

KENT FLOOD RISK MANAGEMENT COMMITTEE

Monday, 5th March, 2018

2.00 pm

Council Chamber, Sessions House, County Hall,
Maidstone





AGENDA

KENT FLOOD RISK MANAGEMENT COMMITTEE

Monday, 5th March, 2018, at 2.00 pm

Ask for: **Andrew Tait**

Council Chamber, Sessions House, County Hall, Maidstone Telephone **03000 416749**

Tea/Coffee will be available 15 before the start of the meeting in the meeting room

Membership (8)

Conservative (6): Mr A R Hills (Chairman), Mrs C Bell, Mr A H T Bowles, Mr K Pugh and Vacancy

Liberal Democrat (1) Mr I S Chittenden

UNRESTRICTED ITEMS

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

Webcasting Notice

Please note: this meeting may be filmed for live or subsequent broadcast via the Council's internet site – at the start of the meeting the Chairman will confirm if all or part of the meeting is being filmed.

By entering the meeting room you are consenting to being filmed and to the possible use of those images and sound recordings for webcasting and/or training purposes. If you do not wish to have your image captured then you should make the Clerk of the meeting aware.

1. Substitutes
2. Declarations of Members' Interest relating to items on today's agenda
3. Minutes of the meeting on 13 November 2017 (Pages 5 - 12)

4. An Overview of River Basin Management Plans and related issues covering Kent: Presentation by Environment Agency Groundwater and Hydrology Team (Pages 13 - 14)
5. South East Water's Water Resources Management Plan and Drought Plan - Presentation by Lee Dance, Head of Water Resources South East Water (Pages 15 - 16)
6. Flood and Water Management Team activities and projects to deliver improved water management (Pages 17 - 20)
7. Environment Agency and Met Office Alerts and Warnings and KCC Flood Response activity since the last meeting (Pages 21 - 24)
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)

Benjamin Watts
General Counsel
03000 416814

Friday, 23 February 2018

This page is intentionally left blank

KENT COUNTY COUNCIL

KENT FLOOD RISK MANAGEMENT COMMITTEE

MINUTES of a meeting of the Kent Flood Risk Management Committee held in the Council Chamber, Sessions House, County Hall, Maidstone on Monday, 13 November 2017.

PRESENT: Mr A R Hills (Chairman), Mr A H T Bowles, Mr I S Chittenden, Mrs S Prendergast (Substitute for Mrs C Bell), Mr H Rayner (Substitute for Mr K Pugh), Cllr Ms R Doyle (Canterbury CC), Mr J Scholey (Sevenoaks DC), Mr L Laws, Mr G Lewin (Swale BC), Mr H Rogers (Tonbridge and Malling BC), Ms G Brown (KALC), Mr D Henshaw (KALC), Mr P Flaherty and Mr M Dobson (Upper Medway IDB)

ALSO PRESENT: Mr M D Payne

IN ATTENDANCE: Mr M Tant (Flood Risk Manager), Mr T Harwood (Principal Resilience Officer) and Mr A Tait (Democratic Services Officer)

UNRESTRICTED ITEMS

15. Mr Ken Gregory
(Item)

The Committee observed a moment's silence in memory of Mr Ken Gregory who had passed away since the previous meeting.

16. Minutes of the meeting on 17 July 2017
(Item 3)

(1) Mr Scholey informed the Committee in respect of Minute 11 (8) that Southern Water had agreed to accept responsibility for the SuDS Scheme referred to.

(2) RESOLVED that subject to an amendment to Minute 11 (7) setting out that the Gold Commander was the Chair of the SCG, the Minutes of the meeting held on 17 July 2017 are correctly recorded and that they be signed by the Chairman.

17. Medway Estuary and Swale Shoreline Management Strategy - Presentation by John Byne, Environment Agency
(Item 4)

(1) John Byne from the Environment Agency gave a presentation. The accompanying slides are contained within the electronic agenda papers on the KCC website.

(2) Mr Byne said that the Environment Agency was working on the Medway Estuary and Swale Flood and Coastal Risk Strategy in partnership with their consultants, Mott MacDonald.

(3) Mr Byne described the area covered by the Strategy. It started at Stoke by the Kingsnorth Power Station, went down the Medway to Allington, extending as far east as Graveney Marshes (Cleve Hill). It also covered the Isle of Sheppey.

(4) Mr Byne then described the three tiers of coastal defence planning. The EA had published the Shoreline Management Plans by 2010 and was now working on the strategies which would consider the Plans in greater detail, consider whether their policies were still relevant and establish policies for smaller frontages. The strategies were considering costings for high level options rather than undertaking any scheme design.

(5) Mr Byne went on to say that Phase 3 of the Strategy (short list to preferred options) had now been signed off by the Project Board during the summer and Phase 4 had now begun. The Consultants were now completing the reports in preparation for consultation which was due to commence towards the end of winter 2018.

