium-term plan which outlines which projects will receive money, how much partnership funding they require and how the funding will be spread over the time span of the project (as many projects take a number of years to actually deliver).

Many schemes will be too small and provide benefits that are not a national priority and will therefore not be eligible for grant in aid. These sorts of schemes may be local improvement works or property level protection. Other sources of funding will be needed to fund these

8 FLOOD RISK MANAGEMENT DELIVERY

Flood risk management schemes, infrastructure or improvement works used to prevent or reduce flood risk, offers opportunities to deliver more benefits than simply protection from flooding, through careful planning there are also opportunities to enhance our communities and environment and to ensure that all local users are taken account of in developing schemes. The section sets out how the process of delivering flood risk management schemes in Kent will be managed to ensure that the best outcomes are achieved.

8.1 Environment, heritage and landscape

Water is an intrinsic part of the natural the environment, it is essential for life and a fundamental feature of our landscape. Through the mitigation of the worst aspects of the water cycle we may be able to use it productively to enhance our environment through the provision of habitat and amenity. However, flood mitigation measures may also change the local environment and potentially have negative impacts on other features by disturbing the natural flow of water or through construction activities. Below are areas that must be considered in delivering any flood risk management schemes in order to preserve the environment of Kent.

8.1.1 Environment

Opportunities to enhance the environment and provide habitat and amenity should be sort where possible in the delivery of flood risk management schemes, especially if they could help to achieve the aims of other action plans, for instance the Kent Environment Strategy and the Kent Biodiversity Action Plan. Where environmental enhancements can be achieved they should be in keeping with the local environment and provide habitat for locally indigenous species.

Altering the flow of water may have an impact on sites downstream that rely on water. There are many designated sites in Kent and many of these are water sensitive. Any alteration to the amount of water they receive can disrupt the ecosystem. The impact of flood risk management schemes needs to be assessed thoroughly if there is any potential impact downstream. The mitigation for any such impact may be incorporated into the design of the schemes themselves.

Environmental impacts should be assessed at an early stage of the design of schemes and appropriate consultation should be undertaken with relevant stakeholders to scope any potential effects.

8.1.2 Heritage

Flood risk management schemes may have both direct and indirect impacts on the historic environment. Direct impacts could include damage to known heritage assets - for example if a historic drainage ditch is widened and deepened as part of the scheme. Alternatively they may directly impact on unknown assets such as when the scheme damages buried archaeological

remains. Indirect impacts are when the ground conditions are changed by flood risk management schemes, thereby impacting on heritage assets. For example, using an area for water storage, or improving an area's draining can change the moisture level in the local environment. Archaeological remains in particular are highly vulnerable to changing moisture levels which can accelerate the decay of organic remains and alter the chemical constituency of the soils. Historic buildings are often more vulnerable than modern buildings to flood damage to their foundations.

When flood risk management schemes are planned it is important that the potential impact on the historic environment is fully considered and any unavoidable damage is mitigated. This is best secured by early consideration of the local historic environment following consultation with the Kent Historic Environment Record and by taking relevant expert advice. Kent County Council maintains the County HER and can offer guidance on avoiding damage to the County's heritage.

8.1.3 Landscape

The local landscape character and context of the proposed site must be respected in the design of new works. The inclusion of landscape appraisal in the design process will help to conserve and enhance the distinctive characteristics and quality of the landscape.

There may be opportunities to provide local high quality open spaces with the flood risk management schemes and enhance the amenity of the space. Opportunities to deliver local targets for amenity, blue/green infrastructure and the movement of people should be sort. Consultation with the local planning authority and other stakeholders should be undertaken in the design of any scheme.

8.2 Equality

Flood risk management schemes must benefit everyone in the community they serve, similarly the passive consequences of the scheme must be considered for all stakeholders that may be affected, for instance changing the height of paths to provide a flood barrier may make them less accessible.

Generally reducing flood risk helps to equalise the impact of flooding on diversity groups, as certain diversity groups, particularly the elderly and disabled, are less able to help themselves in a flood event. However, flood risk management schemes must be sensitive to the needs of all stakeholders and must be appropriate for them, for instance manual handling of flood defence apparatus may not be appropriate for some diversity groups. Additionally, where flood risk management schemes are proposed the consultation exercises undertaken must be accessible to all diversity groups, for instance those with poor eyesight may not be able to understand plans and maps of the proposed scheme, alternative means of communicating that are appropriate to all groups must be considered.

An equality impact assessment should be undertaken at an early stage in the design of any flood risk management scheme. All stakeholders should be identified and their needs considered in order that they can be designed into

the scheme at an early stage. Specific consultation with any impacted diversity groups is also encouraged to ensure that their needs are properly understood.

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9 NEXT STEPS TO MANAGE LOCAL FLOOD RISK

This section provides a summary of the actions the risk management authorities in Kent will be undertaking over the next year and beyond to deliver the objectives of the local strategy. This list will be updated annually with progress on previous actions noted and new actions that have been identified added.

The action plan will contain a range of different actions that are planned to achieve the objectives of the local strategy. These include broad scale strategic policies that are required to provide better management and/or coordination of flood risk information in the county. They could include more geographically specific actions such as a surface water management plan in one of the policy areas to provide more information. Or they could be very localised actions that will provide a specific scheme to manage flooding. At this stage of undertaking local flood risk management our understanding of local flood risk is at a high level and the actions tend to fall into the first two of these categories. As we develop our understanding of local flood risk we hope to plan for more localised schemes to deliver flood management.

The action plan is divided into three tables, Table 2 and Table 3. Table 2 is a list of actions that will be lead by KCC to meet the objectives of the Flood and Water management Act and the local strategy and have countywide implications, or do not have specific local effects. Table 3 is a list of the actions that will be undertaken by KCC to deliver local flood risk actions, in this first local strategy these are largely surface water management plans and other assessments of flood risk. As the surface water management plans and assessments are developed so further actions will be identified that will be added to this list.

Table 4 provides a summary of the actions that other risk management authorities can undertake within their existing risk management functions to help cooperate with each other and deliver objectives of the local strategy. KCC will monitor and support the delivery of these actions. Table 4 also includes which KCC lead actions (from Tables 2 and 3) link to the risk management authority measures, which may assist the risk management authorities with the delivery of the actions.



Table 2 Countywide flood risk management steps

No.	Action	Local strategy objective	Driver	Responsible Body	Supporting Bodies	Funding source	Date added	Timeframe for delivery	Comments
Actions for KCC to deliver									
C1	Establish register of structures and features	1; 4	Flood and Water Management Act	KCC	All risk management authorities	Defra grant	2012	2014	
C2	Establish a record of flood incidents	1; 4	Local strategy	KCC	All risk management authorities	Defra grant	2012	2014	
C3	Develop an integrated drainage asset management strategy	2, 4	Local Strategy	KCC	All risk management authorities	Defra grant, Highways grant	2012	2014	
C4	Establish SuDS approving role	2; 3; 4	Flood and Water Management Act	Defra; KCC	All risk management authorities	Defra grant	2012	Dependant on Defra timeframes to be published	
C5	Produce SuDS guidance to help integrate it with new developments	2; 3	Local strategy	KCC	Planning authorities	Defra grant	2012	On going	
C6	Organise training of call centre staff in risk management authorities to coordinate responses to reports of flooding to provide a single point of contact	4, 5	Local strategy	KCC	All risk management authorities	Defra grant	2012	2014	



Actions for KCC to coordinate with other authorities									
C7	Raise awareness of flood risk and local flooding issues for the public and how they can reduce the risks	1	Local strategy	KCC, EA, SW	All risk management authorities	Defra grant	2012	On going	
C8	Hold workshops with risk management authorities to develop guidance and best practice on how authorities can work together to provide clear information to each other and the public	1; 4	Local strategy	KCC; EA	All risk management authorities	Defra grant	2012	2014	
C9	Update Local Multi-Agency Flood Plans with the latest data	5	Local strategy	KCC	Environment Agency	?	2012	On going	
C10	Support and monitor risk management authorities in delivering the local strategy, Flood and Water Management Act 2010 and other flood risk management duties	1, 2, 3, 4, 5	Local strategy	KCC	Planning authorities		2012	On going	



