

To: Kent Flood Risk Management Committee – 11th November 2019

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

Subject: Environment Agency and Met Office Alerts and Warnings and KCC severe weather response activity.

Classification: Unrestricted

Summary: To update Kent Flood Risk Management Committee on the current water situation, Environment Agency and Met Office Warnings, and flood response activity since the last meeting of the Committee on 22nd July 2019.

1. Background

- 1.1 This report is the latest in the regular updates to the Committee addressing the current water situation and severe weather and flood response activity during the period from July through to October 2019.
- 1.2 The KCC Resilience and Emergency Planning Service Duty Emergency Planning Officer (DEPO) and Contact Point receive Environment Agency (EA) and Met Office alerts and warnings regarding severe weather on a 24/7 basis. Site specific severe weather impacts are notified to the DEPO by the emergency services and other resilience partners, with reports from the public received by Contact Point and passed on to the DEPO and/or Kent Highways. DEPO further initiates multi-agency reporting using the innovative Severe Weather Impacts System (SWIMS) to capture resources and costs arising from severe weather incidents.
- 1.3 Some 85,500 residential and commercial addresses across Kent are located within areas identified as at risk from fluvial (river) or tidal flooding. Where possible, these properties are offered a Flood Warning Service by the EA. Early warning of flood risk to communities (including areas outside floodplains) is delivered through Flood Guidance Statements, Severe Weather Warnings and mobilisation of the Kent Resilience Forum (KRF) Severe Weather Advisory Group (SWAG).

2. Latest situation

- 2.1 Whilst it has been a drier summer than the previous year, the autumn has so far been wetter. Kent experienced 89% of long-term average rainfall in July, 66% in August, 86% in September and 117% in October. The latest monitoring data available (source: EA 21st October 2019) indicates that river flows within the County are all within the 'below normal' to 'notably low' ranges. However, local

rivers responded to rainfall in late September and October, with more significant fluvial responses observed across surface water sensitive urban catchments.

- 2.2 Groundwater aquifers across Kent are currently within 'normal' to 'below normal' ranges. Marginal groundwater recovery was observed in late September and early October. However, the Environment Agency states that to sustain local groundwater recovery high intensity rainfall will be needed over coming weeks, consequently it is too early to identify whether this autumn and winter's recharge season has begun.
- 2.3 All reservoirs remain within their normal ranges. However, Bough Beech reservoir is reported by the EA to currently be below its long-term average level.
- 2.4 As a result, particularly due to high astronomical tides, there has been a considerable increase in the number of flood alerts during this period when compared with last year. 42 flood alerts and 5 flood warnings were issued by the EA since the last meeting in July (5 fluvial and 42 coastal)¹. A range of interventions were triggered by the EA, County Council and partners in response to these alerts and warning, ranging from closing flood gates through to public warning and informing, mobilisation and deployment of additional staff resources. This contrasts with 4 flood alerts (3 fluvial and 1 coastal) in the corresponding period last year.
- 2.5 This period also saw a considerable increase in the number of severe weather warnings issued. Since July, 23 Met Office severe weather warnings were released (4 warnings for wind, 15 for rain and 4 for thunderstorms)². Impacts arising from this increased storminess were particularly significant in terms of Kent Highways and District colleagues dealing with surface water on the highway and fallen trees and other windblown debris. The total for the same period in 2018 was 10 (5 warnings for wind, 1 amber warning for rain and 4 yellow warnings for thunderstorms).
- 2.6 The Thames Barrier was closed on 3 occasions since the last meeting (2 for test and 1 for operational purposes)³. The figure for the corresponding period last year was 3 (all for test purposes)³.
- 2.7 EA chaired KRF SWAG teleconferences took place between 27th and 29th September ahead of forecast high astronomical tides, which were combined with a surge influence and a succession of low-pressure systems, bringing precipitation and thunderstorms.
- 2.8 The EA's Area Incident Room operated from 29th September through to Sunday 29th September, with a total of 185 personnel active within the response. The KCC DEPO and County Emergency Centre also supported these EA operations. Defences at Jury's Gap were fortified with shingle filled geo-bags

¹ Please see appendix 1

² Please see appendix 2

³ Please see appendix 3

and shingle replenishment. Local beaches are now being restored and flood defence assets assessed.

- 2.9 EA Community Information Officers were deployed during this high astronomical tide period to Front Brents at Faversham, Jury's Gap near Rye, St Margaret's at Cliffe, Dover, Littlestone, Dymchurch, Ramsgate, Halling, Strood, Upnor, Stoke, Gravesend, Warden Bay, Shellness, Strood, Rochester, Upnor, Broomhill, Faversham and Conyer during this period. At least three properties were confirmed as having been inundated during this period, two in Strood and one in Gravesend.
- 2.10 As a component of the ongoing recovery process to these events the EA is now contacting residents in Medway, Rye and Faversham, as well as affected local authorities, to gather further data on flood impacts.