NB: The consultation is now live. The Link is: <https://consult.environment-agency.gov.uk/ksles/medway-estuary-and-swale-strategy/>

(6) Mr Byne turned to the development of the preferred options. It had taken two years to develop the criteria which would enable the Project to consider the best way to manage the various frontages through the coastal area. The main priority was to reduce the risk and the threat of coastal flooding and coastal erosion to people and their property. The second criterion was to deliver the greatest environmental, social and economic benefit. There were a large number of designated areas in the Medway/Swale area which needed to be preserved and protected, including their natural habitats. The EA had worked closely with Natural England on their *Coastal Footpath* project. The third criterion of working with natural processes aimed to ensure that work on coastal flood protection dovetailed with the protection of natural habitats. The “adapting to future risks” criterion took account of the Strategy’s hundred year duration. Adaption to phenomena such Climate Change and other factors was therefore crucial.

(7) The process of identifying options had taken the form of identifying a longlist of options through workshops and other forms of consultation, screening them down in order to create a shortlist of realistic and sensible options for evaluation in greater detail. These had been evaluated through a number of investigations and reports which paid particular regard to environmental and social aspects as well as costs and benefits. This process had led to the selection of preferred options.

(8) Mr Byne then showed the Committee how the area covered by the Strategy had itself been broken down into 11 Benefit Areas. The needs of each of these had been considered in great detail.

(9) The preferred options took three forms for consideration in each of the Benefit Areas. The first was to “hold the line” by maintain or improving the existing defences. The second option was “no active intervention” which consisted of ceasing to maintain defences, allowing them to return to their natural state. This was suggested in some of the more rural areas, although this approach would not prevent landowners from establishing their own defences. The third option was “managed realignment” involving establishing defences inland from where they currently stood. There were 6 “managed realignments” across the Strategy area. These could be set at natural high ground (reducing maintenance liability). This would also enable the creation of new habitat areas where to compensate for those that would be lost due to climate change during the 100 year period, particularly in respect of the salt marshes.

(10) Mr Byne next set out the project tasks that were currently being undertaken. Several Stakeholder Groups had been set up over the previous two or three years, involving the Parish Councils as well as the other Local Authorities, landowners and businesses. These Groups had supported the development of the preferred options. A Stakeholder Group meeting had also been held in September on the identified preferred options. Following that meeting all the affected landowners (some 180 in total) had been written to in order to invite them to attend drop-in meetings in October to discuss the Strategy. The Team had also needed to carry out a great deal of statutory environmental reporting. The Strategic Environmental Assessment and Habitat Regulations Assessment had both been completed and been published for consultation. The public consultation had gone live on 6 November 2017, consisting of on-line questionnaires and three public drop-in events at Eastchurch, Gillingham and Halling. Meanwhile, the necessary draft appraisal work was being undertaken, including the draft Implementation Plan.

(11) Mr Byne concluded his presentation by showing the Committee a map (Slide 12) which broke down the Strategy area into coloured segments and identified the preferred option for each of their frontages.

(12) Mr Byne replied to a question from Mrs Doyle by confirming that high level costings had been calculated for each of the proposed schemes. These would be applied over time as individual schemes were introduced.

(13) Mr Bowles said that Swale BC had just received an application for Europe’s largest solar park (890 acres) at Nagden and Cleve Marshes. He asked how much consultation there had been between the developers and the Project Team and whether the current designation for the area between Faversham Creek and Seasalter was likely to be its final one.

(14) Mr Byne confirmed that discussions had been held with the developers of the solar park. These had taken place during a landowner’s meeting a year earlier. More detailed discussions had taken place during the summer with the aim of co-ordinating timescales. Consideration had also been given to costings. The site was intended to have a 40 year life. For the first 25 years the area would be maintained as it was. He was reasonably confident that the developers and the Strategy would work successfully together. It would be theoretically for the

Environment Agency to leave responsibility for the flood defences entirely to the developers, although it was unlikely that this would happen. The most likely approach would be based on partnership funding with the developers acting as major contributors. The Strategy was based on current Government funding rules. The partnership funding rules that was being applied to all schemes would also apply in relation to this project using the benefit cost ratios and funding scores that applied to all of the frontages.

(15) Mr Payne asked whether Mr Byne could confirm that there were no plans to “advance the line” in the area covered by the Strategy. Mr Byne confirmed that this was the case.

(16) Mr Tant agreed to pass on the address of the consultation website to Members of the Committee. The costings that accompanied the proposal were for the most part more beneficial than expensive. He added that the Government’s contribution to the cost of the implementation of the scheme would be low in most areas. He asked what strategy was being used to secure partnership funding. Mr Byne replied that the Project Team had amassed considerable data on existing beneficiaries who would be identified in the Implementation Plan. The primary driver in the development of the Strategy had been flood risk management considerations as opposed to costings. Nevertheless, high level costs had needed to be included.

