

To: Kent Flood Risk Management Committee – 21st March 2023
From: Rebecca Spore, Director of Infrastructure, Deputy Chief Executive's Department
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, weather statistics, Environment Agency and Met Office Warnings, and flood response activity since the last meeting of the Committee on 9th November 2022.

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 multiagency 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 Despite a cold snap with some localised snowfall between 11th and 18th December, the month ended only 0.9% cooler than the long-term average. Indeed, the rapid thaw that following a week of cold weather resulted in water leaks, pipe bursts and technical problems at a number of reservoirs. This led to widespread and sometimes prolonged water supply disruption across parts of Kent.
- 2.2 The first area of the county to be significantly impacted by water supply disruption was Tunbridge Wells, with some 5,000 addresses identified as at risk of supply interruptions. A combination of smaller leaks and a large trunk main burst caused some local reservoirs to trip out. A pipe burst at nearby Paddock Wood and another leak at Southborough, compounded these problems. It was not until 23rd December that water pressure was fully restored to the Tunbridge Wells area.

- 2.3 Broadstairs and suits environs were also affected by freeze-thaw damage to water supply infrastructure from 19th December, with some 13 to 19,000 addresses identified as vulnerable to disruption. Bottled water was delivered to hundreds of vulnerable customers, while static water stations operated at local schools. Supply in Broadstairs was restored by 20th December.
- 2.4 The water supply disruption of the longest duration affected some of Kent's rural communities, including Challock, Molash Charing, Cranbrook, Biddenden, Collier Street, Polhill and Staplehurst. Identifying and supporting vulnerable customers, including care homes and sheltered housing, required a significant multiagency effort, while Kent Fire and Rescue Service used their tanker and bowser fleet to ensure the welfare of livestock at local farms and smallholdings. Staplehurst, in Maidstone Borough, did not see normal supply fully return until the evening of Christmas day and some localised outages persisted in the Biddenden area until 28th December.
- 2.5 Kent went on to experience a drier than average start to 2023. Following the near average rainfall seen in December and January, the month of February was notably dry in Kent, with only 13% of long-term average rainfall recorded. Across England as a whole, February was the driest since 1993 and the fifth mildest since records began.
- 2.6 Kent, South London and East Sussex Environment Agency moved from 'Drought' into 'Recovery' from 16th January 2023. However, it is important to note that whilst the overall situation has improved, not all water resources are back to normal status and the Environment Agency continues to monitor the situation closely.
- 2.7 The latest river flow data available from the Environment Agency, which covers the last week in February, indicates that the Rivers Medway and Rother currently support **notably low flows**, while the Stour is at **below normal**.
- 2.9 Following a wet November and near average rainfall levels in December and the first part of January, the groundwater situation across Kent's Lower Greensand and Chalk aquifers improved considerably, attaining **normal** status in west and **above normal** in east Kent. Following a drier end of January and a notably dry February, groundwater levels in Kent are no longer rising.
- 2.10 Levels at the Bough Beech and Bewl reservoirs are currently **normal**.
- 2.11 79 flood alerts and seven warnings were issued by the EA since the last meeting of the Committee (73 fluvial and 13 coastal)¹. This contrasts with 61 flood alerts and five warnings (14 fluvial and 52 coastal) in the corresponding period in 2021/22.
- 2.12 The Met Office issued 27 yellow weather warnings between November 2022 and March 2023 (seven for fog, six for snow and ice, five for ice, four for rain, two for wind and rain, two for snow and one for thunderstorm)². This contrasts

¹ Please see appendix 1

² Please see appendix 2

with 23 weather warnings between November and February (15 warnings for wind, five for fog, two for thunderstorms and one for snow) in the same period in 2021/11.

- 2.13 The Thames Barrier was closed on five occasions since the last meeting of the Committee (two for operational and three for test purposes)³. The figure for the corresponding period last year was also five (all for operational purposes).

