

KENT FLOOD RISK MANAGEMENT COMMITTEE

Monday, 6th March, 2017

2.00 pm

Council Chamber, Sessions House, County Hall,
Maidstone





AGENDA

KENT FLOOD RISK MANAGEMENT COMMITTEE

Monday, 6th March, 2017, 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

Conservative (4): Mr M J Harrison (Chairman), Mr A H T Bowles,
Mr L B Ridings, MBE and Mrs P A V Stockell

UKIP (1): Mr A Terry

Labour (1) Dr M R Eddy

Liberal Democrat (1) Mr M J Vye

UNRESTRICTED ITEMS

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

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1. Substitutes
2. Declarations of Members' Interest relating to items on today's agenda
3. Minutes of the meeting on 14 November 2016 (Pages 5 - 18)

4. Rewilding and Natural Flood Management - Presentation by Professor Alastair Driver FCIEEM, Director England and Wales Rewilding Britain (Pages 19 - 20)
5. Thames Estuary Asset Management 2100 (Pages 21 - 22)
6. Kent Resilience Forum Exercise Surge Debrief Report (Pages 23 - 46)
7. Environment Agency and Met Office Alerts and Warnings and KCC Flood Response activity since the last meeting (Pages 47 - 50)
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)

John Lynch
Head of Democratic Services
03000 410466

Friday, 24 February 2017

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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, 14 November 2016.

PRESENT: Mr M J Harrison (Chairman), Mr A H T Bowles, Dr M R Eddy, Mr A Terry, Mr M J Vye, Mrs J Blanford (Ashford BC), Cllr Ms R Doyle (Canterbury CC), Mr J Scholey (Sevenoaks DC), Mr A Hills (Shepway DC), Mr G Lewin (Swale BC), Mr H Rogers (Tonbridge and Malling BC), Ms C Stewart (Tunbridge Wells BC), Ms G Brown (KALC), Mr D Henshaw (KALC), Mr P Flaherty (Kent Fire and Rescue) and Mr L Woollorton (Canterbury CC)

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

ALSO IN ATTENDANCE: Ms R Kairis from the Environment Agency

UNRESTRICTED ITEMS**11. Membership**

(Item 1)

The Chairman welcomed Mr David Henshaw (KALC) and Mr Liam Woollorton (Canterbury CC) to the meeting.

12. Minutes of the meeting on 18 July 2016

(Item 3)

RESOLVED that subject to the correction of the figure set out in Minute 8 (2) to 39,600 km of sewers and to minor textual amendments, the Minutes of the meeting held on 18 July 2016 are correctly recorded, and that they be signed by the Chairman.

13. Environment Agency Winter Update - Readiness, current campaigns and Exercise Certus

(Item 4)

(1) Rachel Kairis from the Environment Agency began her presentation by giving the national picture. She said that following Storms Eva and Frank in 2014/15, the EA had invested £12.5m in kit such as temporary defence barriers, pumps, instant command units, and sandbagging machines. All of this equipment was stored securely in various depots across the country. The closest depot to Kent was in Rye.

(2) Rachel Kairis then said that the EA had made changes to its modelling and forecasting system in order to enable them to get a flood warning service to more people. The aim was to be able to enable 100% of the population to receive messages and take action.

(3) The Environment Agency had also run an autumn flood risk campaign during the first two weeks in November in order to encourage communities to prepare for flooding events and to produce community flood plans.

(4) Rachel Kairis then reported on developments in Kent. She explained that she was the Instant Ready Implementation Officer in the county, responsible for leadership in the implementation of the EA's plans. There were a number of themes such as *Leadership and Behaviours* which aimed to get 100% of the EA staff (such as Flood Support Officers and Instant Support Officers) onto a duty roll. The current percentage figure was 501 staff which equated to 97% of Kent's EA staff.

(5) Another theme was *Mutual Aid and Visualisation* which aimed to make sure that EA staff throughout the UK followed the same practice. In the event of a major emergency staff from all regions would be able to support those most badly affected. At the same time, staff were now equipped with I pads so that they could relay images rapidly to the incident room. There was a possibility that the EA in Kent would be provided with drones. It was intended that CCTV on the watercourses would become more widespread.

(6) Rachel Kairis said that the EA had introduced Major Incident Plans (MIPs). Three of these covered parts of the South East Area: South West Coast, East Coast and Thames. A specific MIP was in production for London surface water. These MIPs were strategic documents for use by senior officers throughout a serious incident including the response and recovery.

(7) The Environment Agency was also looking into a system known as *Stop and Slow*. The Incident Room in Kent had been open continuously for 3 months in 2013/14. It had consequently been decided that it was necessary to identify the work that needed to continue during a major incident and that which could be stopped. The dissemination of some information could also be slowed down so that the EA could continue with defence work.

(8) Rachel Kairis concluded her presentation by describing *Exercise Certus* which had run from 5 to 12 October 2016. This was a national exercise which had involved 70 players from the South East Area out of over 1,000 nationally. It had tested a number of new procedures within the *Winter Ready* plan. The debriefing for this exercise was currently in progress and measures identified as a result would be implemented in the two remaining quarters of the year.

(9) Mr Hills said that the Government was currently re-evaluating the 1/100 and 1/200 year flood risks in response to climate change and current weather extremes.

(10) Rachel Kairis said that the Environment Agency was constantly evaluating and updating its thresholds for flood alerts and flood warnings. Following a flooding event, they would undertake validation work, including a survey to establish whether flooding had actually occurred in those properties which had been expected to be affected. If not, the threshold would be re-assessed.

(11) Dr Eddy asked why Rye had been chosen as the location for a depot. He referred to the difficulty of getting to and from this location from other parts of Kent and enquired whether the EA had experienced any difficulties with this particular strategic location.

(12) Rachel Kairis replied that she did not know the specific reason why this location had been chosen. She then explained that planning cells had been introduced in 2013/14, enabling the EA to forecast some 5 days ahead. As a result, they were always in a position to get kit to wherever it was required before an event occurred.

(13) Mrs Blanford asked whether *Exercise Certus* had been well publicised, as it was very important to assure the public that the responsible authorities were well prepared. Rachel Kairis replied that it had been on the television and radio news. The nearest live deployment had been to Solent South Downs, which might have led to coverage not being as widespread in the local media as it would have been if Kent had been the main focus. The EA had also publicised the event on social media.

(14) Mrs Doyle asked how much communication there was with officers from local authorities. Was local expertise being fully utilised? Rachel Kairis replied that each local authority area had multi-agency flood plans, which described the particular issues it faced. The EA also chaired meetings of the Severe Weather Advisory Group whenever a significant flooding event was anticipated. These meetings included representatives from the utilities companies and the Met Office who reported on those areas that were likely to be affected. The EA would then update the local authorities on the flood risk implications in their areas, gaining in return any additional information that they would perhaps not have previously been aware of. She stressed that it was vital to learn the lessons arising out of each incident in order that joint working arrangements could be improved.

(15) Mr Terry asked how much of the additional flood resilience equipment was stored in Rye. He also asked for clarification of the final sentence in the seventh paragraph of the report.

(16) Rachel Kairis replied that the Rye depot had been given 32km of flood barrier in addition to the 8km they had previously held. Further flood barrier could be provided from other sources nationally, if needed. She then explained in respect of the Water and Environment Framework (WEM) that the EA had operatives who would help erect the mountable defences. If, however, there were multiple flooding locations, they had extra contractors who were already trained in use of the specific kit, providing extra support if required for a large scale event.

(17) The Chairman noted that a number of authorities such as Kent Fire and Rescue and Kent Police had drones. He suggested that active consideration could be given to whether organisations could share this equipment.

(18) In response to a question from the Chairman, Rachel Kairis said that the number of staff trained nationally was 6,512. Of these, 501 were in Kent. Training for winter readiness was continuing.

(19) Rachel Kairis said that the EA Chairman, Sir James Bevan had recently introduced the "*Think big, act early, be visible*" approach which ensured that every event was considered for its reasonable worst case. Support could always be scaled back at a later stage. It also meant that during an event the EA always had people on the ground to answer questions raised by local communities and report any new information back to the Incident Room.

- (20) RESOLVED that Rachel Kairis be thanked for her presentation and that the report be noted for assurance.

14. Kent Resilience Forum - Structure and Annual Seminar

(Item 5)

(1) Paul Flaherty (Kent Fire and Rescue) gave a presentation in his capacity as Chairman of the Training and Exercise Group of the Kent Resilience Forum. The slides are contained with the electronic agenda papers on the KCC website.

(2) Mr Flaherty said that the Kent Resilience Forum (KRF) had been set up as a requirement of the Civil Contingencies Act 2004 to provide a joined up and co-ordinated response in the event of a large scale civil emergency. It had established Category 1 and Category 2 Responders. Category 1 Responders included Kent County Council, the District Councils, the Police, Fire and Ambulance services, the NHS, Public Health England and the Environment Agency. Category 2 Responders included ports and utilities such as the water and power companies. Overall, there were nearly 100 organisations within the Kent Resilience Forum. 18 to 20 of these were major stakeholders who attended most of the constituent planning groups.