(17) Mr Byne explained that “high level cost” meant the generic overall figure that the work was expected to cost in total based on unit costs. This figure had been used to inform the Project Team whether the benefits would justify the cost. This figure would not include detailed considerations such as design or the materials to be used. There would be no levy on landowners, but the Government would only pay for the benefits it identified through its funding formula. The rest of the cost would need to be borne by the local beneficiaries, who would be consulted at a later stage once the details had been fully worked out.

(18) The Chairman asked how the flood defence requirements were updated to take account of the most recent climate change projections and data. He also asked whether there were any implications for wildlife identified by Natural England arising out of the requirement to secure partnership funding from landowners.

(19) Mr Byne replied that the Strategy would be reviewed approximately every ten years, taking account of climate change developments. The Strategy itself had also been prepared in the light of the most recent data gathered in the Thames Estuary area over the previous 10 to 15 years, including the effect of the differences between that data and previous forecasts. He then confirmed that discussions had been held with landowners in areas such as the Medway Marshes who were more than happy to undertake their own maintenance. Natural England had been involved as part of the Project Team, and they would still need to be consulted if people were undertaking works in designated areas to ensure that the work proposed was not harmful to wildlife. There would also be other controls such as the need to obtain a Flood Risk Activity Permit.

(20) Mr Laws asked what approach would be adopted in respect of individual landowners who could disrupt an entire flood defence scheme by refusing to participate. Mr Byne agreed that this was definite risk. The NFU was participating actively in the Stakeholder meetings and had also assisted with liaison with individual landowners. He referred to landowner partnerships in East Anglia which had been facilitated by the NFU with input from the EA. This approach was a model which could be applied in the Medway Estuary and Swale.

(21) Mr Harwood said that local multi-agency flood planning acknowledged the inter-relationship between fluvial flooding and tidal flood risk, as well as local or surface water impacts. This was particularly important in some of the project areas such as the Isle of Sheppey where tide-locking could be an issue. KCC's professional officers would be looking very closely at the Environment Agency's proposals and plans to see whether there was an opportunity to achieve holistic benefits both for areas subject to tidal flood risk and adjacent inland areas.

(22) RESOLVED that Mr Byne be thanked for his presentation and that its content be noted for assurance.

18. Recent Kent Resilience Forum activities - Presentation by Stephen Scully (Senior Resilience Officer at Kent Resilience Team)
(Item 5)

(1) Stephen Scully (KRF Senior Resilience Officer) asked the Committee to note that Flooding had not been the top priority for the multi-agency emergency planning community since the previous meeting of the Committee. There had necessarily been a strong concentration on security matters as well as the Grenfell Tower fire response which had involved a great deal of mutual aid support from emergency planners in Kent.

(2) Flooding had, however, still been the focus of much local action. Work during the summer had included a flood risk assessment review on all of the county's multi-agency flood plans, which had resulted in them being updated. KRF had also re-invigorated its humanitarian response, which was a crucial part of its work on flood response. Work on winter preparedness was also on-going. Press Officers continued to refine protocols for warning and informing and a winter preparedness workshop had also been held for resilience partners. Advice to businesses was continuing, led by KCC and supported by all the Borough and District Councils. Further work was taking place on long term risk assessments in relation to climate change.

(3) Mr Scully then set out the key activities, which included the attendance by the Duty Emergency Planning Officer at the winter preparedness workshop. The workshop had focused on a number of incident scenarios, enabling partners to learn from one another and share good practice.

(4) The Flood Warden workshop had demonstrated the tremendous effort that had taken place since the storms of winter 2013/14. There were now some 200 flood wardens in Kent. They had asked for a workshop rather than a seminar to

facilitate more activity-based training. The feedback from this event had been overwhelmingly positive.

(5) Mr Scully then said that Met Office training for resilience partners had been delivered at the Kent Police Training School. It had been mainly aimed at statutory organisations but had also been made available to the voluntary sector. This had been very successful and it was planned to hold another one-day session in 2018.

(6) The East Coast Flood Group had studied the outcome of *Exercise Surge*, producing some very strong forward-thinking recommendations. The next meeting would involve Mr Scully doing a joint presentation with Lincolnshire CC on caravan parks in flood risk areas along the coast.

(7) Mr Scully said that the KRF Seminar had concentrated on security, but had nevertheless featured a KRF stand addressing training and exercising, winter preparedness, and the *Kent Prepared* website. All the latest information could be found on this website under the “Flood Wardens” heading.