Table 3 Local flood risk management steps (to be completed)

No.	Action	Local strategy objective	Driver	Responsible Body	Supporting Bodies	Funding source	Date added	Timeframe for delivery	Comments
L1	Canterbury City Centre SWMP	1	Canterbury Stage 1 SWMP	KCC	CCC, EA, Southern Water	Defra grant	2012	2013	
L2	Paddock Wood FAS Initial Assessment	1; 2	Paddock Wood SWMP	EA, KCC	TWBC; EA	FDGiA/Defra grant	2012	2013	
L3	Deal Town FAS	1; 2	Deal SWMP	KCC	DCC, EA; Southern Water	FDGiA/Defra grant	2012	2013	
L4	Folkestone FAS	1; 2	Folkestone and Hythe SWMP	EA; KCC	ShDC; EA, Southern Water	FDGiA/Defra grant	2012	2013	
L5	Dartford SWMP	1	Thameside SWMP	KCC	DBC, EA, Thames Water	Defra Grant	2012	2013	
L6	Margate SWMP	1	Thanet SWMP	KCC	TDC, EA, Southern Water	Defra Grant	2012	2013	
L7	Ramsgate SWMP	1	Thanet SWMP	KCC	TDC, EA, Southern Water	Defra Grant	2012	2013	
L8	Isle of Sheppey SWMP	1	Swale SWMP	KCC	SBC, EA, Southern Water	Defra Grant	2012	2013	
L9	Tonbridge and Malling South Stage 1 SWMP	1	Local Strategy	KCC	TMBC, EA, Southern Water	Defra Grant	2012	2013	
L10	Sevenoaks South Stage 1 SWMP	1	Local Strategy	KCC	SDC, EA, Southern Water	Defra Grant	2012	2013	
L11	Tunbridge Wells Stage 1 SWMP	1	Local Strategy	KCC	TWBC, EA, Southern Water	Defra Grant	2012	2013	
L12	Ashford Stage 1 SWMP	1	Local Strategy	KCC	MBC, EA, Southern Water	Defra Grant	2012	2013	



No.	Action	Local strategy objective	Driver	Responsible Body	Supporting Bodies	Funding source	Date added	Timeframe for delivery	Comments
L13	Maidstone Rural Stage 1 SWMP	1	Local Strategy	KCC	MBC, EA, Southern Water	Defra Grant	2012	2013	

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Table 4 Measures for all risk management authorities in Kent

No.	Action	Local strategy objective	KCC linked measures
R1	Registering flood assets, as defined in Section 5.2	1	C1
R2	Reporting all local flooding incidents they are aware of to Kent County Council	1	C2
R3	Assist with development and implementation of integrated asset management strategy	2, 4	C3
R4	Provide local knowledge to the SAB regarding developments in their area	2; 3	C4
R5	Encourage the use of SuDS through policy and use in own projects	3	C5
R6	Take details of all flood events from members of the public and pass them on to the appropriate authority, giving the customer the details of the report that has been logged	4	C7
R7	Provide clear, publicly accessible information about risk management functions, including: <ul style="list-style-type: none"> • the area and features they have responsibility for • schedules for routine maintenance and records of maintenance having been undertaken • plans for improvement works • plans for new flood management measures and • relevant contact details 	4	C8
R8	Ensure Strategic Flood Risk Assessments consider the impact of new development on the finances of flood defences in light of the new way of allocating grant in aid for flood defences	3	C10
R9	Assist with development and delivery of flood investigations and surface water management plans where appropriate	1	All local measures
R10	Provide flood risk information in a timely manner	1; 2; 3; 4	All local measures

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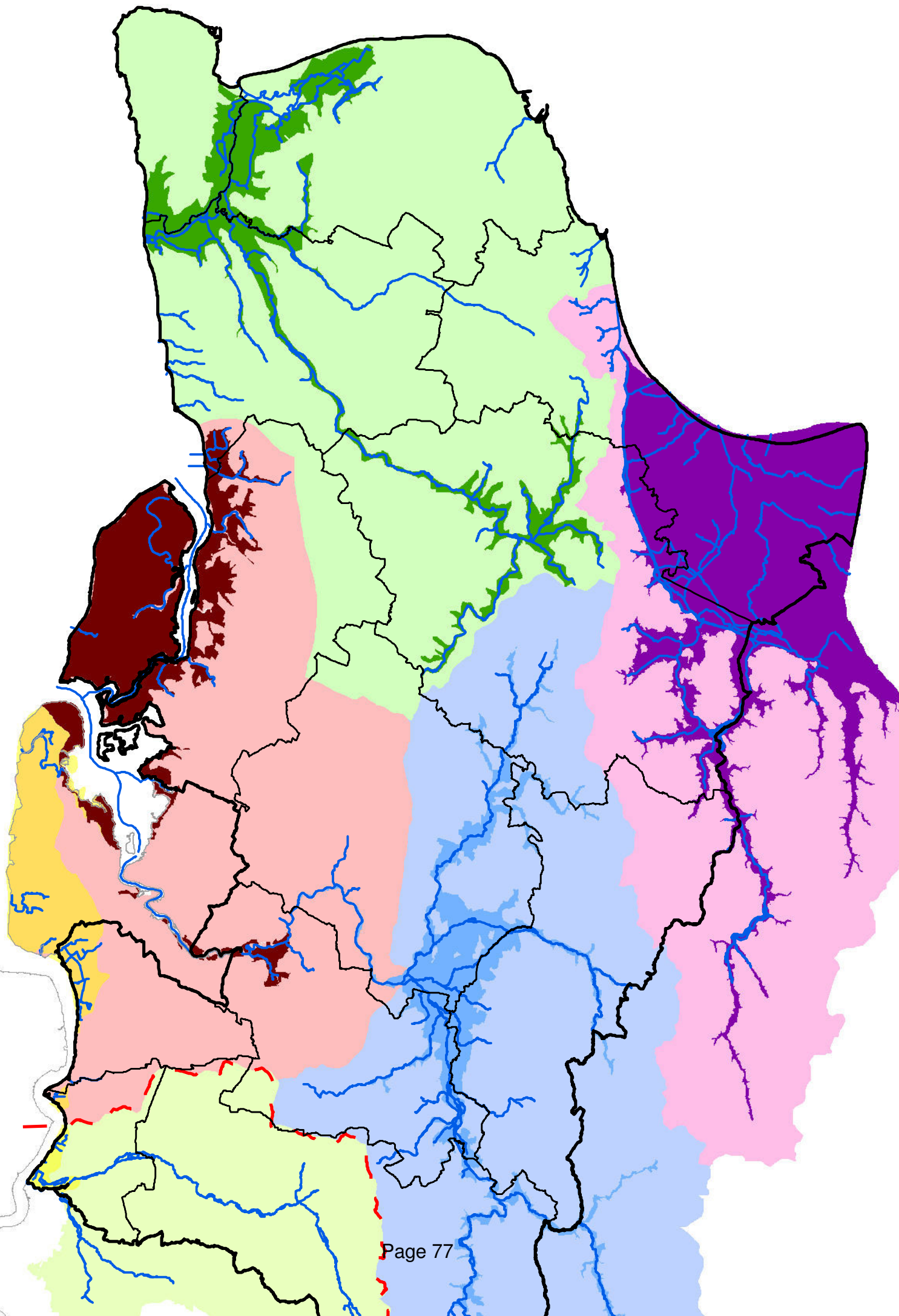
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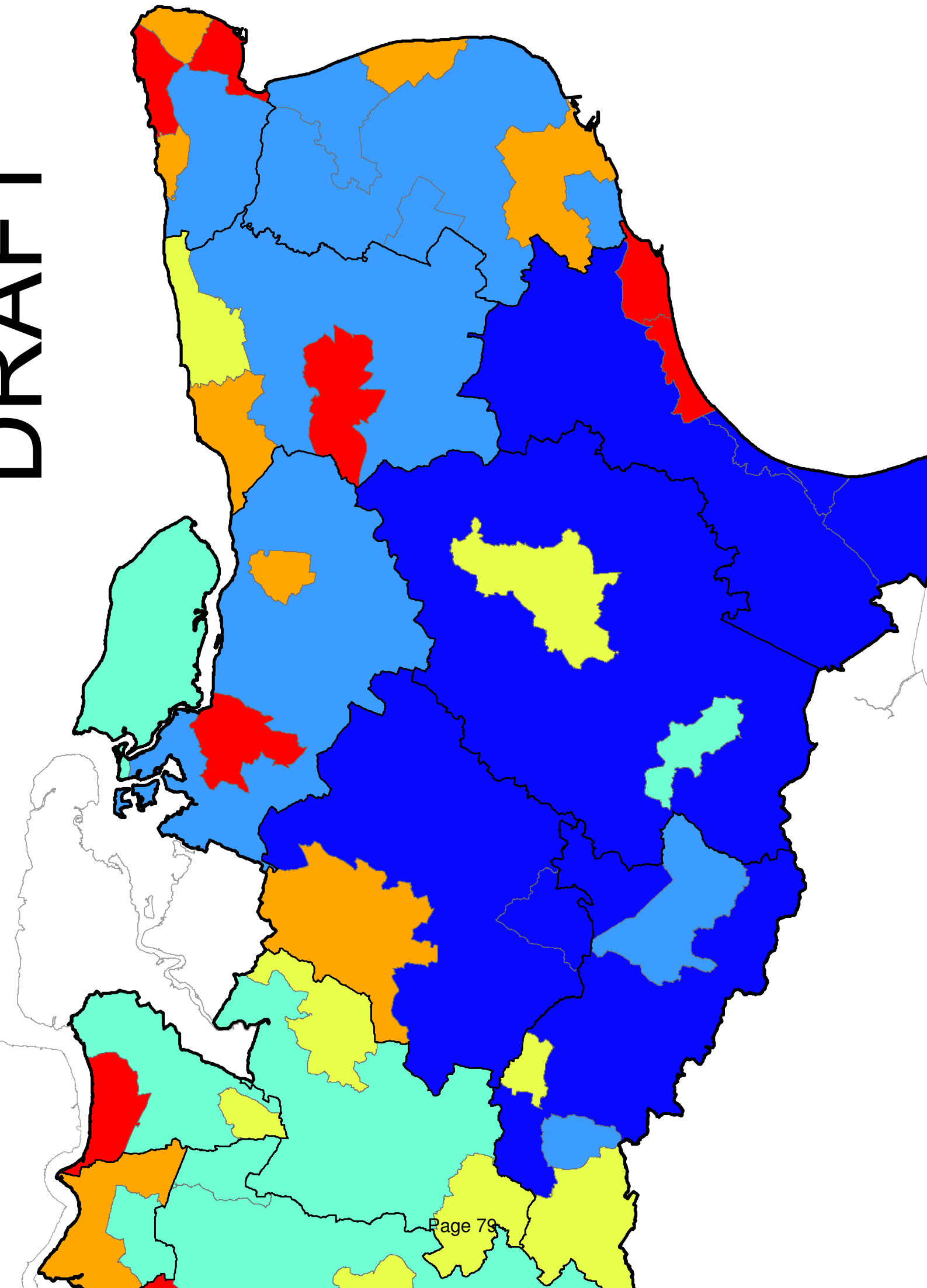
ANNEXES