(3) Mr Flaherty said that the Environment Agency attended many KRF meetings as a Category 1 Responder and that they also convened the Severe Weather Advisory Group (SWAG) in the event of a flood risk. SWAG would discuss next steps in response to predicted flood conditions.

(4) Mr Flaherty identified some of the matters which had required either a co-ordinated response or joint working in preparation for potential emergencies, ranging from the coastal floods of 1953, to the *Herald of Free Enterprise* disaster in 1987, the 2012 London Olympics and latterly Operation Stack.

(5) Mr Flaherty went on to set out the structure of the KRF. All Category 1 Responders were represented on its Strategic Group which met every six months, usually at Chief Executive level. The Executive Group (Director level) met quarterly in order to set out operational priorities.

(6) Mr Flaherty then said that three Groups sat below the Executive Group. The first of these was the Risk Assessment Group which had published the Kent Community Risk Register in 2016. An example of this Group's work was in identifying the biggest risk to Kent as that from coastal flooding; particularly tidal surge. As a consequence, *Exercise Surge* had taken place in September 2016 in order to assess response capability in Kent. He said that a major reason why Kent had played a lesser role in *Exercise Certus* was that Kent's capacity had already been tested. *Exercise Surge* had been focussed upon New Romney because of the 14,000 people who would potentially need to be evacuated from the Marsh in the event of major tidal flooding. The issue facing the responders was how to do so when the key highways infrastructure was out of action due to being under water. He explained that a major reason for siting the Environment Agency equipment depot in Rye was that it was easier to get equipment to the Marshes from there than by using other routes.

(7) Mr Flaherty continued by saying that the Emergency Plans and Capabilities Group had the role of ensuring that the KRF had the plans to deal with identified risks, but also that they had the capability to do so. An example of the work undertaken in this regard was the work that had been done over the past two years with the EA in training flood wardens. All the most at risk parishes in Kent now had trained flood wardens. Exercise Surge had tested the *Pan Kent Flood Plan* to ensure that all Districts and Parishes were in a position to respond effectively, based on the particular needs in their areas.

(8) The Training Group, which Mr Flaherty chaired, ensured that everyone who was implementing the plans was sufficiently trained to do so. This training was undertaken by the individual agencies themselves rather than by the KRF. *Exercise Surge* had tested whether this had taken place and been effective. The Training Group also acted as a focal point for the provision of generic joint training at a local level. The aim was to ensure that when people from various local authorities and agencies were working together, the first thing they would say to one another would be “how are you?” rather than “who are you?”

(9) Mr Flaherty said that the KRF had helped deliver a number of exercises in 2016. These were *Exercise Unified Response* (February) which had been London’s largest ever civil resilience exercise (but had taken place in Kent), *Exercise Combine* on the Isle of Grain (April), *Exercise Distant Echo* at Ashford (May), *Operation Fennel table top* which was linked to Operation Stack (July), *Exercise Surge* (October) and *Exercise Cygnus* which was an NHS exercise in respect of a flu pandemic (October). All of the District Councils and KCC had been involved in these exercises.

(10) Mr Flaherty turned to the Kent Resilience Team (KRT). Kent was quite unique in having created a single team which effectively managed the day-to day work of the KRF. Membership of the Team was drawn from Kent Police (2), Kent Fire and Rescue (2) and KCC, who provided 8 personnel. It was based at Fire HQ in Tovil and had been very efficient and effective. Kent Fire and Rescue provided the Manager, with KCC and Kent Police each providing a Team Supervisor. It was able to keep on top of and update all its Plans, culminating in an annual Seminar. The major exercise planned for 2017 would test how Kent as a county could cope with mass fatalities.

(11) The KRT had initially been established in 2013 as a 3 year project. All the partner agencies had agreed that it was worth continuing. Negotiations were well underway amongst the three partner agencies to make the KRT a permanent entity from April 2017 onwards on a rolling three year programme. All the KRF’s major partners either had agreed or were in the process of agreeing to participate in the agreement by providing funding for the KRF and/or embedding personnel into the KRT. In addition to the three permanent members of the KRT, the EA and Medway Council hot desked there two days each week. Other agencies such as the Ambulance Service and Public Health England were also regularly working at the Head Office.

(12) Mrs Brown asked why KALC was not involved in the partnership, particularly as they could bring their vast experience of local conditions to the table. Mr Flaherty replied that the KRF worked with KALC, but that it was not a Category 1 or 2 Responder as set out in the Civil Contingencies Act 2004. He added that there were a number of voluntary organisations where the same consideration applied. Nevertheless, the KRF worked very closely with all of them.

(13) Mr Vye asked whether there were any plans for an exercise involving fluvial flooding. Mr Flaherty said in reply that there were a number of local, single agency exercises every year. From the KRF's perspective, exercises took place for one of three reasons. These were: a) that an event had taken place nationally which had caused the KRF to reflect on its own plans and to test whether its plans were able to meet the same scenario; b) an event had occurred in Kent which had demonstrated that the plans needed to be revised; and/or c) a plan had been updated and revised to such an extent that it needed to be tested in order to ensure that it worked. The major exercise in 2016 had been on coastal flooding. It would be based on a flu pandemic in 2017. It was likely to again be on flooding in 2018 and it was possible that it would involve a more localised fluvial flooding scenario.

(14) Mr Hills said that as a participant in *Exercise Surge*, he had not noticed any RNLI involvement. He asked how closely the KRF worked with them. Mr Flaherty replied that they worked very closely with the RNLI. They had been involved in the exercise although they had not put people on the ground on the day itself. This was because it was felt that if Romney Marsh was under threat, it was highly likely that other areas would be affected too. The RNLI would, in such circumstances be focussing its activities more widely. There was a Register of Pan Kent Flood Assets, which included all the assets in the RNLI possession as well as those from the Red Cross and the RSPCA and others. The RNLI also featured very heavily on the national asset plan for flooding.

(15) In reply to a question from Mrs Blanford, Mr Flaherty said that the KRF's Strategic Group met every six months, the Executive Group every three months, as did the three Groups below it. All of the District Authorities were represented at all of those meetings. In addition, there were partnership agreements with each of the Districts, giving them a nominated point of contact within the KRT. This contact occurred on a regular weekly basis.

(16) RESOLVED that Paul Flaherty be thanked for his presentation and that the report be noted for assurance.

15. Flood-Re - Affordable flood insurance

(Item 6)

(1) Max Tant gave a presentation. The slides are contained with the electronic agenda papers on the KCC website.

(2) Mr Tant said that the Government had been concerned to ensure that residential homes had access to affordable insurance against flood risk. Following discussions, the Government and the Insurance industry produced a statement of principles which meant that any Insurance Company that had a policy holder who had been a victim of flooding was obliged to continue to offer insurance to that customer. As this principle did not apply to any other Insurance Company, this meant that the customer had to rely on the original insurer, and the statement of principles had not set out what terms the Company had to offer.

(3) The Insurance Companies had believed that the Government would invest more in flood defences, thus reducing their exposure to the risks. After 13 years, the Insurance industry did not feel that these expectations had been met and they had

become unhappy with this continuing. Instead, the insurance industry had developed *Flood Re* which was a re-insurance scheme for Insurance Companies, enabling them to get insurance for themselves against the risk of flooding carried by domestic home insurance policies. The policy holders were unaffected except for the premium for *Flood Re* which was set according to their Council Tax band. They continued to take out a policy and the Insurance Company took out its own policy with *Flood Re*. This applied in cases where the flood risk was at a 1 in 75 year annual return period or higher.

(4) Mr Tant said that the intention was that the *Flood Re* pot would build up to £180m through premiums paid by all companies that offered home insurance. *Flood Re* did not apply to properties that had been built after 2009, nor did it apply to businesses. There were also other exemptions which could be seen on the website www.floodre.co.uk.

(5) Mr Tant said that *Flood Re* was making a difference and that people who would otherwise have found the terms of their policies to be prohibitive were certainly seeing the benefit and accessing affordable cover.

(6) Mrs Brown said that as a result of *Flood Re*, the premium for her property in Yalding had reduced to £1,300 from £4,000 and the excess from £5,000 to £250. Many people in the Yalding were now able to afford an insurance policy when they had not been able to do so before, particularly as the local insurance broker had become an expert in this field.

(7) Mr Vye described the circumstances in one part of the Lower Nailbourne and drew attention to the lack of information held by Insurance Companies in respect of the actual locations where flooding had occurred. This had partly been the result of the Environment Agency's maps which indicated that a village had been affected by flooding, rather than explaining that this had occurred in particular parts of it. He suggested that this might be an area of work that the Parish Councils could undertake with the Environment Agency, and possibly with the insurance industry as well.

(8) Mr Tant said that the *Flood Re* website was particularly informative and worth reading by anyone who had concerns about the impact of flood risk on their ability to afford an insurance policy.