(8) It had been intended that a Recovery exercise would take place earlier in the year. It had been re-scheduled for 27 November due to the need to respond to the Grenfell Tower tragedy. Some of the lessons from *Exercise Surge* in terms of the consequences of a mass full-scale evacuation recovery operation were still being translated into practice and this process was ongoing.

(9) Mr Scully concluded his presentation by referring to two events. These were the surface water flooding in Tunbridge Wells, which had demonstrated the difficulty of predicting and dealing with events of this nature, and the East Coast flood on 4-5 October, where the response co-ordination had been very impressive. He said that Kent had never worked better in partnership. This had included very early notification from the EA on the Monday morning of the event being likely to happen at the weekend. Everything had been in readiness for flood response work, although the trigger point had not quite been reached.

(10) The Committee agreed to a suggestion from Mr Flaherty that a motion of thanks be given to Stephen Scully for the passion and energy that he had brought to the successful recruitment of Flood Wardens in Kent.

(11) In heartily agreeing with Mr Flaherty’s suggestion, the Chairman said that there was still a need to recruit more Flood Wardens in parts of the County, and that one untapped source might be young people in schools, Cadet Forces or the Scouts.

(12) Mr Scully thanked the Committee and replied to the Chairman’s point by saying that the recruitment strategy had thus far focussed on county-wide large-scale sessions. This year, there would be 10 sessions in specific catchment areas. Although many of the flood wardens were not as young as they had formerly been, they were all highly committed and available. He agreed that school cadets and scouts and others should be brought in, not necessarily as individual Flood Wardens but as groups as part of the wider emergency planning

community within the parishes. This meant that they would be able to contribute in any emergency (for example as Snow Wardens).

(13) Mrs Brown said that there were 35 Flood Wardens and Co-ordinators in Yalding. It was, however, the Scout Group which undertook vital tasks such as relaying messages or bringing refreshments to the wardens. She underlined the importance of communication, not just during a flooding event, but at all times. It was especially important to keep in touch with the Flood Wardens during quiet periods by, for example, organising social gatherings.

(14) Mr Harwood said that the KRF's Pan-Kent Flood Group had identified that there was some patchiness in provision of Flood Wardens across the county, with urban areas particularly deficient. A Task and Finish Group had been established to specifically examine this question. Specific approaches were being developed in those parts of Kent where there was under-provision. An example of this was that a training event was scheduled to take place in New Romney on 30 November.

(15) RESOLVED that:-

- (a) Mr Stephen Scully be thanked for his presentation; and
- (b) the Committee's appreciation and gratitude be recorded for the passion and energy that Mr Scully has brought to the successful recruitment of Flood Wardens in Kent.

19. Environment Agency and Met Office Alerts and Warnings and KCC Flood Response activity since the last meeting
(Item 6)

(1) Mr Harwood informed the Committee that there had been 5 additional flood alerts issued by the EA since the publication of the agenda papers. The figures in paragraph 2.5 of the report should therefore read: "21 flood alerts (2 fluvial and 19 coastal." There had also been an additional 6th occasion when the Thames Barrier had been closed (paragraph 2.7).

(2) Mr Harwood then said that the key issue was that there had been very little rain since the last meeting of the Committee. There had been a very dry winter in autumn and winter of 2015/16. The last 12 months had seen less than half the long term average rainfall total.

(3) The key period of activity had been around the autumn equinox where there had been high spring tides and storm activity. There had been concerns over potential surge situations, but these had not materialised in any significant way except for some minor coastal flooding in the Faversham Creek area and parts of the coastal Isle of Sheppey.

(4) Mr Lewin asked what the tests and operational reasons had been for the 6 closures of the Thames Barrier. Mr Harwood replied that these had mainly been operational, occurring during the 4-6 October period and on the 21st in response

to the EA Flood Alerts issued at those times. In consequence, there had not actually been any need for testing.

(5) Mr Lewin then asked what consideration the EA had given to the downstream effect of the closure of the Thames Barrier and its effect on the Shoreline Management Plan, and whether there was any correlation that needed to be taken into account.

(6) Mr Byne replied that there was no substantial correlation to be concerned with as the closures did not affect the water levels they the EA was concerned with in the Medway and Swale Estuary area. There had been a bounce-back effect which had caused minor flooding but this did not extend as far east as the area covered by the Strategy. The area affected was the the Thames Estuary, which was considered as part of the Thames Estuary 2100 Plan.

(7) Mrs Prendergast referred to paragraph 2.3 and asked what conditions were imposed in respect of the smaller reservoirs before water companies were permitted to abstract and fill from ordinary watercourses.

(8) Mr Tant replied that every reservoir abstraction licence had conditions that were mostly applied in the same way.

(9) Mrs Prendergast then said that she represented a constituency where there were a number of small agricultural reservoirs. In one of them, the farmer was able to control the flow in and out of the local stream, which had led to complaints from farmers on lower ground that they had no access to water. She asked what controls were in place and how they were monitored.

