

**To:** Kent Flood Risk Management Committee – 5<sup>th</sup> July 2022

**From:** Rebecca Spore, Director of Infrastructure, Strategic and Corporate Services

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

**Classification:** Unrestricted

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**Summary:** To update Kent Flood Risk Management Committee on the current water situation, weather statistics, Environment Agency and Met Office Warnings, and flood response activity since the last meeting of the Committee on 9<sup>th</sup> March 2022.

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## **1. Background**

- 1.1 This report is the latest of the regular updates to the Committee addressing the current water situation and severe weather and flood response activity.
- 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. Any 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 County Council's 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 (coastal) flooding. Where possible, flood vulnerable properties are offered a Flood Warning Service by the EA. Early warning of flood risk to communities (including areas outside of floodplains) is delivered through Flood Guidance Statements, Severe Weather Warnings and mobilisation of the Kent Resilience Forum (KRF) Severe Weather Advisory Group (SWAG).

## **2. Kent water situation and weather statistics**

- 2.1 Kent experienced another unusually dry March and April in 2022<sup>1</sup> following a similar pattern to that established in 2020 and 2021. Just 55% of long-term monthly average rainfall was recorded in March, while April was drier still, receiving just 26% of the monthly average. May saw a slightly above average rainfall total at 109% of monthly average. June was yet another drier than

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<sup>1</sup> Please see [appendix 5](#)

average month, with just 23% of long-term average rainfall recorded by the 16<sup>th</sup> of that month (53% would be average by this stage). Mean temperatures between March and May were a little warmer than average, with June a little cooler than average by the 16<sup>th</sup> (using latest available data).

- 2.2 Environment Agency monitoring indicates that soil moisture deficits continued to increase throughout the first half of May and ended that month above the long-term monthly average across all of the Kent catchments. However, there were slight reductions in the deficits in response to the heavier rainfall experienced in the second half of May, which allowed for some limited recharge. The dry spring saw many ponds and other small wetland features dry-up completely, with resultant negative impacts upon aquatic wildlife reported for the third year.
- 2.4 Groundwater levels continued to decline across all Kent key indicator locations throughout May. The chalk aquifers in the west were all **below normal**, whereas in the east the situation in the chalk was more varied, ending May between **below normal** and **normal**. The lower greensand aquifer showed a slower decline and remained within the **normal** range.
- 2.5 Kent reservoir levels continued to decline throughout May. Reservoir capacity was **normal** at Bewl on 81%, **below normal** at Bough Beech at 85% of capacity.
- 2.6 Monthly mean river flows varied between **notably low** and **normal** across Kent in May, with most of the rivers in the **below normal** range. The exceptions to this were the three Environment Agency indicator sites on the Rivers Medway and Darent which were in the **normal** range. The River Medway sites within the **normal** range were being supported by routine reservoir releases, which artificially raised the flows for a period of time during May. The daily mean flows showed only a limited response to the rainfall events in the second half of May. Low flows in some of the smaller local rivers resulted in observed reductions in water quality during spring, with reduced dilution of pollutants triggering algal blooms.
- 2.7 Partly in response to the negative impacts observed within the natural environment, ‘hands off’ flow constraints were applied to abstractors in the Medway and Upper Stour Catchments in May, while rainfall constraints have also been applied to some groundwater abstractors, as a result of the below average winter recharge. These restrictions will have inevitably impacted agriculture to varying degrees across the county.
- 2.7 The prevailing dry conditions meant that no flood alerts or warning were issued by the EA since the last meeting of the Committee in March 2022<sup>2</sup>. This contrasts with 11 flood alerts in the corresponding period in 2021.
- 2.8 The Met Office issued seven weather warnings covering Kent between March and July<sup>3</sup> (one warning for wind, one for snow and ice and five for

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<sup>2</sup> Please see [appendix 1](#)

thunderstorms)<sup>3</sup>. This contrasts with six Met Office weather warnings (four yellow warnings for wind and two for thunderstorms) in the corresponding period last year.

- 2.8 The Thames Barrier was closed on three occasions since the last meeting of the Committee in March (all for test purposes)<sup>4</sup>. The figure for the same period last year was four closures (two for flood defence and two for test purposes).
- 2.9 The most significant flooding experienced in the County since the last meeting was associated with thunderstorms affecting parts of the county overnight on 24/25<sup>th</sup> May, when isolated surface water flooding and sewerage infrastructure surcharge was reported. A high-profile wastewater surcharge incident in Maidstone town centre is currently under investigation by Southern Water, with a third-party misconnection of surface water drainage into their infrastructure suspected.

### **3. Outlook**

- 3.1 The Met Office three-month outlook summary covering June to August indicates a 5% chance that this period will be cooler than average, a 55% chance that it will be near average and a 40% chance that it will be warmer than average. In terms of rainfall, the summary indicates a 15% chance the season will be drier than average, 75% chance that it will be near average and a 10% chance it will be wetter than average.
- 3.2 The EA continuously runs surge forecasts, informed by astronomical tide calculations. If a risk of coastal flooding is forecast, then this information is communicated to partners. However, coastal flooding can still occur outside of high spring tides, as the result of a storm or breach of defences.
- 3.3 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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<sup>3</sup> Please see [appendix 2](#)

<sup>3</sup> Please see [appendix 3](#)

<sup>4</sup> Please see [appendix 4](#)

## 5. Contact Details

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**Appendix 1: EA Flood Alerts and Warnings issued since 9<sup>th</sup> March 2022**

Date issued	Flood Zone	Status
N/A	No EA Flood Alerts or Warnings issued within this period	N/A

**Appendix 2: Met Office Severe Weather Warnings by Element – November 2021 to March 2022**

Weather Element	Number of Warnings	No of Different Events	Dates covered by Events
Thunderstorm	5	5	15th - 16th & 18th - 19th May / 4th, 6th, 23rd June
Snow & Ice	1	1	1st April
Wind	1	1	7th April

**Appendix 3: Met Office Severe Weather Warnings by Warning Level – March 2022 to July 2022**

Warning Type	Number of Warnings
Yellow Warnings	7

**Appendix 4: Environment Agency Thames Barrier closures since 9<sup>th</sup> March 2022**

Thames Barrier closures	Date	Status
Thames Barrier closed	19/04/22	Test
Thames Barrier closed	19/05/22	Test
Thames Barrier closed	16/06/22	Test

**Appendix 5: Met Office Rainfall and Mean Temperature – March 2022 to June 2022**

Month	Rain	Mean Temp
March	55%	+0.1 C
April	26%	+0.1 C
May	117%	+1.0 C
June (1-20)	23%	-0.3C