(9) Mr Tant responded to comments and questions by saying that buildings that had been flooded and then rebuilt after 2009 were covered by *Flood Re*. Individual Insurance Companies had also adopted different approaches to the way in which they assessed the risk of flooding. Some saw the development of expertise as a means of gaining an advantage in the market. Others took a more risk averse approach to flood risk and concentrated on other areas. Not all insurance companies were aware of or were using *Flood Re*. It was therefore important for potential customers to shop around and not treat the insurance industry as a homogeneous entity.

(10) RESOLVED that the report be noted.

16. Riparian rights and responsibilities (Item 7)

(1) Max Tant gave a presentation. The slides are contained with the electronic agenda papers on the KCC website.

(2) Mr Tant explained that the summary he was going to give about riparian rights and ownership needed to be treated as general information as there were many aspects of Law and common law which came into play in certain situations, on occasion overriding the general principles which he was going to explain.

(3) Mr Tant began his presentation by setting out definitions. He said that a “watercourse” was defined in law as any channel through which water flowed (whether natural or man-made). A “main river” was a watercourse which had been so designated by the EA. An “ordinary watercourse” was any watercourse which was not a main river. “Ponds and lakes” were not watercourses unless they were on a watercourse. “Culverts” were pipes that watercourses flowed through. Watercourse Regulations applied as much to culverts as to any other watercourse.

(4) Mr Tant then explained that a riparian owner was anyone who owned land adjoining a watercourse. It was generally assumed that if land ownership stopped on either side of a watercourse, each landowner was responsible up to the middle of the watercourse. It was generally assumed that a landowner was solely responsible for any ordinary watercourse between their land and a highway. It was rare for the highways authority to have this responsibility, although they might be responsible for any highway drains if the road was built on land that they had purchased. Most drains next to the highway in Kent were not highways drains and therefore not the responsibility of KCC to maintain.

(5) Mr Tant went on to set out riparian rights. These were to receive the flow of water in its natural state; to protect their property from flooding and erosion; to fish in their watercourses; and to abstract a maximum of 20m³ per day of water for domestic purposes and some agricultural uses. Some of these rights conflicted with guidance from other processes; for example, the presumption against increasing flood risk in planning.

(6) Mr Tant said that there were more responsibilities than rights associated with riparian ownership. The passage of water had to flow without obstruction, pollution or diversion. It was also a responsibility to accept flood flows through the land, even when it was caused by inadequate capacity downstream as there was no common law duty to improve a watercourse, and in consequence no obligation to enlarge a watercourse to protect anyone else’s property from flooding. Other riparian responsibilities were to maintain the bed and banks of the watercourse; to not dispose of waste in the watercourse; to keep the bed and banks clear of any matter that could cause an obstruction; to keep any structures such as culverts, trash screens or weirs that they owned; to protect their property from seepage; and to maintain any culvert on their land.

(7) Mr Tant then said that land drainage authorities had some powers over the watercourses in their jurisdiction. Various authorities had different powers in various forms over ordinary watercourses. The EA had authority for main rivers. Their consent was required for a wide range of activities on or near a main river. Internal Drainage Boards exercised powers on ordinary watercourses in defined districts. They could adopt bye laws, which could give them some further powers over some

watercourses in their districts. Lead Local Flood Authorities such as KCC had powers to consent works in watercourses outside the districts in the jurisdiction of IDBs. They did not, however, have powers to adopt bye laws or to carry out works on ordinary watercourses without the permission of one of the other authorities. District Authorities had powers to undertake works on ordinary watercourses and were able to adopt bye laws, although this rarely occurred.

(8) Mr Tant continued by saying that some activities in a watercourse required consent from the appropriate land drainage authority if it was intended to carry out works that might affect the flow of an ordinary watercourse. The EA and the IDBs were also able to consent works near a watercourse in order to ensure that the works did not obstruct their own ability to access it for maintenance purposes. Land drainage consent was separate from planning permission, and the one did not confer the other. This was the case when a planning permission was granted for a development across a watercourse. An inexperienced developer might not realise that land drainage consent would be required for the construction of a culvert as part of the permitted development.

(9) Mr Tant concluded his presentation by saying that enforcement on ordinary watercourses was very difficult. Lead Local Flood Authorities did have such powers, but they were very limited in scope. The EA had slightly stronger powers over main rivers whilst the LLFAs and IDBs had powers of enforcement for maintenance and unconsented works in ordinary watercourses. This was limited to carrying out the work themselves (and recharging for it, or paying compensation for any damage). Landowners could not be compelled to improve their watercourse, even if it was causing flooding.

(10) Mr Hills said that the EA was trying to pressure IDBs to take over main rivers, even though they did not have the same legal powers. This included some of the very old pumping stations along the rivers. This proposal seemed to be shifting the burden onto local rate payers.

(11) Mr Tant replied that he was aware of the “de-maining” proposal and he considered that it would present an opportunity for the IDBs to carry out works that they considered necessary, but which the EA had given a lower priority to. It needed to be very carefully developed as it represented risk as well as opportunity.

(12) Mr Bowles said that he had been a riparian owner. He had also served on IDBs for 23 years, both as a Local Authority and as an elected landowner representative. He believed that the discussions on the future role of the EA would have great implications. He was concerned that the likely end result would be that the local tax payers would end up with financial responsibility in many areas which were currently the responsibility of others.

(13) Mr Henshaw asked if there was a legal difference between a pond and a lake. Mr Tant replied that he was unaware of any legal definitions. The two categorisations were probably historical, following convention rather than specific definitions.

(14) Mr Terry asked who was responsible for keeping all the records up to date. He pointed out that watercourses did not always follow the same line. Mr Tant replied that nobody was responsible for mapping any watercourse except for main rivers. According to the law of *ad medium filum*, the land boundary of a watercourse

followed its exact location at any given time. There were exceptions to this law, such as if the boundary of a watercourse changed very rapidly due to erosion or a man-made obstruction. Further details could be found on the Land Registry's website.

(15) Mr Tant replied to a question from Mrs Stewart by saying that there would probably be some benefit if LLFAs were able to make their own bye laws. An example would be if they were entitled to set their own maintenance distances for planning purposes. The reason that the ability to make bye laws had not been given to them under the Flood and Water Management Act was that a number of Districts wished to continue to carry out their own maintenance work. The power to do such works was the reason for having the entitlement to make bye laws.

(16) RESOLVED that the report be noted and that Max tant be thanked for his presentation.

17. EFRA Future Flood Prevention Report

(Item 8)

(1) Mr Tant reported on the EFRA Select Committee's report on its Future Flood Prevention Inquiry, which had been published on 2 November 2016. This report had made a number of recommendations including disbanding the Environment Agency and setting up a new flood protection agency. Other recommendations included proposals for better links between planning and flood risk management.

(2) Mr Tant agreed to provide links to the responses from various different bodies for inclusion in the Minutes. Not many of these supported the recommendation to disband the Environment Agency. These were:-

CLA: <http://www.farmbusiness.co.uk/business/politics/cla-warns-against-mps-recommendation-for-new-national-flooding-authority.html>

NFU: <http://www.nfuonline.com/news/press-centre/press-releases/future-flood-prevention-nfu-response-to-efra-com/>

Blueprint for Water: <http://blueprintforwater.org.uk/2016/11/changing-the-status-quo-will-it-reduce-flood-risk/>

National Trust: <https://ntplanning.wordpress.com/2016/11/02/future-flood-prevention-our-response-to-the-efra-committees-report/>

LGA: http://www.local.gov.uk/media-releases/-/journal_content/56/10180/8021485/NEWS

(3) Mr Tant then said that the Government had to give a response to the Select Committee report and that he would report further to the Committee as these responses materialised. It was likely that this would not occur until the Summer.

(4) Mr Vye suggested that there were matters in the Select Committee report which the Committee should receive reports on. Examples were; Catchment Scale Management (the Stour); effective SUDS in all major developments in Kent; and the EU Directives which currently governed flood response activity.

(5) Mr Lewin suggested that the Committee could receive a report on the implications for Kent of the Environment Agency's Thames Strategy.

(10) RESOLVED that the report be noted.

18. Exercise Surge - Oral report by Tony Harwood

(Item 9)

(1) Tony Harwood delivered a presentation relating to *Exercise Surge* which took place between 27 and 29 September. The slides are contained with the electronic agenda papers on the KCC website.

(2) Mr Harwood said that as Mr Flaherty had already spoken in detail about this subject, he would limit his own presentation to a brief summary which would draw out points of special significance.

(3) Mr Harwood confirmed that there had been an element of fluvial flooding response within *Exercise Surge*. The exercise had been based on a 1 in 500 year flooding incident based on a 1 in 1000 year tidal surge affecting the whole Kent coast. This had covered watercourses such as the Medway and Stour. The inclusion of a fluvial event had enabled all the Kent Districts to participate.

(4) Mr Harwood said that the exercise had been very ambitious in terms of its scale. Nearly 900 people had participated during the main part of the exercise, which had been between 27 and 29 September. The key focus of the evacuation element of the exercise had been Littlestone. 150 people had been evacuated, with each person being counted as 10 for the purposes of the exercise.