(10) Mr Tant said that It was the EA which regulated reservoirs. The questions raised by Mrs Prendergast would be addressed at the next meeting of the Committee.

(11) RESOLVED that the current water resources situation be noted together with the level of alerts and warnings received since the last meeting of the Committee.

20. Dates of meetings in 2018
(Item 7)

The Committee agreed the following dates for meetings in 2018:-

Monday, 5 March 2018

Monday, 16 July 2018

Monday, 12 November 2018.

To: Kent Flood Risk Management Committee

From: Alan Turner, Water Resources Manager, Kent County Council

Subject: An overview of River Basin Management Plans and related issues covering Kent

Classification: Unrestricted

- 1 For the high-level management of the water environment, England and Wales are divided into 11 River Basin Districts (RBDs) each of which covers a major river catchment or a characteristic group of smaller catchments. These include rivers, lakes, groundwater, estuarine and coastal water bodies. The Environment Agency manages the 7 RBDs that cover England. Kent is covered by two RBDs: The catchments of the River Medway and the River Darent form part of the Thames RBD and the rest of the County is covered by the South East RBD. A map of the RBDs can be found here: <https://www.gov.uk/government/publications/river-basin-district-map>
- 2 For each RBD there is a River Basin Management Plan (RBMP) that sets out the:
 - current state of the water environment
 - pressures affecting the water environment
 - environmental objectives for protecting and improving the waters
 - programme of measures, actions needed to achieve the objectives

The RBMPs cover a six-year planning period, they were last updated in 2015 and include a summary of progress since the 2009 plan. The RBMPs for Thames and South East RBDs can be found here: <https://www.gov.uk/government/collections/river-basin-management-plans-2015>

- 3 Kent's main river catchments, the Darent, Medway and Stour, are made up of a total of 88 'water bodies'. Only 7% of these are classified as having 'Good' or 'High' ecological status, whilst 25% are classified as 'Poor' or 'Bad'. The main reasons for water bodies not achieving Good status are categorised as:
 - Water Industry
 - Agriculture and Land Management
 - Urban and Transport

The complete data can be viewed here: <http://environment.data.gov.uk/catchment-planning/>

- 4 A speaker from the EA Groundwater and Hydrology Team will present to the Committee on the RBMPs for Kent and related issues.

Contact Officer: Alan Turner, Water Resources Manager, 03000 417187
alan.turner@kent.gov.uk

This page is intentionally left blank

To: Kent Flood Risk Management Committee

From: Alan Turner, Water Resources Manager, Kent County Council

Subject: South East Water's Water Resources Management Plan and Drought Plan

Classification: Unrestricted

- 1 There are five water supply companies that serve Kent. South East Water covers approximately 65 percent of the County as well as most of East Sussex and parts of Surrey, Hampshire and Berkshire. It serves a total of 2.2 million customers.
- 2 Water supply companies in England and Wales produce a new, long-term Water Resources Management Plan (WRMP) every 5 years. South East Water's current WRMP covers the period from 2015 to 2040 and can be viewed here: <https://corporate.southeastwater.co.uk/about-us/our-plans/water-resources-management-plan-2014>
- 3 WRMPs consider the future demand and supply of water and identify the new investments that will be needed to ensure that demand and supply remain in balance with an allowance for risks (referred to as 'headroom'). Rainfall obviously varies considerably from year to year and the WRMPs accommodate this by planning for a dry year that would be expected to occur approximately once in every ten years. More extreme dry years are planned for in the companies' Drought Plans (DPs). South East Water recently consulted on a draft of their new Drought Plan for the period 2018 to 2023 and has also issued a Statement of Response. These documents are available here: <https://corporate.southeastwater.co.uk/news-info/publications/drought-plans> A copy of KCC's full comments on this Draft Drought Plan are available on request.
- 4 South East Water has prepared a new Draft WRMP which has recently been approved by Defra. The company will launch their public consultation surrounding their latest plan shortly.
- 5 Lee Dance, Head of Water Resources for South East Water, will give the Committee a presentation of the company's Draft WRMP and Drought Plan.

Contact Officer: Alan Turner, Water Resources Manager, 03000 417187
alan.turner@kent.gov.uk

This page is intentionally left blank

To: Kent Flood Risk Management Committee

From: Alan Turner, Water Resources Manager, Kent County Council

Subject: Flood and Water Management (FWM) Team activities and projects to deliver improved water management

Classification: Unrestricted

Introduction

- 1 This paper outlines some of the activities that KCC undertakes to promote sustainable water use in the county and support the water companies and other key partners to work effectively together.