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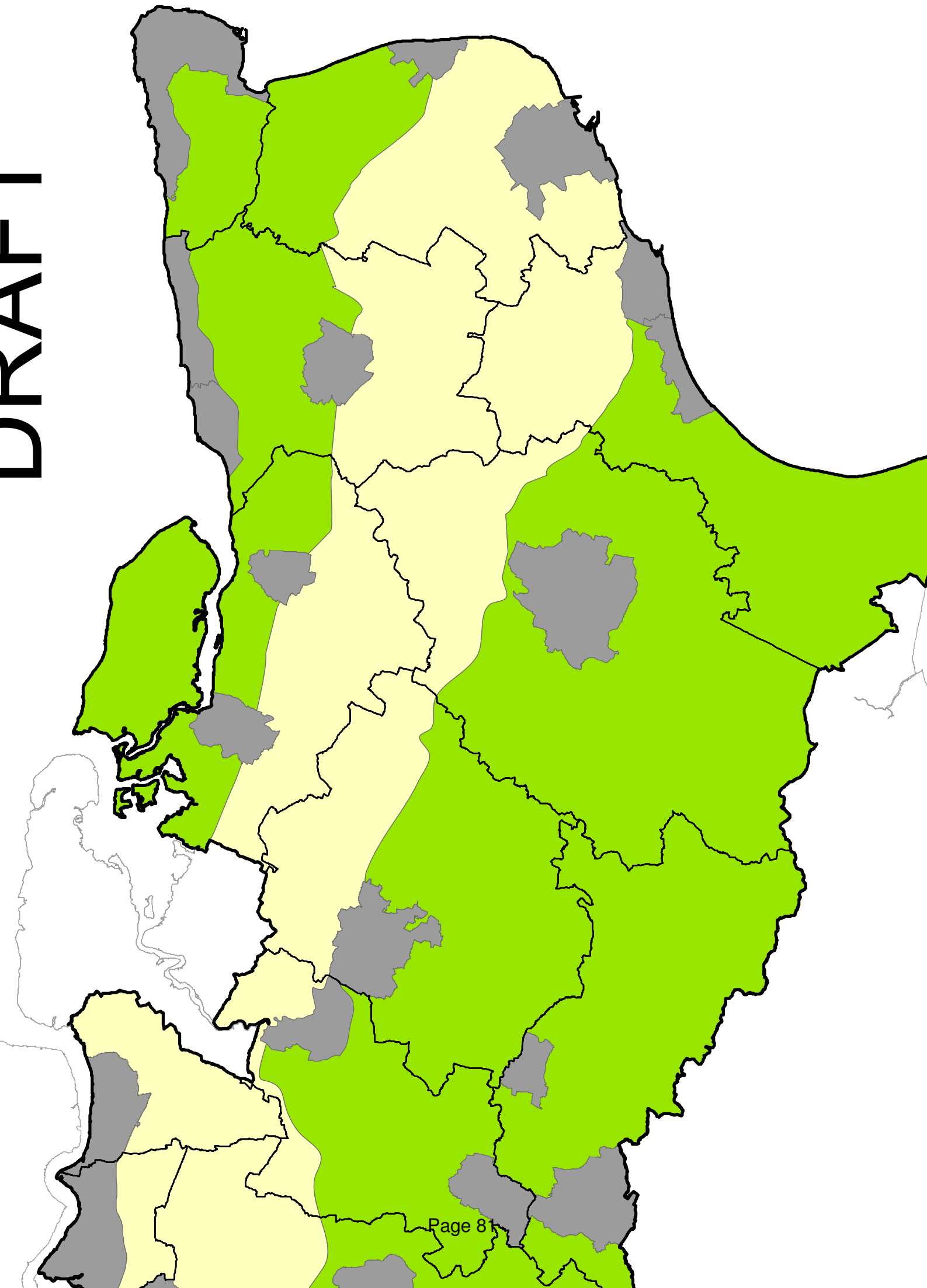
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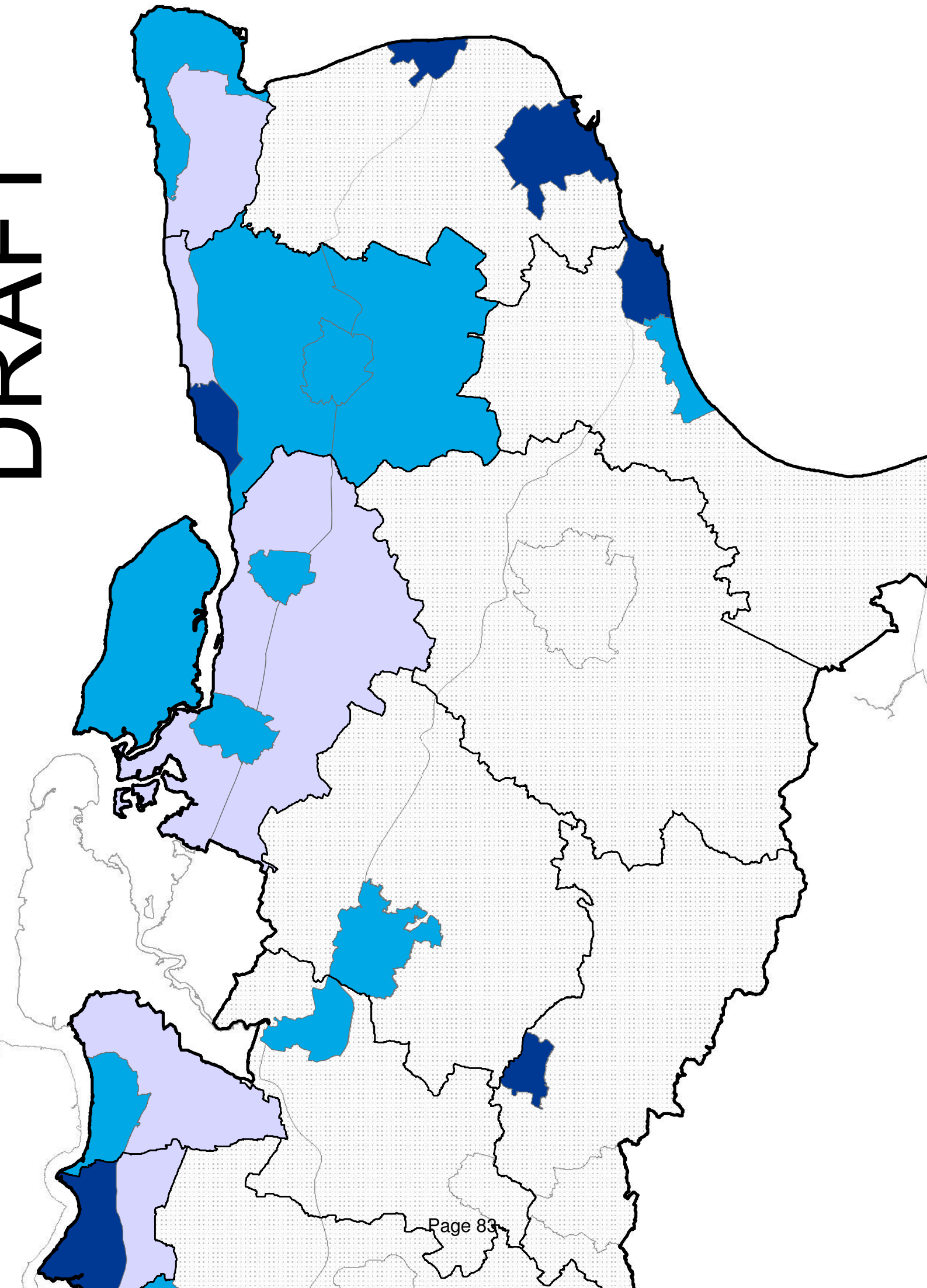