(5) All the District Councils except Shepway DC had utilised Oakwood House in Maidstone to simulate a table top response. Shepway DC had used their Emergency Centre because of the major impact in their area. The KCC Emergency Centre in Invicta House had been well utilised, including the participation of elected Members, Directors and other Officers. The links between the KCC and Shepway DC Emergency Centres had been excellent.

(6) The Evacuation Assembly Point for road evacuation had been in Littlestone and the Welfare Centre at the Marsh Academy in New Romney. The moveable flood defence barrier had been tested in Littlestone. The Coastguard and Kent Fire and Rescue Service had been the main players in the "wet rescue" element of the response which had taken place in one of the gravel pits near Dungeness. Lydd Airport had been the site of a separate exercise, simulating a situation where one emergency could be the trigger for another. The Recovery phase had also been rigorously tested on 29 September. KCC had taken the chair for this phase, after Kent Police had chaired the Response phase.

(7) Mr Harwood concluded his remarks by saying that the critical point of running exercises such as *Exercise Surge* was the learning that came from it. There had been much to learn because of the large number of participants and agencies involved and the realism of the scenarios. A multi-agency debrief was taking place at the same time as the committee meeting, and he would report to the Committee on the eventual recommendations.

(8) The Chairman suggested that the Committee might visit the Kent Fire and Rescue Service during the morning of its next meeting in order to see the Kent Resilience Team set-up.

(9) Mr Flaherty said that the Committee would be welcome. He would be able to provide a presentation giving greater detail of the work of the KRF as well as a detailed joint presentation with Mr Harwood on the recommendations arising from *Exercise Surge*.

(10) Mr Flaherty then said that perhaps the greatest amount of learning gained had been on the Recovery side, to which a whole day had been devoted. From now on the person who chaired the Response Group would attend the Recovery Group meetings from the onset.

(11) RESOLVED that the report be noted and that Tony Harwood be thanked for his presentation.

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

(Item 10)

(1) Mr Harwood said that Kent had received only 50% of its average rainfall for October. This had followed four drier than average months, including the driest four month period for North Kent since records had begun. This dry spell had resulted in a large number of issues, including adverse agricultural and ecological impacts. It had followed a very wet period in the month of June when 149 properties had been flooded or had required partner interventions to prevent them flooding. The last four months had only seen 4 flood alerts, in contrast to 20 for the same period in 2015. These figures demonstrated the great unpredictability of weather in Kent.

(2) Mr Harwood said that due to the wet early part of summer, water levels remained at normal levels except for the clay catchments. The River Beult was currently running at a very low level. Recently, the weather had been wetter and this was expected to result in re-charging of aquifers and watercourses.

(3) Mr Bowles said that the unpredictability of rainfall levels had been demonstrated on 10 November when the four month dry spell had been followed by surface water flooding that had been so intense that it had brought parts of Kent to a standstill. His personal data for rainfall levels indicated that in recent years, they had become more volatile than ever before.

(4) RESOLVED that the report be noted.

20. Dates of meetings in 2017

(Item 11)

(1) The Committee asked the Clerk to bring forward the next meeting of the Committee to Monday, 6 March.

(2) RESOLVED that the meetings of the Committee be scheduled as follows:-

Monday, 6 March 2017;
Monday, 17 July 2017; and
Monday, 13 November 2017.

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To: Kent Flood Risk Management Committee – 6th March 2017

From: Michael Harrison, Chairman of Kent Flood Risk Management Committee

Subject: Rewilding and Natural Flood Management

Classification: Unrestricted

Summary: To receive a presentation addressing Rewilding and Natural Flood Management from Professor Alastair Driver FCIEEM, Director – England and Wales, Rewilding Britain.

1. Background

1.1 Rewilding Britain is an environmental charity launched in 2015, with the mission of achieving the restoration of ecosystems in Britain, on land and at sea.

1.2 In September 2016 Rewilding Britain published a report entitled [How Rewilding Reduces Flood Risk](#). Their report argues that managing flood risk naturally, by restoring natural processes, can offer better value for money and is more sustainable than traditional approaches to flood defence. The report provides a body of evidence demonstrating that alongside being cost effective, rewilding can improve water quality and create vibrant natural landscapes which stimulate tourism and ecological awareness, while also soaking up greater quantities of CO₂.

1.3 Examples of rewilding projects featured within the report include:

- **Moorland restoration at the Holnicote Estate in West Somerset**, including the recreation of flood meadows and making woody dams to mimic beaver activity. During winter 2013's unprecedented rainfall, there was no flooding in villages that regularly suffered in the past. There was also a 10% reduction in flood peak in late December 2013 on an already saturated catchment containing over 90 properties at risk.
- **Uplands Projects**. At the headwaters of the River Derwent, on the highest plateau in the Peak District National Park, peat bogs were re-planted with moorland grasses, heathers and other plants. Average peak flows reduced by 30% and average run-off slowed by around 20 minutes.
- **Beavers and other wildlife**. A beaver reintroduction trial in Devon has seen beavers dramatically alter the landscape, stimulating the revival of wet woodland – home to a diverse range of wildlife. They have significantly increased water storage while slowing the flow of water downstream – valuable services both at times of drought and after storms. During storm events, there was on average 30% lower peak volume of water leaving the site, compared with entering, reducing flood risk downstream.
- **Sussex Flow Initiative**: replicating nature by placing 'leaky dams' composed of tree branches and trunks upriver along the River Ouse. In addition, floodplain woodlands have been created with the planting of 23,000 trees and more than 2 miles of hedgerow. This increases the landscape's natural ability to absorb

excess water and reduce flood. Floodplain meadows have become one of Sussex's most threatened habitats, but left alone can support diverse and dynamic ecosystems and store carbon. Such measures are also substantially cheaper than traditional flood defence schemes.

2. Recommendations

2.1 That Members:

- Note the contents of the presentation by Professor Alastair Driver; and
- Contribute any additional matters arising from debate by the Committee.

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

Background documents: [How Rewilding Reduces Flood Risk](#), Rewilding Britain (2016).

To: Kent Flood Risk Management Committee

From: Michael Harrison, Chairman of the Kent Flood Risk Management Committee

Subject: Thames Estuary Asset Management 2100

Classification: Unrestricted

Summary:

A representative from TEAM 2100 will give a presentation to the Committee on the work it is carrying out as part of the Environment Agency's plan to manage the Thames Estuary flood defences.

- 1 The Thames Estuary has a system of flood defences that protects 1.25 million people and £200 billion worth of property in London, south Essex and north Kent. These defences include the Thames Barrier and 350 kilometres of flood walls and embankments, smaller barriers, pumping stations and flood gates. This
- 2 The Environment Agency has a plan to manage these defences throughout the 21st century, called Thames Estuary 2100 (TE2100). This plan can be found here:
<https://www.gov.uk/government/publications/thames-estuary-2100-te2100>
- 3 The first 10 years of this plan are being delivered by TEAM2100 (Thames Estuary Asset Management). TEAM2100 is carrying out detailed engineering and structural investigations into the condition of tidal flood defences in London and the Thames estuary. These investigations will inform the 10-year work programme of refurbishment and replacement, and the management of the system of Thames Estuary defences over the next 100 years.
- 4 A representative from TEAM2100 will give a presentation to the Committee on their work.

Michael Harrison, Chairman of the Kent Flood Risk Management Committee

Contact Officer: Max Tant, Flood and Water Manager, 03000 413466
max.tant@kent.gov.uk

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To: Kent Flood Risk Management Committee – 6th March 2017

From: Michael Harrison, Chairman of Kent Flood Risk Management Committee

Subject: KRF Exercise Surge Debrief Report

Classification: Unrestricted

Summary: To update Kent Flood Risk Management Committee on the areas for improvement, areas of good practice and recommendations from the Kent Resilience Forum 2016/17 annual exercise. Members are asked to note the content of the multi-agency debrief report.

1. Background

1.1 Kent Flood Risk Management Committee received a verbal update on Exercise Surge, which took place between 27th and 29th September 2016, at their July and November meetings.

1.2 The exercise scenario was based on countywide flooding resulting in large scale evacuation.

2. Debrief Report

2.1 The debrief report (at Appendix 1) begins with a summary that provides information about the aim, objectives and scale of the annual KRF exercise 2016 – Exercise Surge.

2.2 The debrief report captures the areas for improvement and the areas of good practice that were identified by exercise planners and participants during the debrief process.

2.3 The debrief process resulted in 20 recommendations to enable multi-agency partners to continue to improve the county's ability to respond to a flood event of the size and scale of the scenario used for Exercise Surge.