The Water for Sustainable Growth (WfSG) Study

- 2 The Kent and Medway Growth and Infrastructure Framework (GIF) sets out the scale of development growth up to 2031, the demographic implications of this growth and the wide range of infrastructure needed to support it; from schools and hospitals to highways and utilities, including water utilities. This demographic information is provided to the water supply and wastewater companies to ensure a consistent basis for the assessment of infrastructure requirements and costs across the Kent and Medway area.
- 3 Kent has five companies that provide water supply services and two that provide wastewater services. Their areas of operation do not align with the local government administrative boundaries and, added to this, their planning cycles does not align with the timing of the GIF. Furthermore, there is currently no long-term planning document covering wastewater management. This makes it difficult for local authorities to interpret the water company plans and to ascertain whether sufficient water management measures will be in place to accommodate local growth and development. It also makes it difficult to provide clarity over the infrastructure requirements and costs that need to form part of the GIF.
- 4 To help overcome this, KCC commissioned the Water for Sustainable Growth (WfSG) study, in partnership with water companies, the Environment Agency and planning authorities in Kent. The study was completed in October 2017 (A copy of the report is available on request).
- 5 The WfSG study addressed two key issues:
 - whether wastewater treatment works could accommodate the increased wastewater load from the planned housing growth and whether the discharges (effluent) from these works could be still be treated to a high enough quality to help deliver the environmental water quality objectives of the receiving water bodies, set by the River Basin Management Plans. And,
 - the water demand implications of new growth, beyond what was considered in the 2014 Water Resources Management Plans (WRMPs), and the

feasibility of balancing additional water demand by improving water use efficiency within existing homes.

6 The conclusions of the WfSG study were that:

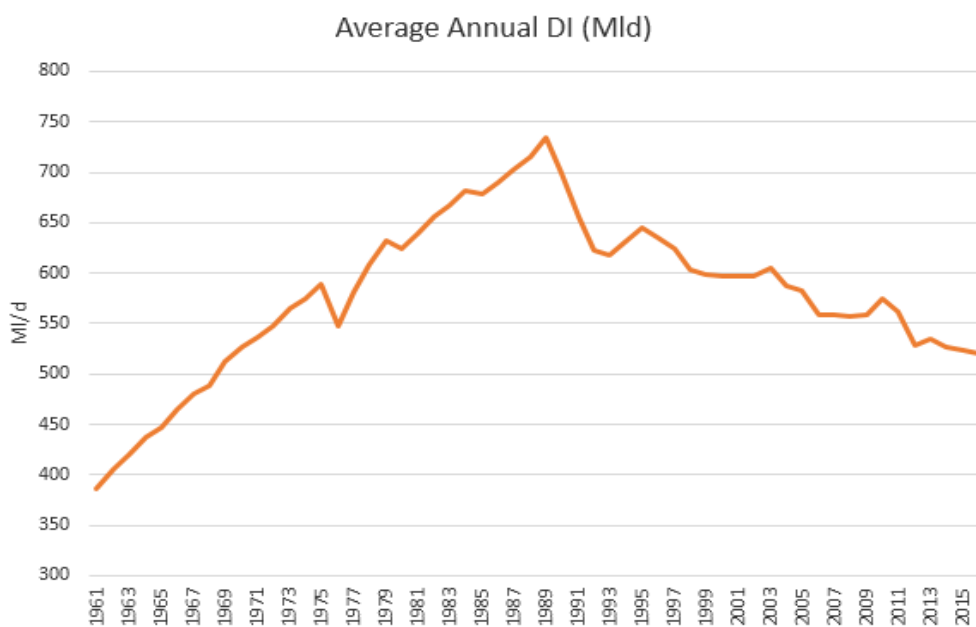
- There are number of inland wastewater treatment works where it is expected that the additional wastewater flows arising from growth will mean that the effluent quality would have to improve to avoid any additional impact on the environment. At some locations within the River Medway catchment this will require effluent quality standards that are at the limits of what can be achieved with current treatment technology. Fortunately, water treatment technologies are improving steadily, and it appears that this may be sufficient to allow the relevant deadlines to be met for achieving the River Basin Management Plan objectives. Elsewhere, there are no potential, fundamental constraints and the problem is one of timely investment and provision of infrastructure.
- Across most of Kent, the level of housing growth that was accommodated within the current (2015) WRMPs falls significantly short of the growth targets that local planning authorities now have. KCC will use the information provided by this study to ensure that new growth targets are fully accounted for in new WRMPs for the period from 2020.
- High levels of water efficiency in new homes combined with retrofitting water efficient devices into 5% of existing homes could make a useful contribution to balancing future supply and demand, especially for Medway, Ashford, Canterbury and Thanet. KCC is encouraging Kent planning authorities to adopt the higher 'optional' level of water efficiency provided through the Building Regulations and is working with water companies to provide evidence to support this. Experience shows that public sector efforts to retrofit water efficiency into existing homes can work best if it is combined with energy efficiency as part of a high-profile programme. National home energy efficiency programmes have changed in recent years and clarity on future programmes will be needed before further public sector work can be developed to take this forward.