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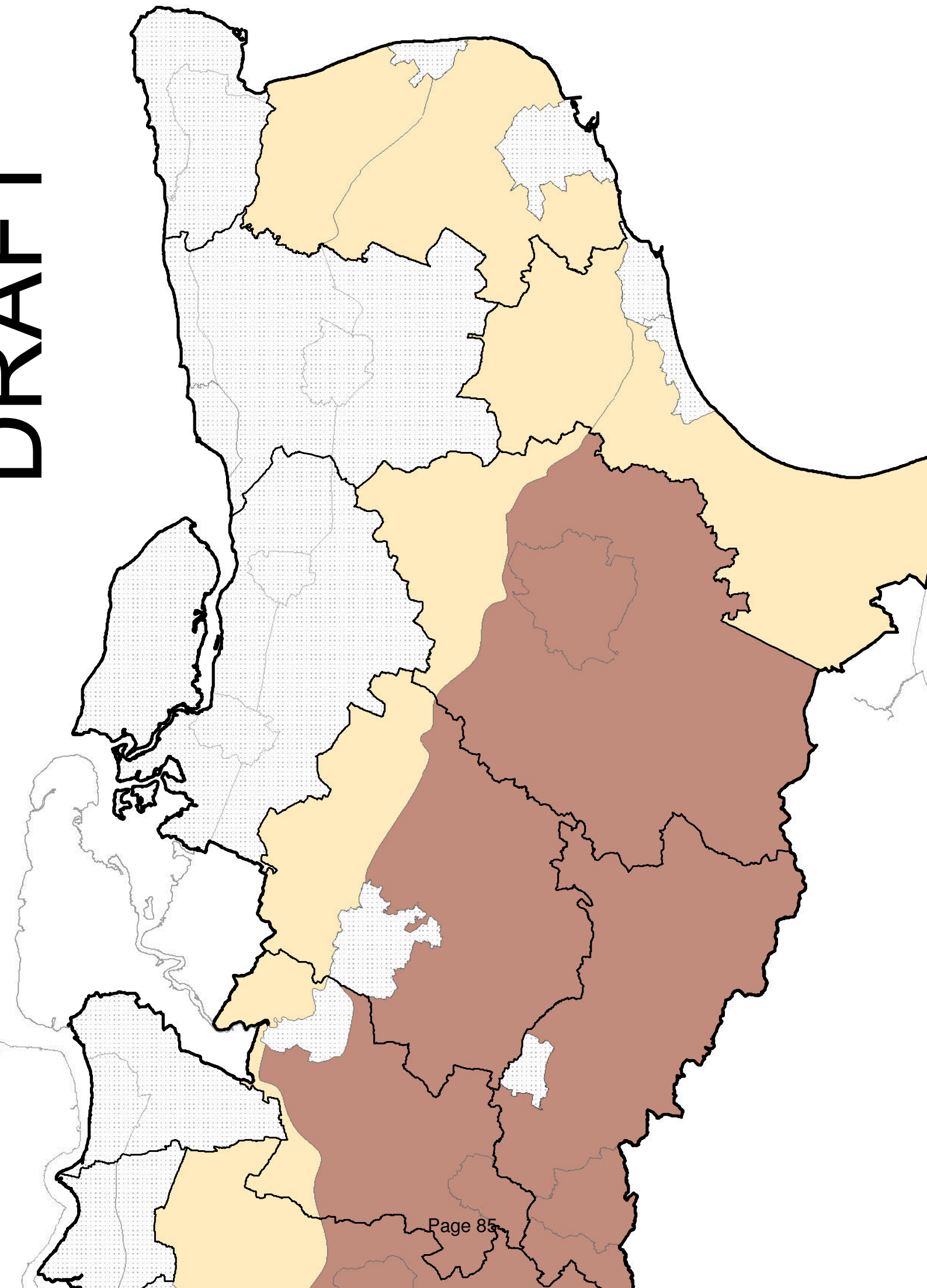
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ANNEX A: POWERS AND DUTIES FOR FLOOD RISK MANAGEMENT