3. Summary of Key Lessons Learned

- 3.1 The success of Exercise Surge was achieved through the positive engagement from the multi-agency resilience community during both the planning for and the delivery of the exercise.
- 3.2 The exercise devoted a whole day to the Recovery phase following an incident of the size and scale of Exercise Surge. There will be a further local authority led Recovery Table Top exercise in 2017 to consider the impacts on communities 6 months after a similar event.
- 3.3 The KRF will continue to test plans and train multi-agency staff against the Exercise Surge scenario in 2017/18, with specific events planned to continuously improve strategic level command and control, media and communications and evacuation capabilities.
- 3.4 Pan-Kent and Local Multi Agency flood plans will be updated further to the experiences of those who took part in the exercise.
- 3.5 Multi-agency tools and guidance will continue to be promoted to ensure the most efficient sharing of information, including mapping, during an emergency.

4. Next Steps

- 4.1 The lessons learned from Exercise Surge will be added to the KRF Lessons Learned database and allocated to the relevant working groups.
- 4.2 Progress against recommendations within the debrief report will be reported to the KRF Executive Group.

5. Recommendations

5.1 That Members:

- Note the content of the multi-agency debrief report.

Contact:

Fiona Gaffney, Kent Resilience Team Supervisor

Telephone: 03000 419465

Email: Fiona.gaffney@kent.gov.uk

Background documents: None

Kent Resilience Forum

PREPARING FOR EMERGENCIES IN KENT AND MEDWAY

APPENDIX 1**FINAL STRUCTURED DEBRIEF REPORT v1.0**

Debrief commissioned by:	Exercise Surge Director – Steve Scully, Senior Resilience Officer, Kent Resilience Team
Event:	KRF Exercise Surge
Date of Event:	27 th to 29 th September 2016
Date of Debriefs:	Ex Surge Planning Team – 6 th October 2016 Local Authorities – 3 rd November 2016 Multi-Agency – 14 th November 2016
Debrief Locations:	6 th October – Conference Room, KFRS SHQ 3 rd November – Maidstone Borough Council 14 th November – Conference Room, KFRS SHQ
Debrief Team:	Facilitator – Fiona Gaffney, KRT Supervisor (KCC) Scribes 6 th October – Claire Goff, KRT Support Officer 3 rd November – Andy Jeffery, Emergency Planning and Events Officer (CCC) 14 th November – Michelle Cheyne, KRT Admin and Project Officer
Debrief Participants:	Exercise Surge Multi-Agency Planning Team All Local Authorities Kent Police Kent Fire & Rescue Services Maritime & Coastguard Agency Environment Agency

NHS England
NHS CCG
NHS KCHT
Raynet

Debrief Summary:

This debrief was commissioned in order to capture learning points and best practise regarding Exercise Surge and the multi-agency engagement.

Exercise Surge had one strategic aim: to validate several key elements of the Kent Resilience Forums (KRF) Plans, Processes and Training in response to a significant countywide flood event.

There were 5 key shared objectives:

- Validate elements of the new KRF Evacuation and Shelter Plan (Evacuation Co-ordination Group and Transport Cell)
- Validate elements of the Pan Kent Flood Plan (Evacuation Use of Roads)
- Validate learning from the KRF Invicta Bronze (operational) training
- Validate all Multi-Agency flood plans as to their usefulness during an East Coast Surge
- Validate learning form KRF Exercises Hawk and Fort Invicta

During the exercise planning phase, each organisation was asked to identify its own objectives. Some key objectives that were explored during the debrief process include:

- Validate the Romney Marsh Division and Evacuation Plan
- Validate the Pan Kent Recovery Framework involving several District Councils
- Review Mass Shelter Capability
- Review TCC Operations with the new Evacuation Co-ordination Group
- Review TCC Operations with the new Transport Cell
- Validate emergency services' response to both Wet Rescue and Dry Evacuation
- Test the deployment of key flood defence equipment locally

The full 47 organisational objectives that were identified during the exercise planning process can be found in the Pre-exercise Briefing Document on the exercise Surge page on Resilience Direct.

The scale of exercise Surge can be summarised as follows:

- 9 months of exercise planning
- A planning team of 30 multi-agency representatives
- Over 800 people involved in the exercise
- Including 120 volunteers (and 10 dogs) evacuated with luggage
- 1 week of pre-exercise information including a SWAG teleconference
- 1 day of live play over 9 locations
- 1 whole day devoted to Recovery – a ‘first’ in terms of KRF exercises
- 50 subject matter experts supporting the Recovery exercise
- Over 600 individual documents supporting the exercise
- 144 injects produced for Day 1 alone
- 3 multi-agency structured debriefs resulting in 1 combined debrief report

The achievements of the Exercise Director and planning team in planning, facilitating and successfully delivering 1 live play exercise as well as 2 full day table top exercises were recognised throughout the debrief process. During the process, participants were asked to consider the different phases of the exercise:

- Planning
- Pre-exercise information
- Response (at 9 locations – excluding Lydd Airport)
- Recovery

In order to capture as much relevant details as possible to ensure that the learning reflected the strategic aim and key objectives, the debrief was structured to capture:

- Command and control
- Communications
- Resilience Direct
- Evacuation capability

This report will focus on areas for improvement and perceptions of what went well; it concludes with a series of recommendations to assist the Exercise Director and the Training and Exercise Group with the improvement, planning and management of future courses and exercises.

1. AREAS FOR IMPROVEMENT

1.1 Planning Process

ITEM	IDENTIFIED BY	REC. No.	Comments
<p>1.1.1 Information sharing was key to the success of the exercise. Due to the numbers of people involved the Exercise Support Team shared information with Single Points of Contact who could distribute it to their senior management and exercise players. During the debrief process it became apparent that some agencies either did not receive information during the exercise planning phase or did not distribute it further. Others described that they perceived that too much information was shared during the planning phase or that it could have been done in a more efficient way e.g. structured weekly alerts to updates on Resilience Direct.</p>	<p>Exercise Director / SDC / KRT Support / Raynet</p>	<p>1</p>	<p>There were issues with individual organisations' ICT filter blocking or quarantining information.</p>
<p>1.1.2 The Scope of Exercise Surge was agreed by KRF Strategic Group early in the planning phase and stated that the exercise must fall within the following parameters:</p> <ul style="list-style-type: none"> • Take place in September 2016 • Stop at Tactical Level <p>A large number of participants at all 3 debriefs felt that Strategic level could have been included in an exercise of this scale and that their absence detracted from the realism. This was particularly relevant to the Media Cell and to the Recovery exercise. Others commented that their senior managers had missed an opportunity to be involved or tested in the SCG environment. A significant number also felt that the scope was too broad. Once the scenario was shared, the exercise grew as agencies wanting to include further areas to test. Some suggested that the planning team should "lock the scenario" well in advance of the actual exercise.</p>	<p>Media & Comms Group / LAEPG members / KCC / KFRS / NHS / Raynet</p>	<p>2 and 4</p>	<p>The rationale for not exercising Strategic Command and Control is that it has been regularly tested through recent incidents and exercises.</p> <p>See finding in 2.2 Command and Control</p>

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<p>1.1.3 As the Scale of the Exercise increased so did the demand on resources across the multi-agency partnership. This had an impact on all partners' normal business delivery. There was a shared view that KRF should not run an exercise of this scale on an annual basis. There was a concern that capturing and acting on all the learning from this exercise could be lost because of the scale and resource involved. Some participants felt that they were not able to test themselves fully against their plans and capabilities because of the demand on resources for an exercise of this scale. For example, the Media Cell tested the Social Media element but want to test other elements e.g. live media. And some Local Authorities had a greater demand on resources than others. Shepway DC had to commit a greater resource because live play took place in Romney Marsh, whereas West Kent Local Authorities commented that they had "little to do". The scale of the exercise also stretched resources at KRT, in terms of administrative support, Excon and across the Umpires. The amount of administrative support required to deliver Day 1 meant that it was not available to deliver the same amount to Day 3.</p>	<p>Exercise Control / Comms / Shepway / NHS / Media Cell / LAEPG / KRT</p>	<p>3, 5 and 6</p>	<p>"If we identify the KRF exercise earlier, we can build it into everyone's work programmes"</p> <p>"we need to be mindful of capabilities and what can be achieved"</p>
<p>1.1.4 With regard to Exercise Timeline , the planning team felt that their key challenge was getting organisations to engage and provide realistic 'injects' for the Local Authorities Tactical Table Top and the Recovery Exercise. Participants felt that there were not enough injects in the afternoon. The SWAG briefing and completion of the SITREP prior to the exercise meant that work had already begun in advance of the injects being received e.g. focus points had already been identified. Injects and scripts were at times repetitive. At times they came from Excon and then from TCC. Local Authorities had a view that the scenario build had been so successful that the injects became irrelevant.</p>	<p>Planning Team/ SDC/ KCC/ NHS/ LAEPG</p>	<p>7</p>	

1.2 Pre-exercise information			
1.2.1 There was a lot of information distributed during the build-up, and non-Emergency Planning officers in some districts felt overwhelmed by it. It wasn't clear to some how much resource was required during the build-up.	Dover / Tonbridge / Ashford / KCC / Thanet / Maidstone / Medway	1	Some district SPOCs filtered or summarised the information in order to prevent this, either as standard practice or in response to feedback.
1.2.2 The SWAG wasn't as interactive as in real incidents, with not so much detail or input from districts.	TMBC, MBC, SBC		No action required. SWAG tested during Storm Katie and Storm Angus.
1.2.3 In the pre-exercise briefing document the objectives for the exercise were too broad and should be more specific i.e. not "test the flood plan" but "test the trigger levels in the flood plan".	MC, KCC	2	
1.2.4 The SITREP form was difficult to complete, repetitive, and too long. The timing of the SITREP was queried at LAEPG and the Exercise Director advised that it had been a realistic event in terms of notional reporting at national level.	SBC, DDC, TMBC	8	This is a national form.