Integrated water management for new developments

- 7 Over the 29 years since privatisation of the water industry, some water companies have been able to reduce the amount of water they take from the environment at the same time as accommodating housing growth. For example, Southern Water put nearly 30% less water into its supply network in 2015 than it did in 1989 (see Figure 1 below). This has largely been achieved through declining industrial demand coupled with leakage reduction, metering programmes and water use efficiency improvements.
- 8 Although some of these demand reductions still continue, the pace of population growth is such that new measures are constantly needed to help balance supply and demand. For example, improvements in water treatment technology mean that reusing water is becoming more feasible and, for major new housing developments, this opens up the possibility of a more integrated approach to water management whereby surface water runoff and even sewage water can be treated and safely reused on site for non-potable demands such as garden watering and toilet flushing.

- 9 KCC is promoting this approach and supporting Shepway District Council in the inclusion of integrated water management within the Otterpool Park development. Appropriate aspirations have been included in the Charter for Otterpool Park. This can be found at: <https://www.shepway.gov.uk/more-homes/more-jobs/otterpool-park>

Figure 1. Long-term Trend in Distribution Input for Southern Water



Source: Southern Water Services

Water management for horticulture

- 10 The Kent Water Task Group is a partnership between KCC, NIAB EMR (formerly East Malling Research), the Environment Agency, the National Farmers Union, South East Water and others. It is chaired by KCC and is helping Kent horticultural businesses to improve the efficiency of their irrigation and water collection systems.
- 11 As part of this partnership, NIAB EMR has established a new national Water Efficient Technology (WET) Centre at East Malling for research and demonstration of high performance irrigation systems for horticultural crop production. The Centre is supported by six commercial businesses, each of which is providing its equipment to form part of the demonstration facility as well as providing funds for its ongoing operation. The Centre is developing commercial packages of technology that will be marketed widely. The first package is for the precision irrigation of strawberries and it is already developing international interest. Further information about the WET Centre can be found here: <http://www.emr.ac.uk/resource-efficiency-for-crop-production/current-projects/wet-centre/>
- 12 KCC is using its leadership of the Water Task Group to develop and promote systems to reduce the risk of runoff water from polytunnels causing muddy

floodwater that can find its way onto roads and pollute rivers. A rainwater harvesting system has been put in place at NIAB EMR which is being used to intercept rainwater from polytunnels and to store it as a valuable, additional source of water for irrigation. The performance of the system is being monitored and the results will be used in a guidance document that will be made available to applicants for Planning Permission for new polytunnel developments.

Contact Officer: Alan Turner, Water Resources Manager, 03000 417187
alan.turner@kent.gov.uk

To: Kent Flood Risk Management Committee

From: Katie Stewart, Director of Environment, Planning and Enforcement

Subject: Environment Agency and Met Office Alerts and Warnings and KCC flood response activity since last meeting.

Classification: Unrestricted

Summary: To update Kent Flood Risk Management Committee on Environment Agency and Met Office Alerts and Warnings, and flood response activity since the last meeting of the Committee on 13th November 2017. Members are requested to note this report.

1. Background

1.1 KCC Resilience and Emergency Planning Service and Contact Point receive Environment Agency and Met Office alerts and warnings by e-mail on a 24 hour basis. Potential impacts upon communities, infrastructure and the wider environment are then assessed and a response mobilised as required.

1.2 Some 70,000 properties in Kent are located within areas identified as potentially at risk from fluvial (river) or tidal flooding. Where practically possible, these properties are offered a Flood Warning Service by the Environment Agency. However, other parts of the County are also vulnerable to surface and ground water flooding. Early warning of flood risk to communities (including areas outside of floodplains) is delivered through flood guidance statements, severe weather warnings and mobilisation of Kent Resilience Forum Severe Weather Advisory Group (SWAG).

2. Latest situation

2.1 A total of 35 flood alerts (12 fluvial and 23 coastal) have been issued by the Environment Agency since the last meeting of the Committee¹. This contrasts with 21 flood alerts (4 fluvial and 17 coastal) during the corresponding period in 2016/17. However, no warnings or severe warnings were issued, nor serious surface water, fluvial or coastal flooding impacts reported to the Duty Emergency Planning Officer since the last meeting, reflecting relatively dry conditions and minimal storm activity.