The Flood and Water Management Act 2010 identifies certain organisations as risk management authorities which have flood risk management powers and duties. These may be new functions from the Act or longstanding functions from previous legislation. This Annex is a short summary of most of these powers and duties for the risk management authorities in Kent.

The risk management authorities in Kent are:

- Kent County Council
- District and Borough Councils
- Highways Agency
- Water Companies
- Environment Agency
- Internal Drainage Boards

All of these risk management authorities have the following powers and duties:

- Duty to be subject to scrutiny by the lead local flood authorities' democratic processes.
- Duty to co-operate with other risk management authorities in the exercise of their flood and coastal erosion risk management functions.
- Power to take on flood and coastal erosion functions from another risk management authority when agreed by both sides.
- Duty to act consistently with the National Flood and Coastal Erosion Risk Management Strategy and the Local Flood Risk Management Strategy.

The powers and duties of land owners are also included in this Annex. Land owners are not risk management authorities but they do have responsibilities for any watercourses on their land.

Powers and responsibilities of Kent County Council

Kent County Council has a range of flood risk management functions, including:

- Lead Local Flood Authority
- SuDS Approval Body
- Emergency Planning
- Highways Authority
- Strategic Planning Authority

Lead Local Flood Authority

The Flood and Water Management Act 2010 identified Kent County Council (KCC) as the Lead Local Flood Authority for the administrative county of Kent. This gives KCC a strategic role in overseeing the management of local flood risk. The role involves developing this Local Flood Risk Management Strategy and ensuring that all organisations involved in flood risk management are aware of their responsibilities. The other powers and responsibilities for KCC are given in Section 5 of this strategy.

Meeting the Flood Risk Regulations (2009)

This requires all Lead Local Flood Authorities to produce a Preliminary Flood Risk Assessment of local flooding for their administrative area every five years. KCC produced the first Preliminary Flood Risk Assessment for Kent in 2010, the next one will be completed in 2015.

Highways authority

KCC is the Highways Authority for all highways in Kent apart from those managed by the Highways Agency. Highways Authorities are risk management authorities in their own right according to the Flood and Water Management Act and must adhere to all the responsibilities of risk management authorities.

Under the Highways Act, the Highway Authority has a duty to maintain the highway, i.e. ensuring that highway drainage systems are clear and that blockages are removed, where reasonably practicable.

Highways Authorities currently have the power to adopt SuDS that serve the highway but are under no obligation to do so. Under the Flood and Water Management Act, Highways Authorities will be required to adopt any SuDS approved by the SAB which exist within the highway boundary.

The Highway Authority can deliver works that they consider necessary to protect the highway from flooding. These can be on the highway or on land which has been acquired by the highway authority.

Planning authority

KCC 's responsibilities as a Planning Authority are similar to district and borough Councils planning functions, albeit restricted to strategic county

matters, that is Minerals & Waste related developments and the determination of county council planning applications.

Designating structures and features

KCC has powers to designate structures and features if they are considered to affect flooding for which we have other powers and duties. These may include (but are not restricted to) things such as embankments and walls. The powers are designed to overcome the risk of a person damaging or removing a structure or feature that is on private land and which is relied on for flood or coastal erosion risk management.

Emergency planning

KCC Emergency Planning has responsibility for planning for and responding to flooding events.

Powers and duties of District and Borough Councils

District and borough councils have functions that are important for flood risk management. These include:

- Functions under the Flood and Water Management Act 2010
- Functions under the Land Drainage Act 1991
- Functions as a planning authority
- Functions for maintenance of public spaces
- Functions as a coastal erosion risk management authority
- Functions for emergency planning

Land drainage

District and borough councils have the powers under the Land Drainage Act 1991 to carry out flood risk management work provided that it is consistent with the local flood risk management strategy and is either to manage flood risk from an ordinary watercourse or to maintain or operate existing works to deal with flood risk from the sea. They also have a responsibility to advise the Lead Local Flood Authority on any land drainage consent applications in their areas.

In those districts where powers have been delegated from the Lead Local Flood Authority, district and borough councils have powers to serve notice requiring the undertaking of necessary works. Failure to comply with such a notice may result in the council undertaking the work and recharging the owner the costs of doing so. District and borough councils also have the responsibilities of a riparian owner for any land they own and as such should maintain all ordinary watercourses and assets in their ownership.

Planning authority

District and borough authorities planning functions affect Flood Risk Management in four key ways:

- Considering flooding concerns in developing local plans;
- Working with the SuDS Approval Body in ensuring that planning applications and drainage applications are complementary;
- Considering flood risk assessments submitted in support of applications on which the Environment Agency does not require to be consulted;
- Developing proactive strategies to mitigate and adapt to climate change which take full account of flood risk;

Maintenance of public spaces

District and borough councils maintain some parks and public spaces within their administrative area. Good maintenance practices can help to reduce flood risk. For new public spaces which are under the control of a

management company, these activities should be included in the management contract.

Coastal erosion risk management authority

Coastal erosion risk management authorities are identified by the Act as those districts or unitary councils that have a coastal erosion risk management function. The responsibilities of such authorities include:

- Working alongside the Environment Agency to develop and maintain coastal flood and erosion risk information in order to deliver effective coastal erosion risk management activities.
- Maintain a register of assets and other features that help to manage coastal risks.
- Implement, manage, maintain and monitor shoreline management plans to understand and manage coastal flood and erosion risks.
- Assist communities in planning for the future and taking appropriate steps to adapt to changing flood and coastal erosion risks.

Designating structures and features

District and borough authorities have powers to designate structures and features if they are considered to affect flooding for which we have other powers and duties. These may include (but are not restricted to) things such as embankments and walls. The powers are designed to overcome the risk of a person damaging or removing a structure or feature that is on private land and which is relied on for flood or coastal erosion risk management.

Emergency planning

District and borough councils are 'Category 1' responders to emergencies and members of the Kent Resilience Forum. This means that they have duties to:

- undertake risk assessments.
- manage business continuity.
- carry out emergency planning.
- share information and cooperate with other responders.
- warn and advise the public during times of emergency.

During and after an emergency, district and borough councils have the following roles and responsibilities:

- Coordinate emergency support within their own functions.
- Respond to requests for assistance from local flood risk
- Work with the other Category 1 and 2 responders as part of the multi-agency response to floods.
- Liaise with central government departments.
- Liaise with essential service providers.
- Open rest centres.

- Liaise with the relevant transport authorities
- Liaise with Kent County Council social care around mobilising trained emergency workers.
- Provide emergency assistance.
- Deal with environmental health issues, such as contamination and pollution.
- Coordinate the recovery process.
- Liaise with public health organisations
- Provide advice and management of public health.
- Provide support and advice to individuals.
- Assist with business continuity.

Powers and duties of Environment Agency

The Environment Agency has a national strategic role as well as local operational roles for flood risk management.

National strategic overview

The Environment Agency is required to publish a National Flood Risk Management Strategy which seeks to provide a clear national framework for all forms of flood and coastal erosion risk management. As with the local strategy, the National Strategy defines the roles and responsibilities of risk management authorities and sets objectives for flood risk management nationally.

The National Strategy identifies the following actions for the Environment Agency:

- Use strategic plans like the Catchment Flood Management Plans and the Shoreline Management Plans to set the direction for Flood Risk Management;
- Support the creation of Flood Risk Regulations by collating and reviewing the assessments, plans and maps that Lead Local Flood Authorities produce;
- Providing the data, information and tools to inform government policy and aid risk management authorities in delivering their responsibilities;
- Support collaboration, knowledge-building and sharing of good practice including provision of capacity-building schemes;
- Manage the Regional Flood and Coastal Committees and support their decisions in allocating funding for flood defence and flood resilience schemes;
- Report and monitor on flood and coastal erosion risk management;
- Provide grants to risk management authorities to support the implementation of their incidental flooding or environmental powers.

Managing flood risk from main rivers, reservoirs and the sea

The Environment Agency has permissive powers to carry out works on Main Rivers although the overall responsibility for maintenance of Main Rivers lies with the riparian owner.