1.3 Command and Control			
<p>1.3.1 The planning aims for Command and Control were Tactical Co-ordinating Group (TCG) focused and didn't involve Strategic Co-ordinating Group (SCG). However in order for certain aspects of the exercise to have worked SCG involvement was required.</p> <ul style="list-style-type: none"> • The recovery exercise would have benefitted from input from STAC on Day 1. • The sign off for press releases and media guidance was unrealistic as they report to SCG during an incident. • KCC and other Local Authorities commented that the absence of SCG and direct guidance impacted on Tactical level • Lack of SCG made the declaration of the emergency unrealistic 	KCC / Public Health / LAEPG	2 and 4	Exercise Director confirmed that planning group was only given the direction that TCG should be playing. However as the time line grew it was clear that SCG guidance was required.
<p>1.3.2 Transfer of Lead Agency from Environment Agency to Kent Police. LAEPG commented that in reality it is difficult to move from one to the other, however, it felt unusually easy during the exercise.</p>	MBC, TDC, TMBC		This may be due to lessons learned from the winter 2013/14 floods where this process was found to be too time-consuming.
<p>1.3.3 Local Authorities were able to dial in to Tactical Co-ordinating Group meetings. The structure of the TCG meetings meant that those dialling in from Oakwood had to sit through a lot of discussion around the other sites, delaying them from activity during the table top exercise. There was no response from the TCC after the flooded property information was sent through. This would be overcome in reality as Local Authorities would be based in the Multi-Agency Room. TCG can take a while to pull together; main issues were technology, especially fire wall issues. Video conferencing wasn't great and sound was poor. The CEC dialled into TCG's and stopped everyone working and listened into the call, they did this as a training tool. However, SDC were then unable to dial in to speak to the CEC.</p>	SBC / TMBC / Shepway	9 and 10	Silver Commander would have arranged the TCG agenda in order of priority, hence dry evacuation etc. taking precedence in the running order.

<p>1.3.4 Tactical Table Top Exercise. As Medway, the districts and boroughs were in the same room at the table top they were able to talk to each other, but there as little communication between them and the CEC.</p> <p>NHS reported that no requests for health support from the districts/boroughs. Shepway had its Emergency Centre open and communicated with CEC and was able to provide a manager to dial in to TCG but was unable to resource a presence at TCC. Communications were therefore challenging.</p> <p>The emphasis on ICT communications was hampered by poor Wi-Fi at Oakwood House and ICT problems experienced by some districts.</p> <p>Those at the TTEEx did feel that TCG focussed on the evacuation at Littlestone and did not adequately cover the evacuation needs of the districts that were playing at Oakwood House.</p>	KCC / NHS / SDC / LAEPG		KRT are currently reviewing Oakwood House's suitability as a venue for future exercises
<p>1.3.5 Members of the Evacuation Cell felt that they did not receive a lot of information from colleagues based in the Multi-Agency room. Information from TCC however was very consistent.</p> <p>The cell was on a different floor and technology was an issue. In an event of this scale the TCC may not be able to accommodate the Evacuation Cell on site.</p> <p>There was a question within the Evacuation Cell as to whether they should be obtaining guidance and updates from the TCG or obtaining this information from their own organisations sitting in the multi-agency room.</p> <p>Members of LAEPG also admitted to a lack of knowledge of the KRF Evacuation and Shelter Plan.</p>	Highways England / Kent Police / LAEPG	9,10 and 11	The plan was written so the evacuation cell could sit outside the TCC environment.
<p>1.3.6 Internal communications for Kent Police inside the Tactical Co-ordination Centre was clear, but the Silver Commander has accepted that his briefing should have been consistent and directed to the multi-agency room too.</p> <p>Clear briefings should have given to all organisations so they understood the scope of the day.</p>	Kent Police	1	The KRF Tactical Command training is being reviewed in 16/17 for delivery in 17/18.

<p>1.3.7 The County Emergency Centre was the Welfare Cell and the County's focus in terms of the co-ordination of welfare provision. In an incident of this scale it is recognised that the management of evacuation and welfare is complex. There is an acknowledgement that more work is required to develop the process and ensure it works effectively.</p>	<p>KCC</p>	<p>11</p>	<p>KRF Humanitarian Welfare Group is being tasked with reviewing how evacuation, transport and welfare cells can be more efficient and effective.</p>
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1.4 Communications

1.4.1 The Airwave Interoperability channel was available but was not used across all agencies.	Kent Police / Excon / KFRS / SECAMB / MCA	12	This issue has been highlighted in the last 3 KRF exercises.
1.4.2 NHS and other agencies reported issues sending e-mails to Kent Police during the day. It was clear that an IT communication check was not carried out prior to the exercise by all partner organisations at external sites. RAYNET carried out the airwaves, teleconference and live feed checks prior to the exercise.	NHS / LAEPG	10	

1.5 Media Cell

1.5.1 During the exercise planning phase the KRF Media and Communications Group had determined that the Media Cell would be co-located at TCC. There were communication issues as Media representatives at both Oakwood House and TCG didn't have e-mail access. The inclusion of pseudo media enquiries (other than social media) would have prompted more discussion between colleagues. Shepway media messages needed to be shared within a timely manner, but due to no SCG sitting and them having to communicate with TCC Media Cell and the ICT issues, media responses were delayed. **Musterpoint** was only used by Shepway but was found to be effective. However the focus was on Twitter feed whereas in reality Facebook has a greater impact in the community.

Media Cell

6

The rationale for locating the Media Cell at TCC is that there was no SCG.

Specific feedback on Musterpoint will be discussed at the KRF Media and Comms Group.

Chair of group is arranging a meeting with Kent Police / KFRS / and KCC Media Heads and Strategic Leads to improve joint-working.

1.6 Resilience Direct & Mapping			
<p>1.6.1 There is a general acknowledgement that KRF are not using RD to its full capability during the Response phase.</p> <p>The RD mapping representative at the TCC and exercise control advised that the system was not used to its full potential during Exercise Surge.</p> <p>The Environment Agency tactical command team were unaware of RD mapping, but the EA mapping team was aware of the system and had worked with Ordnance Survey to upload maps prior to the exercise.</p> <p>Paper maps were used on the day.</p> <p>The EA are looking at working with RD mapping team so we can use there system in the future/for back up.</p> <p>NHS reported that the maps in RD have gaps in terms of Health and that NHS and Social Care use SHAPE mapping.</p>	Kent Police / Environment Agency / KRT / NHS	13, 14	
<p>1.6.2 LAEPG reported that organisations were not looking at the same maps. LA would work towards defended, but EA worked towards the un-defended. LAEPG need clarification on what maps should be used to enable them to update their planning assumptions and assess resource needs.</p> <p>All agreed that maps should be displayed on RD for all partners to view but that general RD awareness needs to be raised across partners.</p>	LAEPG	14	
<p>1.6.3 The following sections of the new Local Multi-Agency Flood Plans needed revision by districts;</p> <ul style="list-style-type: none"> • The list of vulnerable people/properties wasn't up-to-date; • The LMAFP didn't represent the worst case scenario, or the level above which the districts wouldn't be able to cope; • Integrate with the Flood Appendix from Community Resilience Plans; • More information on mutual aid 	MC, TMBC, KCC, SBC, MBC	15	

1.7 Live Play – Wet Rescue & Evacuation Assembly Point

<p>1.7.1 The Wet Rescue aspect of the exercise was well received but outgrew the original scope. All aims and objectives were met.</p>	<p>KFRS</p>	<p>2</p>	
<p>1.7.2 There was a perception that the Evacuation Assembly Point was slow and that the Community Wardens had nothing to do. In reality they would have assisted with door knocking. This exercise tested the point after door knocking would have taken place. A significant number of debrief participants commented that the door-knocking and evacuation element needs to be tested again. The majority agreed that the following questions have not been answered sufficiently by Exercise Surge:</p> <ul style="list-style-type: none"> a) How long would it take to evacuate an area b) What do we do when residents do not respond? c) What staff resources do we need? d) How is information captured? 	<p>LAEPG / Kent Police</p>	<p>16</p>	