2.2 A total of 11 yellow Met Office severe weather warnings have also been issued (5 for ice, 1 for snow and ice, 1 for snow, 1 for rain and 3 for high winds)². This contrasts with 8 alerts and warnings (7 for heavy rain and 1 for high winds) issued during the same period in 2016/17. However, no severe weather impacts were reported to the Duty Emergency Planning Officer since the last meeting. Contingency planning continues in relation to drought planning, with the Environment Agency chairing a Drought Severe Weather Advisory Group meeting on 12th February encompassing representation from Kent districts and the county council.

¹ Please see appendix 1

² Please see appendix 2

2.3 The Thames Barrier has been closed on 7 occasions (2 for test and 5 for flood defence) since the last meeting of the Committee. The figure for the same period in 2016/17 was 10 (2 for test and 8 for flood defence).

3. Next Steps

3.1 Elected Members will continue to be regularly updated on flood alerts, severe weather warnings, operational response and significant flood events across Kent.

4. Recommendations

4.1 That Members:

- Note the alerts and warnings received since the last meeting of the Committee; and
- Contribute any additional matters arising from debate by the Committee.

Tony Harwood, Resilience and Emergency Planning Manager, Growth Environment and Transport tel. 03000 413 386 e-mail tony.harwood@kent.gov.uk

Background documents: None

Appendix 1: Environment Agency Flood Alerts issued since 13/11/2018		
Flood Zone	Date issued	Status
Coast from Pegwell Bay to Deal including the Tidal Stour	18/11/2017	Alert
Rivers Eden & Eden Brook Area	11/12/2017	Alert
River Medway from Forest Row to Penshurst	27/12/2017	Alert
River Rother and its tributaries	27/12/2017	Alert
Rivers Eden & Eden Brook Area	27/12/2017	Alert
River Medway from Hampstead Lock to Allington Lock	27/12/2017	Alert
Upper River Medway from Forest Row to Penshurst	29/12/2017	Alert
River Rother and its tributaries	29/12/2017	Alert
Rivers Eden & Eden Brook Area	29/12/2017	Alert
River Medway from Hampstead Lock to Allington Lock	02/01/2018	Alert
Coast from Sandgate to Lydd	02/01/2018	Alert
Coast from Fairlight to Dungeness	02/01/2018	Alert
Isle of Sheppey and North Kent Coast	03/01/2018	Alert
Coast from Fairlight to Dungeness	03/01/2018	Alert
Coast from Sandgate to Lydd	03/01/2018	Alert
Rye Harbour	03/01/2018	Alert
Coast from Dartford to Allhallows	04/01/2018	Alert
Tidal Medway, Medway Estuary and Isle of Grain	04/01/2018	Alert
Coast from Fairlight to Dungeness	04/01/2018	Alert
Coast from Sandgate to Lydd	04/01/2018	Alert
Isle of Sheppey and North Kent Coast	04/01/2018	Alert
River Medway from Hampstead Lock to Allington Lock	04/01/2018	Alert
Rivers Eden & Eden Brook Area	04/01/2018	Alert
Coast from Fairlight to Dungeness	04/01/2018	Alert
Coast from Sandgate to Lydd	04/01/2018	Alert
Isle of Sheppey and North Kent Coast	04/01/2018	Alert
Coast from Fairlight to Dungeness	05/01/2018	Alert
Coast from Whitstable to Margate	18/01/2018	Alert
Isle of Sheppey and North Kent Coast	18/01/2018	Alert
Tidal Medway, Medway Estuary and Isle of Grain	18/01/2018	Alert
Coast from Dartford to Allhallows	18/01/2018	Alert
Coast from Dartford to Allhallows	01/02/2018	Alert
Tidal Medway, Medway Estuary and Isle of Grain	01/02/2018	Alert
Coast from Whitstable to Margate	01/02/2018	Alert
Isle of Sheppey and North Kent Coast	01/02/2018	Alert

Appendix 2: Met Office Severe Weather Warnings issued since 13/11/2018		
Met Office Warnings	Duration	Status
Yellow Warning of Wind for London & South East England	10/12/2017	Warning
Yellow Warning of Ice for London & South East England	11/12/2017	Warning
Yellow Warning of Ice for London & South East England	12/12/2017	Warning
Yellow Warning of Rain for London & South East England	27/12/2017 – 28/12/2017	Warning
Yellow Warning of Ice for London & South East England	27/12/2017 – 28/12/2017	Warning
Yellow Warning of Ice for London & South East England	29/12/2017	Warning
Yellow Warning of Wind for London & South East England	29/12/2017	Warning
Yellow Warning of Wind for London & South East England	16/01/2018	Warning
Yellow Warning of Ice for London & South East England	31/01/2018 – 01/02/2018	Warning
Yellow Warning of Snow & Ice for London & South East England	04/02/2018 – 05/02/2018	Warning
Yellow Warning of Snow for London & South East England	26/02/2018 – 27/02/2018	Warning

This page is intentionally left blank