The Environment Agency can bring forward flood defence schemes through the Regional Flood and Coastal Committee, and it will work with lead local flood authorities and local communities to shape schemes which respond to local priorities.

The Environment Agency has a regulatory role with regard to consenting works carried out by others in, under, over or within 9 metres of a main river or within 9 metres of a main river flood defence to ensure that those works do not adversely affect the operation of the drainage system or cause unnecessary environmental damage. It has also produced statutory byelaws which apply to operations in and around the main river.

The Environment Agency enforces the Reservoirs Act 1975 and is responsible as the Enforcement Authority in England and Wales for reservoirs that are greater than 10,000m³. Therefore, the Environment Agency is responsible for ensuring flood plans are produced for specified reservoirs and establishing and maintaining a register of reservoirs. Responsibility for carrying out work to manage reservoir safety lies with the reservoir owner/operator.

The Environment Agency is the lead organisation responsible for all flood and erosion risk management around the coastline of England, including tidal flood risk. The Environment Agency is developing a coastal management plan with partner organisations that works at local, regional and national level. The Environment Agency supports this by giving Grant-in-Aid funding for coastal defence schemes and overseeing the work carried out.

The Environment Agency also has a regulatory role with regard to consenting works carried out by others, on or in the immediate vicinity of coastal flood defences and has produced statutory byelaws specifying the range of operations that are precluded from occurring or that require the Environment Agency's formal consent.

Coastal erosion risk management authority

The Environment Agency is a coastal erosion risk management authority with the power to protect land against coastal erosion and to control third party activities on the coast. The Environment Agency liaises with district and borough authorities with coastal erosion risk management functions to deliver effective coastal erosion risk management.

Planning guidance

The Environment Agency in England is a statutory consultee for all planning applications in areas where there is a risk of flooding and for any site greater than 1 hectare in size. Local Planning Authorities must consult the Environment Agency before making any significant decisions on new development in flood risk areas. The Environment Agency will provide advice on Flood Risk and help the local planning authority to technically interpret developer's flood risk assessments that have been submitted as part of the evidence base in support of a planning application.

Emergency planning

The Environment Agency contributes to the development of local multi-agency flood plans, which have been developed by the Kent Resilience Forum to help the organisations involved in responding to a flood. They also work with the Met Office to provide forecasts of flooding from rivers and the sea in England as they have a duty to communicate flood warnings to the public, the media and to professional partner organisations. The Environment Agency and other asset operating authorities also have a role in proactive operational management of their assets and systems to reduce risk during a flood incident.

Powers and duties of Internal Drainage Boards

There are four independent Internal Drainage Boards (River Stour, Romney Marshes Area, Upper Medway and Lower Medway) and two Environment Agency administered Internal Drainage boards (East and West Gravesend) covering areas of special drainage need in Kent.

Internal Drainage Boards are the operating drainage authority within these drainage districts and undertake routine maintenance of ordinary watercourses, pumping stations, and other critical water control infrastructure under permissive powers, the overall responsibility for maintenance being with the riparian owner.

As risk management authorities, Internal Drainage Boards have the following powers and responsibilities for flood risk management within their administrative boundaries:

Development control

Internal Drainage Boards have consenting and enforcement powers for works carried out by others in or adjacent to ordinary watercourses within their operational district. This is done by reasonable application of the board's byelaws and the Land Drainage Act 1991, to ensure that any development has regard to secure the efficient working of the drainage system now and in the future and does not cause unnecessary adverse environmental impact as a consequence, including increased risk of flooding.

Planning guidance

Internal Drainage Boards have a responsibility to provide comments to local planning authorities on developments in their district when requested and to make recommendations on measures required to manage flood risk.

Statutory consultees to the SuDS Approval Body

Internal Drainage Boards are statutory consultees to the SAB in appropriate circumstances. The approving body must consult the relevant drainage board if it thinks that a proposed drainage system may directly or indirectly involve the discharge of water into an ordinary watercourse within that Internal Drainage District.

Designating structures and features

Internal Drainage Boards have powers to designate structures and features if they are considered to affect flooding for which we have other powers and duties. These may include (but are not restricted to) things such as embankments and walls. The powers are designed to overcome the risk of a person damaging or removing a structure or feature that is on private land and which is relied on for flood or coastal erosion risk management.

Emergency planning

Internal Drainage Boards contribute to the development of local multi-agency flood plans, which have been developed by the Kent Resilience Forum to help the organisations involved in responding to a flood.

Powers and duties of the Highways Agency

The Highways Agency is an Executive Agency of the Department for Transport and is responsible for operating, maintaining and improving the strategic road network in England on behalf of the Secretary of State for Transport. It acts as the Highways Authority for seven major highways in Kent: M25, M26, M20, M2, A2, A20 and A21.

As a Highways Authority, the Highways Agency has the same obligation to co-operate on flood risk issues as the other risk management authorities. It also has the following responsibilities under other legislation:

Highways maintenance

Under the Highways Act, the Highway Authority has a duty to maintain the highway, i.e. ensuring that highway drainage systems are clear and that blockages are removed, where reasonably practicable.

Delivery of works

The Highway Authority can deliver works that they consider necessary to protect the highway from flooding. These can be on the highway or on land which has been acquired by the highway authority.

Adoption of SuDS

The SuDS Approval Body has no obligation to adopt any part of a drainage system which is a publicly-maintained road. If it is on a Highways Agency road, the Highways Agency is expected to adopt and maintain the part of the drainage system on its property in accordance with the approved proposals and the National Standards for sustainable drainage.

Powers and duties of water companies

There are two types of water companies serving Kent. South East Water and Veolia Water (South East) are water supply companies only. Southern Water and Thames Water are provide both water supply and wastewater services, although not all there customers receive both services from them.

Water supply companies

Water supply companies are not risk management authorities and do not have the same obligations to co-operate and be subject to scrutiny by Lead Local Flood Authority committees. However, they will be required to provide information related to flood risk to Kent County Council and the Environment Agency.

They will also be affected by the change to the Reservoirs Act 1975 which has been amended to state that all undertakers with reservoirs over 10,000 m³ must register their reservoirs with the Environment Agency as they are subject to regulation. Reservoir undertakers must prepare a reservoir flood plan and all incidents at reservoirs must be reported.

Sewerage undertakers

Sewerage undertakers are considered a risk management authority and therefore have the following flood risk management functions:

- To respond to flooding incidents involving their assets;
- To maintain a register of properties at risk of flooding due to a hydraulic overload in the sewerage network (DG5 register);
- To undertake capacity improvements to alleviate sewer flooding problems on the DG5 register;
- To provide, maintain and operate systems of public sewers and works for the purpose of effectually draining their operative area;
- To co-operate with other relevant authorities in the exercise of their flood and coastal erosion risk management functions.
- To have a regard to national and local flood and coastal erosion risk management strategies.
- To act as a statutory consultee to the SAB when appropriate.

Powers and duties of land owners

It is the responsibility of land owners to look after their land in order to protect it from flooding. Therefore, land owners should seek to:

- Check whether their land is at risk from flooding;
- Ensure that preparations have been made for a flood event;
- Ensure that any property on their land is protected from flooding, either through permanent measures or temporary measures;
- Make sure that any property on their land is resilient to flooding so that if a flood event does occur the damage is minimised.

Information on whether land is at risk from coastal or fluvial flooding is provided by the Environment Agency, which can be found at www.environment-agency.gov.uk/flood. The Environment Agency can provide advice on what to do to prepare a household for emergencies. This includes how to make a flood plan which will help land owners decide what practical actions to take before and after a flood.

Kent County Council is gathering information on land at risk from local flooding sources. This information can be found within the Preliminary Flood Risk Assessment and relevant Surface Water Management Plans, which can be downloaded from www.kent.gov.uk/flooding.