1.8 Evacuation and Shelter			
<p>1.8.1 KCC Highways and Transportation team felt that the Romney Marsh Diversion plan was not fully tested, as communication regarding traffic issues were dealt with by TCC and not communicated and linked to the plan. Royal Haskoning, Consultations Team didn't link in with transport cell. They were more people and infrastructure focused. The injects linking to diversion routes seem to remain with Kent Police and not communicated to the transport cell. Shepway were awaiting injects and communications regarding the plan, but didn't receive anything.</p>	KCC / Highways England / Shepway	17	
<p>1.8.2 Exercise Surge highlighted the number of resources that would be required to staff multiple welfare centres. Welfare Centre Training for staff and managers is included as core training in the KRF Training and exercise programme. LAEPG has previously considered the minimum number of staff in each district / borough who should be trained in these roles. There is a need to improve partnership working with neighbouring authorities around mutual aid, particularly as districts restructure and shrink, in order that the response to a major incident isn't compromised.</p>	NHS / LAEPG	15 and 18	<p>Guidance – only 2 centres per district should be opened at one time</p> <p>KRF Humanitarian Welfare group will recommence in the New Year with KCC in the Chair.</p>
<p>1.8.3 LAEPG was not clear as to who would be responsible for managing the Evacuation Hub at Detling. There was an assumption that it would be Maidstone BC, as it falls within their district, with costs charged to Shepway, for example, where people were evacuated from Romney Marsh.</p>	LAEPG	11	

1.9 Welfare Centre			
<p>1.9.1 Whilst the welfare centre was well staffed and a large number of evacuees and dogs were processed, there were a number of improvements identified regarding information sharing.</p> <ul style="list-style-type: none"> • There was no initial briefing by the rest Centre Manager to evacuees. • There was a lack of communication between the nursing team and the team in main hall. Regular meetings should have taken place. • Information points weren't staffed and there were no regular updates to evacuees. • There was no Romanian language card, even though one of the scripts referred to the evacuee as being from Romania. 	SBC / NHS / ABC	18	
<p>1.9.2 Vulnerable people – information sharing There are still some inconsistencies in understanding what information can and should be shared in an emergency. There is a need to be clear about the definition of who is "vulnerable", different agencies have different definitions.</p>	NHS / Medway	19	Information Sharing Protocol
<p>1.9.3 The documentation process in the Welfare Centre failed as staff had not been available to attend training. Further training has since been arranged. Wristbands didn't match luggage tickets, which has the potential to cause confusion</p>	KRT / KCC / NHS / ABC / MC	18	The luggage process has been included in the Welfare Centre Training package

1.10 Recovery and Business Continuity			
1.11 The hand over from response to recovery worked well for the exercise, but it was recognised that the response phase would have been running alongside the recovery planning phase. If SCG (including STAC and a Recovery Advisory Group) had met during the exercise on the first day this would have made it more realistic.	KCC / LAEPG	1, 2	Rationale: The handover to recovery had been tested in Fort Invicta and Operation Perch (July)
1.12 On the day time wasn't given to allow each organisation to really test their plans on recovery and BC. Too many speakers for a table top which resulted in inject session being compressed. It would be useful to have an exercise dedicated to recovery only, looking at the longer term issues.	KCC / LAEPG	4	
1.14 It is not clear how well districts are promoting Business Continuity to local businesses	KCC	20	This has been added to the KRF Business Continuity Group agenda.
1.13 As the players on Days 1 & 3 were mostly different, there were continuity issues including; <ul style="list-style-type: none"> The number of properties estimated to be flooded on Day 1 vs actual number given on map handouts on Day 3 (generally much lower) Assumptions about whether rest centres were still open or not, especially in districts that were providing mutual aid. Flood zone maps used from day 1 and on day 3 changed the numbers significantly. 	KCC	4	

2. Areas of good practice

2.1 Planning Process

Top end of what we could expect in scenario. Products produced were realistic for a real time incident.			
Starting the alerts on the Sunday before, products provided from Met Office/ EA was great.	EA		Group agreed was right scenario.
The information that was sent out during the build up to the exercise was realistic for the scenario.			
Liked having the information sent to the SPOC, allowed the email to be personalised.	District		

2.2 Command and control

The SWAG was a useful tool for engaging exercise players in the scenario prior to Day 1, and helped them understand how Command & Control worked.	ABC, SBC, KCC		
Being able to watch the TCG take place via video link in Oakwood House was very useful.	TMBC		
Transport from carpark to TCC well organised and used by all. Not too sure whether we can always resource this during an incident, but for exercises we will use the process again.	Kent Police		

2.3 Local Authorities

Some Local Authorities were able to resource their rest centres	SBC, SBC, MC, TDC, ABC		
The exercise (on both Days 1 & 3) allowed Local Authorities to build good relationships with counterparts in neighbouring authorities, which will assist where mutual aid and partnership working is required during future real incidents.	TMBC		
Injects worked well, couple of injects were in other areas but the districts worked together to resolve them. Sometimes injects get repeated from other exercises; require ideas from agencies maybe throughout the year.	KRT Support		
White board communications worked well and were well co-ordinated.	KCC		

2.4 Communications			
Positive feedback and comms worked well on site. Using local fire station as a holding area worked well. JESIP worked well, including other agencies. Venue great, met all of the needs of the scenario.	Wet Rescue		
Raynet did an excellent job and their work enhanced the exercise for players.	All		
Video footage was fantastic could see what was going on in the county. Thank you to Raynet.	KRT Support	1	
Raynet – live feeds from all locations Shepway and Oakwood House gratefully received the live feeds from Littlestone as it made them feel like they were part of a live incident. TCG teleconference in the room at Oakwood House allowed staff to listen in and learn about the TCG aspect to command and control and response to an incident.	LAEPG		
2.5 Live Play			
First time we used aircraft in that environment which worked well.	MCGA		
Two different trusts working together which worked really well.	NHS		
Evac Assembly Point (Sea Cadet Hut) was brilliant, very accommodating.	KRT		
Feedback received was that 99% felt confident that organisations would respond well in an emergency.			
Felt Musterpoint was very valuable to use within the exercise.	Kent Police		
Deployment of barriers went well.	EA		
Public warning and informing on the ground – did engage with local community and media. Press release went out prior to leaflet drop to residents.	Exercise Director / SDC/KFRS		
2.6 Observer programme			
Observer programme worked well on the day and all in attendance has have given positive feedback	All		
Kent Police silver command expressed his thanks to the KFRS silver commander with the way he conducted and co-ordinated the white boards.	Kent Police		
2.7 Survivor reception centre			
Luggage storage and pets processes worked well and have been embedded into Welfare Centre Guidelines.	LAEPG		This action has already been completed
Health took away an action to change in the system for mental health issues.	NHS		Already being worked on.
Sussex RF attended and was able to answered some of their own questions regarding evacuation assemble points and survivor reception centres.	KRT		

The overall process of evacuation went well at Littlestone	ABC		
95% of evacuees at the survivor reception centre felt they were looked after and kept updated on the incident.	KRT		
2.8 Recovery and Business Continuity Table Top			
Positive engagement from all partners	KCC		
Fitting end to a good exercise	All		
Table experts was a great idea although not consistently used	LAEPG		
There was a good response from KCC Social Care when contacted	SBC		
It was a great achievement to get the county talking about recovery – there was good attendance, and Katie Stewart was praised for her good grasp of the recovery process.	All		
Recovery phase went up to day 5, felt it worked well. Everybody seemed happy.	KRT		
The energy and activity was great on day 3.	Exercise Director		

No.	3. RECOMMENDATIONS	OWNER	COMMENTS
1	<p>During the KRF exercise planning phase the appointed Exercise Director will project manage the planning process and this will be supported by a Project Communication Plan to set the following:</p> <ul style="list-style-type: none"> • Governance • Single points of contact for each agency • Definition of the SPOC role in communicating exercise information back into their individual organisation • The use of Resilience Direct as the primary source of information • Communication of pre-exercise briefings and related information • JESIP protocol and procedures • The use of briefings at STARTEX • Pre-exercise media communications • Post-exercise media communications • Debrief process • Communication of Final Report 	KRF Training and Exercise Group	
2	<p>During the KRF exercise planning phase the appointed Exercise Director will project manage the planning process and this will be supported by a Project Plan with SMART targets including:</p> <ul style="list-style-type: none"> • The scope of the exercise agreed by KRF Executive Group • A review of the exercise project plan by KRF Training and Exercise Group against the scope with any need for change to be reported back to KRF Executive Group • Clear and specific objectives relating to the plans and capabilities that are being validated with measurable outcomes • Budget monitoring and reporting • A cut-off date for inject or scenarios 	KRF Training and Exercise Group	
3	The KRF Training and Exercise Group will develop a medium-term outline Training and	KRF Training and Exercise Group	