3. Outlook

- 3.1 The Met Office three month outlook summary indicates a 15% chance that March to May will be cooler than average, a 50% chance that it will be near average and a 35% chance that it will be warmer than average. In terms of rainfall, the summary indicates a 30% chance the season will be drier than average, 60% chance that it will be near average and a 10% chance it will be wetter than average. As regards likely wind speeds, the summary suggests a 30% chance that it will be calmer than average, a 55% that they will be near average and 15% chance of windier than average conditions.
- 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. Indeed, the next notably high equinoctial spring tides, with a corresponding elevated risk of coastal flooding, if in combination with high winds, are forecast for around 27th March. However, coastal flooding can still occur outside of high spring tides.
- 3.3 To support local contingency planning for flood response, the county council is facilitating a reservoir inundation exercise for key partners in May.
- 3.4 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.

5. Contact Details

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³ Please see appendix 3

Appendix 1: EA Flood Alerts and Warnings issued since 9th November 2022

Date issued	Flood Zone	Status
09/11/2022	Upper River Medway Area	Alert
15/11/2022	River Medway from Forest Row to Penshurst, including Ashurst	Alert
15/11/2022	Rivers Eden and Eden Brook	Alert
16/11/2022	Upper River Stour	Alert
16/11/2022	River Bourne from Hadlow to East Peckham	Alert
16/11/2022	Lower River Medway	Warning
16/11/2022	River Rother and its tributaries	Alert
16/11/2022	River Teise from Lamberhurst to Goudhurst	Alert
16/11/2022	River Teise and Lesser Teise from Horsmonden to Yalding	Alert
16/11/2022	River Teise and Lesser Teise area from Horsmonden to Yalding	Warning
16/11/2022	River Medway between Forest Row and Penshurst	Warning
16/11/2022	River Darent from Westerham to Dartford	Warning
16/11/2022	Rivers Eden and Eden Brook	Alert
16/11/2022	Middle River Medway	Alert
16/11/2022	Whitewater and Ruckinge Dykes	Warning
17/11/2022	River Teise and Lesser Teise	Warning
17/11/2022	Rivers Eden and Eden Brook, from Crowhurst and Blindley Heath to Penshurst	Warning
17/11/2022	River Beult from Pluckley and Bethersden to Stilebridge	Alert
17/11/2022	Lower River Stour	Alert
17/11/2022	New Romney Sewage Arm	Alert
26/11/2022	River Rother and its tributaries from Turks Bridge to the Royal Military Canal	Alert
26/11/2022	Upper River Medway Area	Alert
26/11/2022	Rivers Eden and Eden Brook	Alert
27/11/2022	Upper River Stour	Alert
27/11/2022	Hamstreet Arm area	Alert
27/11/2022	New Romney Sewage Arm	Alert
27/11/2022	Lower River Medway	Alert
28/11/2022	River Beult from Pluckley and Bethersden to Hampstead Lock at Yalding	Alert
28/11/2022	Tidal Stour Area from Fordwich to Stonar Cut	Alert
19/12/2022	Upper River Medway Area	Alert
19/12/2022	River Rother and its tributaries from Turks Bridge to the Royal Military Canal	Alert
19/12/2022	Nailbourne and Little Stour Area	Alert
19/12/2022	Upper River Stour	Alert
19/12/2022	River Beult from Pluckley and Bethersden to Hampstead Lock at Yalding	Alert
19/12/2022	Lower River Medway Area	Alert
19/12/2022	Middle River Medway Area	Alert
19/12/2022	Rivers Eden and Eden Brook	Alert
23/12/2022	Upper River Medway Area	Alert
23/12/2022	Upper River Stour	Alert
23/12/2022	Rivers Eden and Eden Brook Area	Alert
23/12/2022	Rivers on the Isle of Sheppey	Alert
23/12/2022	Lower River Medway	Alert
26/12/2022	Coast from Dartford to Allhallows	Alert
26/12/2022	Coast from Whitstable to Margate	Alert