The Environment Agency can also provide information and advice on property level flood defences (permanent or temporary) and how to make properties more resilient to flooding.

Riparian owners

Land owners who own land adjacent to a river, stream or channel are likely to be riparian owners with responsibilities under the Flood and Water Management Act 2010. If a property is bordered by a river or stream then it is likely that the land owner is also the riparian owner and therefore owns the land up to the centre of the watercourse. Land registry details should confirm this but it may need to be discussed with the local authority to ensure it matches their details.

Riparian owners have a right to protect property on their land from flooding and erosion. They also have responsibility for maintaining the bed and banks of the watercourse and ensuring there is no obstruction, diversion or pollution to the flow of the watercourse.

Reservoirs

Under the Flood and Water Management Act 2010 the Reservoirs Act 1975 has been updated to reflect a more risk-based approach to reservoir regulation. As a result, the capacity at which a reservoir will be regulated will be reduced from 25,000m³ to 10,000m³. This will require all undertakers with reservoirs over 10,000m³ to register their reservoirs with the Environment Agency. This ensures that only those reservoirs assessed as high risk are subject to full regulation requiring all incidents at reservoirs to be reported. Therefore, land owners with regulated reservoirs on their land will be

responsible for carrying out regular maintenance and works to manage reservoir safety.

ANNEX B: DEVELOPMENT OF LOCAL FLOOD POLICIES

Local flood policy areas

In order to provide a simple overview of the local flood risks in Kent and where resources will be focus through this local strategy the county has been divided in to local flood policy areas.

At this stage of undertaking our responsibilities for local flood risk management there is only a limited amount of data available to assess risk, therefore the county has been divided into areas where there is similar local flood potential, that is on simple geographical characteristics that indicate a similar risk of local flooding.

There are three different areas: the first group are urban areas, the large towns in Kent, where there is a concentration of impermeable surfaces. There is no specific size limit that has been applied to distinguish a large town from the rest, in some cases a known flood history has been used to demarcate a town where other towns of a similar size are not demarcated. As more flood history is gathered other towns may be demarcated separately.

The other two groups come from the rest of Kent, predominately the rural areas. The rural areas have been split into two groups: areas with a predominance of chalk soils and areas with other soil types. Chalk has a high permeability and consequently there is low runoff and few watercourses, therefore there is a low likelihood of flooding directly from rainfall, though there is an increased potential for groundwater flooding, as chalk formations are significant aquifers.

The non-chalk rural areas are not geographically homogenous, they vary from the sandstone of the High Weald to the clays of the Low Weald, the permeability and concentration of watercourses varies, and consequently they do not necessarily have similar flood potential. Each is assigned a policy according to the potential for local flooding within in.

These policy areas are not fixed, as new information about local flooding becomes available they will be reviewed and where appropriate they will be changed to allow the most appropriate policies to be applied.

The policy areas for Kent are shown in Figure 3.

Local flood policies

Each of the local flood risk policy areas has been given a local flood risk management policy. These fall into two categories: category A policies are for areas where the risks are known and the policy describes how these risks will be further investigated and/or managed; and category B policies are for areas where the flood risks are not known and describe the priority of gathering information in these areas.

The map in Figure X, published in the Preliminary Flood Risk Assessment, along with some flood history available in some areas, has been used to assess the local flood risk in Kent and the priority for undertaking Surface

Water Management Plans (SWMPs). Figure X shows the risk to each area from surface water according to the Flood Map for Surface Water, which is a national surface water map provided by the Environment Agency. The Preliminary Flood Risk Assessment found that this dataset is not reliable, as other local studies have shown it to be inaccurate in some areas. However, it also concluded that it is the only data available for a countywide assessment. There is no dataset for the county to give an indication of the risk of ordinary watercourse flooding or groundwater flooding risks.

This section describes how the available data has been used to determine the Local Flood Risk Management Policies.

Category A policies

Data gathered on local flood risks used to determine the category A policies has come from SWMPs that have been undertaken.

Areas considered to be at highest risk of local flooding are or have been the subject of in depth SWMPs, these are in areas where there is a clear history of local flooding. These areas are:

- Dover,
- Paddock Wood,
- Folkestone and Hythe,
- Whitstable, and
- Deal.

Other areas shown to be at risk of flooding by Figure X have been the subject of Stage 1 SWMPs. These plans are strategic in scope generally covering a larger area than the SWMPs above. They are intended to determine the scale of risk and whether further, more in depth plans are needed. This strategic scope is a reflection of the uncertainty in the data used in Figure X and the lack of available flood history for these areas.

These areas are:

- Kent Thameside (comprising Dartford, Gravesham and Sevenoaks north of the M2),
- Swale Borough,
- Maidstone and Malling,
- Canterbury City (the whole district), and
- Thanet District.

The category A policies are based on the findings of these SWMPs.

Category B policies

The prioritisation of areas to undertake further SWMPs is based on Figure X and the relative risk of local flooding in each policy area. The data Figure X is based upon does not include the permeability of the soil and the areas in this figure do not exactly match the policy areas. The category B policy has therefore been based on the soil type of the policy area, the risk of flooding

from Figure X and an assessment of the risks from other sources, in particular ordinary watercourses.

Summary of local flood risk policies

Table B1 summarises the local flood risk policies for each policy area and the evidence that has been used to determine that policy.

Table B1 Local flood risk policy evidence

Policy Area	Policy Category	Policy	Description	Reasons
Ashford Rural North	B	5	A predominantly rural area in the chalk of the north downs	A low susceptibility to local flooding due to the chalk
Ashford Rural South	B	4	A predominantly rural area that straddles the High Weald in the south and Low Weald in the centre-west	The clay soils in the High and Low Weald means there is a susceptibility to flooding in this area that requires further investigation
Ashford Town	B	4	An urban area with ageing drainage.	Urban areas are more susceptible to local flooding, further information should be gathered to assess the risks
Canterbury City	A	2	An urban area with ageing drainage.	The Canterbury Stage 1 SWMP has shown that there is a susceptibility to local flooding in Canterbury City, however there is no history of local flooding. A small scale investigation should be undertaken to model the potential for local flooding in the city centre
Canterbury Rural North	A	2	A predominantly rural area in the coastal deposits of north Kent	The Canterbury Stage 1 SWMP did not show any significant risks
Canterbury Rural South	A	2	A predominantly rural area in the chalk of the north downs	The Canterbury Stage 1 SWMP has highlighted some issues with ephemeral streams that need further investigation
Dartford Rural	A	3	A predominantly rural area in the chalk of the north downs	The Thameside Stage1 SWMP did not show any significant risks that require further investigation
Dartford Town	A	1	An urban area on the Thames Estuary	The Thameside Stage1 SWMP shows a number of issues that need further investigation
Deal and Walmer Towns	A	1	A predominantly urban area with ageing drainage infrastructure.	Deal SWMP currently ongoing

Policy Area	Policy Category	Policy	Description	Reasons
Dover Rural North	B	5	A predominantly rural area in the tidal deposits and sands of north Kent	The area does appear to have some susceptibility to local flooding, but the network of ordinary watercourses is well managed by the River Stour Internal Drainage Board. Therefore this area is not considered to be at risk of local flooding or require investigation
Dover Rural South	B	5	A predominantly rural area in the chalk of the north downs	A low susceptibility to local flooding due to the chalk
Dover Town	A	1	An urban area with a small river that has limited capacity	The Dover SWMP shows a number of issues that need further investigation
Faversham Town	A	2	An urban area on the chalk and sand deposits of north Kent with a tidal creek	The Swale Stage 1 SWMP shows some localised issues that need further investigation.
Folkestone Town	A	1	An urban area with a small river that has limited capacity	The Folkestone and Hythe SWMP has shown a number of issues that need further investigation.
Gravesend Town	A	2	An urban area on the Thames Estuary	The Thameside Stage 1 SWMP shows some localised issues that need further investigation.
Gravesham Rural	A	3	A predominantly rural area in the chalk of the north downs	The Thameside Stage1 SWMP did not show any significant risks that require further investigation
Herne Bay Town	A	3	A predominantly urban area with reasonable drainage capacity	The Canterbury Stage1 SWMP did not show any significant risks that require further investigation
Hythe Town	A	2	A predominantly urban area on the south coast of Kent	The Folkestone and Hythe SWMP has shown some issues that need further investigation.
Isle of Sheppey	A	2	An area with mixed urban and rural character	The Swale Stage 1 SWMP has shown a some issues that require further investigation
Maidstone Rural North	B	5	A predominantly rural area in the chalk of the north downs	A low susceptibility to local flooding due to the chalk
Maidstone Rural South	B	4	A predominantly rural area in clay of the Low Weald	The poor drainage of the Low Weald means there is a susceptibility to flooding in this area that requires further investigation