3. Looking forward

- 3.1 According to Met Office long-term forecasts confidence is relatively high for a warmer and wetter than average winter, however this does not rule out short cold spells where snow and freezing conditions are possible.
- 3.2 The EA continuously runs surge forecasts, informed by astronomical tide calculations. If a risk of coastal flooding is forecast this information is communicated to partners. Elevated tides with a corresponding higher risk of coastal flooding, if in combination with high winds, are forecast between 25th and 28th November 2019.
- 3.3 KRF is facilitating a Winter Preparedness Workshop on 26th November, which will specifically address flood risk and response amongst other winter hazards. The event will be attended by KCC officers as well as partners including the Met Office, Environment Agency, Kent Fire & Rescue Service, Utilities and NHS.
- 3.4 The national East Coast Flood Group will be running an east coast surge exercise in 2020. Planning is at an early stage, but Kent is included in the scenario.
- 3.5 Kent Flood Risk Management Committee will continue to receive regular updates on water resources, flood alerts, weather warnings and response.

4. Recommendations

- 4.1 That Members:
- Note the warnings received since the last meeting of the Committee; and
 - Contribute to planning and response policy and practice through oversight and debate.

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Appendix 1: EA Flood Alerts and Warnings issued since 22nd July 2019

Date issued	Flood Zone	Status
02/09/2019	Coast from St. Margaret's at Cliffe to Sandgate	Alert
02/09/2019	Coast from Ramsgate to Kingsdown	Alert
02/09/2019	Isle of Sheppey and Coast from Kemsley to Seasalter	Alert
02/09/2019	Coast from Whitstable to Margate	Alert
02/09/2019	Tidal Medway, Medway Estuary and Isle of Grain	Alert
02/09/2019	Coast from Dartford to Allhallows	Alert
23/09/2019	River Cray to St Mary's Cray	Alert
28/09/2019	Coast from St. Margaret's at Cliffe to Sandgate	Alert
28/09/2019	Coast from Ramsgate to Kingsdown	Alert
28/09/2019	Coast from Sandgate to Dungeness	Alert
28/09/2019	Coast from Fairlight to Dungeness	Alert
29/09/2019	Tidal Medway, Medway Estuary and Isle of Grain	Alert
29/09/2019	Coast from Dartford to Allhallows	Alert
29/09/2019	Isle of Sheppey and coast from Kemsley to Seasalter	Alert
29/09/2019	Coast from Whitstable to Margate	Alert
29/09/2019	Coast from St Margaret's at Cliffe to Sandgate	Alert
29/09/2019	Coast from Ramsgate to Kingsdown	Alert
29/09/2019	Coast from Sandgate to Dungeness	Alert
29/09/2019	Coast from Fairlight to Dungeness	Alert
29/09/2019	Coast from Warden Bay to Hamlet of Shellness	Alert
29/09/2019	Coast from Folkestone to St Mary's Bay	Warning
29/09/2019	Coast from Littlestone Golf Course to Dungeness	Warning
29/09/2019	Coast from Dungeness to Rye	Warning
29/09/2019	Properties seaward side of tidal defences from Greenhithe to Gravesend	Warning
30/09/2019	Coast from St Margaret's at Cliffe to Sandgate	Alert
30/09/2019	Coast from Ramsgate to Kingsdown	Alert
30/09/2019	Tidal Medway, Medway Estuary and Isle of Grain	Alert
30/09/2019	Coast from Sandgate to Dungeness	Alert
30/09/2019	Coast from Fairlight to Dungeness and Tidal Rother	Alert
30/09/2019	Shuttle and Cray from St Mary's Cray to Crayford	Alert
30/09/2019	Tidal River Medway and Medway Estuary	Alert
30/09/2019	Coast from Warden Bay to Hamlet of Shellness	Alert
30/09/2019	Coast from Dover to Folkestone	Warning
30/10/2019	Coast from Sandgate to Dungeness	Alert
30/20/2019	Rivers Shuttle and Cray	Alert
01/10/2019	Coast from Whitstable from Margate	Alert
01/10/2019	Coast from Dartford to Allhallows	Alert
01/10/2019	Tidal Medway, Medway Estuary and Isle of Grain	Alert
01/10/2019	Isle of Sheppey and Coast from Kemsley to Seasalter	Alert
01/10/2019	Coast from Dartford to All Hallows	Alert
18/10/2019	River Rother and Tributaries from Turks Bridge to the Royal Military Canal	Alert
18/10/2019	Upper River Medway	Alert
27/10/2019	Coast from St. Margaret's at Cliffe to Sandgate	Alert
27/10/2019	Coast from Whitstable to Margate	Alert
27/10/2019	Isle of Sheppey and coast from Kemsley to Seasalter	Alert
27/10/2019	Coast from Dartford to All Hallows	Alert
27/10/2019	Tidal Medway, Medway Estuary and Isle of Grain	Alert

Appendix 2:

22 Met Office Warnings issued (including updates)

- 21 Yellow
- 1 Amber
- 8 Low Impact
- 14 Medium Impact

Met Office Warnings – July to October 2019			
Weather Element	Number of Warnings	No of Different Events	Dates of Events
Thunderstorm	4	3	23-24 Jul, 25-26 Jul, 12 Aug
Rain	15	5	27-28 Jul, 23-24 Sep, 1 Oct, 6 Oct, 14 Oct
Wind	4	2	9-10 Aug, 2 November

Appendix 3: Environment Agency Thames Barrier closures since 22nd July 2019

Thames Barrier closures	Date	Status
Thames Barrier closed	19/08/2019	Test
Thames Barrier closed	30/09/2019	Operational
Thames Barrier closed	17/10/2019	Test