26/12/2022	Tidal River Medway and Medway estuary	Alert
26/12/2022	Isle of Sheppey and Coast from Kemsley to Seasalter	Alert
26/12/2022	Tidal Thames Riverside from Dartford Creek and The Mardyke to the Thames Barrier	Alert
28/12/2022	Upper River Medway	Alert
28/12/2022	River Rother and its tributaries from Turks Bridge to the Royal Military Canal	Alert
29/12/2022	Lower River Medway	Alert
30/12/2022	Upper River Medway	Alert
30/12/2022	River Beult from Pluckley and Bethersden to Hampstead Lock at Yalding	Alert
30/12/2022	Upper River Stour	Alert
30/12/2022	River Rother and its tributaries from Turks Bridge to the Royal Military Canal	Alert
31/12/2022	New Romney Sewage Arm	Alert
31/12/2022	River Teise area from Lamberhurst to Goudhurst	Alert
31/12/2022	Rivers Eden and Eden Brook	Alert
31/12/2022	Middle River Medway	Alert
01/01/2023	Plenty, Swalecliffe and West Brooks	Alert
01/01/2023	River Teise and Lesser Teise area from Horsmonden to Yalding	Alert
01/01/2023	River Beult from Pluckley and Bethersden to Hampstead Lock at Yalding	Alert
01/01/2023	Lower River Stour	Alert
02/01/2023	River Beult from Stilebridge to Hampstead Lock at Yalding	Alert
14/01/2023	Upper River Medway Area	Alert
14/01/2023	River Rother and its tributaries from Turks Bridge to the Royal Military Canal	Alert
14/01/2023	Upper River Stour	Alert
14/01/2023	River Teise from Lamberhurst to Goudhurst	Alert
14/01/2023	Lower River Medway	Alert
14/01/2023	River Eden and Eden Brook	Alert
16/01/2023	Upper River Stour	Alert
16/01/2023	New Romney Sewage Arm	Alert
16/01/2023	Upper River Medway Area	Alert
16/01/2023	River Rother and its tributaries from Turks Bridge to the Royal Military Canal	Alert
16/01/2023	River Beult from Pluckley and Bethersden to Hampstead Lock at Yalding	Alert
16/01/2023	Upper River Stour	Alert
16/01/2023	Lower River Medway	Alert
16/01/2023	Lower River Stour	Alert
20/02/2023	Coast from St Margaret's at Cliffe to Sandgate	Alert
20/02/2023	Coast from Ramsgate to Kingsdown	Alert
22/02/2023	Coast from Ramsgate to Kingsdown	Alert
22/02/2023	Coast from St Margaret's at Cliffe to Sandgate	Alert
22/02/2023	Isle of Sheppey from Kemsley to Seasalter	Alert
22/02/2023	Coast from Dartford to Allhallows	Alert
22/02/2023	Coast from Whitstable to Margate	Alert
22/02/2023	Tidal Medway, Medway Estuary and Isle of Grain	Alert
24/02/2023	Isle of Sheppey from Kemsley to Seasalter	Alert
24/02/2023	Coast from Dartford to Allhallows	Alert
24/02/2023	Tidal Medway, Medway Estuary and Isle of Grain	Alert

24/02/2023	Coast from Whitstable to Margate	Alert
24/02/2023	Coast from Ramsgate to Kingsdown	Alert
24/02/2023	Coast from St Margaret's at Cliffe to Sandgate	Alert

Appendix 2: Met Office Severe Weather Warnings - November 2022 to March 2023

Weather Element	Number of Warnings	No of Different Events	Dates covered by Events
Fog	7	5	14 th November 2022 11 th & 12 th December 2022 22 nd January 2023 8 th February 2023 14 th February 2023
Ice	5	3	12 th & 13 th December 2022 18 th December 2022 17 th & 18 th January 2023
Rain	4	3	31 st November 2022 6 th & 7 th November 2022 16 th & 17 th November 2022
Snow	2	2	16 th January 2023 6 th & 7 th March 2023
Snow & Ice	5	2	11 th & 12 th December 2022 8 th March 2023
Thunderstorm	1	1	3 rd & 4 th November 2022
Wind & Rain	2	1	24 th November 2022

Appendix 3: Environment Agency Thames Barrier closures since 9th November 2022

Thames Barrier closures	Date	Status
Thames Barrier closed	14/11/2022	Test
Thames Barrier closed	14/12/2022	Test
Thames Barrier closed	25/12/2022	Operational
Thames Barrier closed	26/12/2022	Operational
Thames Barrier closed	09/02/2023	Test