Policy Area	Policy Category	Policy	Description	Reasons
Maidstone Town	A	2	An urban area with a large river running through it	The Maidstone and Malling Stage 1 SWMP has shown some issues that need further investigation
Malling Town	A	2	A mixed urban and rural area	The Maidstone and Malling Stage 1 SWMP has shown some issues that need further investigation
Paddock Wood Town	A	1	A predominantly urban area with a culverted watercourse with little capacity	The Paddock Wood SWMP has shown a number of issues that need further investigation
Sevenoaks Rural North	B	5	A predominantly rural area in the chalk of the north downs	A low susceptibility to local flooding due to the chalk
Sevenoaks Rural South	B	4	A predominantly rural area that straddles the High Weald in the south and Low Weald in the centre	The clay soils in the High and Low Weald means there is a susceptibility to flooding in this area that requires further investigation
Sevenoaks Town	B	4	An urban area with ageing drainage.	Urban areas are more susceptible to local flooding, further information should be gathered to assess the risks
Shepway Rural North	B	5	A predominantly rural area in the chalk of the north downs	A low susceptibility to local flooding due to the chalk
Shepway Rural South	B	5	A predominantly rural area in the Romney Marshes	The area does appear to have some susceptibility to local flooding, but the network of ordinary watercourses is well managed by the Romney Marshes Area Internal Drainage Board. Therefore this area is not considered to be at risk of local flooding or require investigation
Sittingbourne Town	A	2	An urban area on the chalk and sand deposits of north Kent with a tidal creek	The Swale Stage 1 SWMP shows some localised issues that need further investigation.
Swale Rural North	A	3	A predominantly rural area on the chalk, sand and alluvium deposits of north Kent	The Swale Stage 1 SWMP did not show any significant risks

Policy Area	Policy Category	Policy	Description	Reasons
Swale Rural South	A	3	A predominantly rural area in the chalk of the north downs	The Swale Stage 1 SWMP did not show any significant risks
Swanley and Hextable Towns	A	2	An urban area on the chalk of the North Downs	The Thameside Stage 1 SWMP shows some localised issues that need further investigation.
Thanet Rural	A	3	An urban area on the chalk of the Thanet peninsula	The Thanet Stage 1 SWMP did not show any significant risks
Thanet Towns	A	2	An urban area on the Thanet coast	The Thanet Stage 1 SWMP shows some localised issues that need further investigation.
Tonbridge and Malling Rural North	B	5	A predominantly rural area in the chalk of the north downs	A low susceptibility to local flooding due to the chalk
Tonbridge and Malling Rural South	B	4	A predominantly rural area in clay of the Low Weald	The clay soils of the Low Weald means there is a susceptibility to flooding in this area that requires further investigation
Tonbridge Town	B	4	An urban area with ageing drainage.	Urban areas are more susceptible to local flooding, further information should be gathered to assess the risks
Tunbridge Wells Rural	B	4	A predominantly rural area that straddles the High Weald in the south and Low Weald in the north	The clay soils in the High and Low Weald means there is a susceptibility to flooding in this area that requires further investigation
Tunbridge Wells Town	B	4	An urban area with ageing drainage.	Urban areas are more susceptible to local flooding, further information should be gathered to assess the risks
Whitstable Town	A	1	An urban area with a culverted watercourse that has little capacity	The Canterbury Stage 1 SWMP has shown a number of issues that need further investigation

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Local Flood Risk Management Strategy for Kent: Consultation Questions

Section 1

Is it clear what the Local Strategy is for?
Is it clear who the Local Strategy is relevant to?
Do you think the definition of local flooding is clear?

Section 2

Is the overview of flood risks in Kent of an appropriate level of detail for the Local Strategy?
Should any other types of flooding be included?
Is it appropriate to reference the relevant flood risk management documents in this section, rather than provide an overview of the flood risk management strategy in Kent?
Should this section include any other flood risk management strategies?
Is the description of future changes appropriate to the Local Strategy?
Do you think anything else should be included in this section?

Section 3

Are all the relevant flood risk management authorities included in this section?
Is the description of their roles accurate?
Are all the relevant flood risk management partnerships included?
Is the description of their roles accurate?
Should anything else be included in this section?

Section 4

Does this section include the relevant background documents?
Is it clear how these relate to the delivery of the Local Strategy?
Are the objectives clear?
Do you agree with the objectives?
Should any other objectives be included?

Section 5

Is it clear how KCC will exercise its powers and duties under the Flood and Water Management Act and implement the Local Strategy?
Do you agree with how we are proposing to deliver the strategic overview role?
Do you agree with the definition of significant in Section 5.1?
Do you think that the Local Flood Risk Policy areas in Section 5.7 are appropriate? Should any other be added? If yes please provide evidence.
Do you agree with the Local Flood Risk Policies in Section 5.7?
Do you agree with the policies that have been allocated to the policy areas? If not please explain why with supporting evidence.

Do you agree with how we are proposing to prioritise where we will invest to deliver flood risk management schemes? If not please provide an alternative why of prioritising.

Should any other functions be included in this section?

Section 6

Is it clear how we are asking all risk management authorities to work together to deliver the Local Strategy?

Do you agree with how risk management authorities are being asked to contribute to the delivery of the Local Strategy?

Should any other functions exercised by risk management authorities be included in this section?

Section 7

Have we included all the important potential sources of funding for flood defences?

Is it clear how flood defence projects progress from identification to delivery?

Section 8

Have we included all other aspects that should be included in developing a flood risk management scheme?

Is it clear how these other aspects should be considered in developing flood risk management schemes?

Section 9

Is it clear what the three different tables refer to?

Have we included everything that we can to help deliver the local strategy?

Is it clear who will do what to deliver the Local Strategy?

Overview

Are there any other areas that the Local Strategy should cover?

Is there any more information that the Local Strategy should provide?

By: Max Tant, Flood Risk Management Officer
To: Floods and Water Resources Committee
Subject: Kent Flood Update
Classification: Unrestricted

The Environment Agency has recently reported an increased flood risk this autumn and winter due to the unusually wet summer. The wettest April to June on record, and further wet weather in July, September and October, has left river levels full, the ground saturated and ground waters in some areas exceptionally high in England. This means that there is less capacity than is normal for this time of year to receive rainfall in the ground and rivers, which could lead to flooding as they can be overwhelmed more easily.

It is important to note that this is a warning of increased risk, rather than a flood warning, and the risk is relative to this time of year. Typically in the autumn the soil would not be as saturated or river levels as high as they are now. For a flood to occur there must also be heavy rainfall, these antecedent conditions mean that storms could cause more flooding than would be expected at this time of year, but not that flooding is inevitable.

The Environment Agency's report does not mention Kent or the south east as a specific risk area. The south and east are mentioned as at risk due to high groundwater levels and the southwest, north and west as at risk from high river levels. However, the saturated soils across the country means that surface water flooding is an increased risk everywhere.

The Met Office and Environment Agency continue to keep emergency responders across the county informed of severe weather and flood warnings.

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