No.	3. RECOMMENDATIONS	OWNER	COMMENTS
	Exercise Programme (3-yearly) and deliver a large-scale multi-agency exercise at least once and no more than twice in that cycle.		
4	Deliver an off-the-shelf Exercise Surge SCG product to test organisation's Strategic Commanders in their roles.	Kent Resilience Team	
5	Continue to train and exercise against the Exercise Surge scenario and expand on the Recovery table top exercise. Deliver a Recovery Exercise based on "Surge + 6 months" to test partners' abilities to support the community in the return to normality in the longer term.	KRF Training and Exercise Group	
6	Continue to train and exercise against the Exercise Surge scenario and test the KRF Media and Communications Plan elements that were not covered by the exercise including the management of real media and the use of real media to warn and inform the community. Test the cell's capacity to work 'virtually'.	KRF Media and Communications Group	
7	Develop and deliver a pilot exercise based on a timeline where the 'scenario builds' rather than developing new time pressured injects.	Kent Resilience Team	
8	Explore ways to make the SITREP form easier to use by Local Authorities and other agencies, either by including it in future training and exercises or by tailoring it to be a local document that meets the requirements of the national document.	Kent Resilience Team	
9	Review the video and teleconference facilities and Wi-Fi capability in all rooms designated for multi-agency accommodation at TCG to ensure that they are fit for purpose.	Kent Police	
10	All partners must be responsible for ensuring that their ICT is compatible with Kent Police's Wi-Fi__33 network and should arrange time to test their hardware. All partners must ensure that they have WiFi access in their Emergency Centres. As a minimum requirement, Partners must be prepared to deliver their function without ICT capability and should build this into their own Business Continuity Management.	All Partners	
11	Review, update and circulate the KRF Evacuation and Shelter Plan to reflect: <ul style="list-style-type: none"> • The relationship between the Evacuation Co-ordination Cell and the TCC/CEC. • The Media and Communications content i.e. pre-prepared messages • Which organisation manages the Evacuation Hub 	KRF Evacuation and Shelter Task and Finish Group	

No.	3. RECOMMENDATIONS	OWNER	COMMENTS
12	Incorporate the current JESIP guidelines into Incident Communications Plans.	Local JESIP board	Airways – Multi Agency Channel
13	Develop a Resilience Direct training and awareness programme to improve its use by all partners.	KRT	
14	Complete the multi-agency work required to ensure that all partners are working from the same maps and that they are available using the Resilience Direct mapping tool.	KRF Pan Kent Flood Group	
15	Review and update Local Multi-Agency Flood Plans to include: <ul style="list-style-type: none"> • The list of vulnerable people/properties • The planning assumption (see 14) in terms of worst case scenario • Integrate with the Flood Appendix from Community Resilience Plans; • More co-ordinated mutual aid arrangements 	Pan Kent Flood Group / LAEPG	Discuss Mutual Aid at the next LAEPG
16	Continue to train and exercise against the Exercise Surge scenario and conduct a feasibility exercise to test the KRF Evacuation and Shelter Plan and confirm <ul style="list-style-type: none"> • How long it takes to evacuate a specific area • What information do you provide • What resources are required 	KRF Training and Exercise Group	Requested by LAEPG
17	Continue to train and exercise against the Exercise Surge scenario and test the Romney Marsh Diversion Plan.	KRT / Shepway DC	
18	Complete a Training Needs Analysis for Welfare Centre Managers and Staff required to staff 2 welfare centres for a period of 24 hours and ensure that the KRF Welfare Centre training is internally promoted. Amend welfare centre training to take into account issues around documentation, information provision, luggage, translating. Ensure that it is promoted effectively in organisations.	KCC / Medway / Districts / Boroughs / KRT	
20	Recovery should be a standing item at LAEPG and KRF Business Continuity Group.	Local Authority Emergency Planning Group / KRF BC Group	

To: Kent Flood Risk Management Committee – 6th March 2017

From: Michael Harrison, Chairman of Kent Flood Risk Management Committee

Subject: Environment Agency and Met Office Alerts and Warnings and KCC severe weather 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 severe weather response activity since the last meeting of the Committee on 14th November 2016. Members are requested to note this report.

1. Background

1.1 KCC Resilience and Emergencies Unit and Contact Point receive Environment Agency flood alerts and warnings and Met Office severe weather 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 drier than average autumn in 2016 extended into December, with Kent receiving just 17% of its average rainfall total for that month. A wetter January saw rainfall levels nearer the long-term average, largely eliminating prevailing above average soil moisture deficits and engendering a recovery, albeit short-lived, in river flows across the County.

2.2 However, February saw a return to drier conditions. As a consequence, rivers within the Medway and Stour catchments are flowing at below their normal expected levels for the time of year. Aquifer levels across Kent are also below normal range. The same general synopsis is reflected in the County's reservoirs, with Bewl Reservoir the focus of particular scrutiny, as it is currently two thirds full. As with the majority of reservoirs in Kent, further filling is largely dependent upon a sustained recovery of river flows, as only when such conditions are met are water companies permitted to abstract and fill. In most areas, water resources are generally resilient to a single dry winter, but the observed deficiencies increase the potential for future water resource pressures. With the window for substantial aquifer and reservoir replenishment narrowing before evapotranspiration¹ rates begin to climb, late-winter/early-spring

rainfall patterns will have a significant bearing on the long-term water resources outlook. The latest outlooks suggest a continuation of dry conditions through the later winter period and no clear signal for the spring. The Environment Agency will continue to monitor the water resources situation, and provide timely updates as conditions dictate. In addition, they will continue to work with the water companies and other abstractors, as well as partner organisations, so as to ensure that any response is proportionate to the prevailing conditions.

2.3 Since the last meeting of the Kent Flood Risk Management Committee on the 14th November 2016, a total of 17 flood alerts (4 fluvial and 13 coastal) have been issued by the Environment Agency². This contrasts with 54 flood alerts (43 fluvial and 11 coastal) during the corresponding period in 2015/16.

2.4 A total of 12 yellow Met Office severe weather alerts and warnings have also been issued since the last meeting (2 for ice and fog, 5 for fog, 1 for snow and 4 for high winds)³. A single amber warning for high winds was also issued. This narrowly exceeds the 10 yellow alerts and warnings issued during the same period last year.

2.5 The Thames Barrier has been closed on 10 occasions (8 for flood defence and 2 for test purposes) since the last meeting of the Committee in November. The figure for the same period in 2015/16 was 3, twice for test purposes and once operationally during Storm Imogen in early February 2016.

3. Next Steps

3.1 Prevailing dry conditions will continue to be closely monitored by KCC and the wider resilience community in Kent, informing water resource planning and effective emergency planning contingencies for drought and wildfire. However, the damaging surface water flooding events experienced last June underline the unpredictability of our weather, and the need for continued vigilance on local flood risk by Kent County Council, district councils, the wider resilience community, residents and businesses.

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

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Background documents: None

¹ The process whereby water is transferred from the land to the atmosphere by evaporation from soil and other surfaces and by transpiration from plants

² Please see appendix 1

³ Please see appendix 2

Appendix 1: Environment Agency Flood Alerts issued since 14th November 2016		
Flood Zone	Date issued	Status
Coast from Pegwell Bay to Deal including Tidal Stour	15/11/2016	Alert
River Eden and Eden Brook Area	20/11/2016	Alert
Upper River Medway Area	20/11/2016	Alert
River Rother Area	20/11/2016	Alert
Coast from Pegwell Bay to Deal including Tidal Stour	11/01/2017	Alert
Coast from Dartford to Allhallows	11/01/2017	Alert
Tidal Medway, Medway Estuary and Isle of Grain	11/01/2017	Alert
Isle of Sheppey and Coast from Kemsley to Seasalter	11/01/2017	Alert
Coast from Pegwell Bay to Deal including Tidal Stour	12/01/2017	Alert
Tidal Medway, Medway Estuary and Isle of Grain	13/01/2017	Alert
Coast from Sandgate to Dungeness	13/01/2017	Alert
Isle of Sheppey and Coast from Kemsley to Seasalter	13/01/2017	Alert
Coast from Fairlight to Dungeness including the Tidal Rother	13/01/2017	Alert
Coast from Pegwell Bay to Deal including Tidal Stour	13/01/2017	Alert
Coast from Whitstable to Margate	13/01/2017	Alert
Coast from Dartford to Allhallows	13/01/2017	Alert
Lower River Medway Area	13/01/2017	Alert

Appendix 2: Met Office Severe Weather Warnings issued since 14th November 2016		
Met Office Warnings	Date issued	Status
Yellow Warning of Wind for London & South East England	17/11/2016	Warning
Amber Warning for Wind for London & South East England	19/11/2016	Warning
Yellow Warning of Wind for London & South East England	21/11/2016	Warning
Yellow Warning of fog for London and South East England	05/12/2016	Warning
Yellow Warning for fog in London and South East England	11/12/2016	Warning
Yellow Warning for fog in London and South East England	12/12/2016	Warning
Yellow Warning of fog for London and South East England	30/12/2016	Warning
Yellow Warning of fog for London and South East England	30/12/2016	Warning
Yellow Warning of Snow for London & South East England	10/01/2017	Warning
Yellow Warning of Ice and Fog for London & South East England	24/01/2017	Warning
Yellow Warning of Ice and Fog for London & South East England	24/01/2017	Warning
Yellow Warning of wind for London and South east England	31/01/2017	Warning
Yellow Warning of Wind for London & South East England	23/02/2017	Warning

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