

To: Kent Flood Risk Management Committee – 9th March 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

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 24th November 2021.

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 an unusually dry November 2021, with 23% of long-term monthly average rainfall recorded. By contrast, December saw a marginally above average rainfall total, at 104% of the long-term monthly average. Temperatures between November and January were close to average.

- 2.2 January saw a return to drier conditions, recording 26% of the long-term monthly average. Rainfall totals for February are forecast to be around average and temperatures a little warmer than the norm, at +2.4 C for the month up to 20th.
- 2.3 The latest data available from the Environment Agency shows soil moisture deficits increasing across Kent but still close to the long-term average. The exceptions being the Isles of Sheppey, Grain and Thanet, which are notably below the long term average. Ground conditions remain receptive to further recharge.
- 2.4 Groundwater levels are best classified as **normal** across all major aquifers. Despite a dry January, groundwater resources remain in a favourable condition, and there are no imminent concerns from a water resources perspective. Meanwhile, the risk of groundwater flooding occurring this winter has reduced.
- 2.5 Reservoir levels in Kent are stable, with Bewl at 79% capacity, which is **normal**, while Bough Beech reached full capacity during January.
- 2.6 61 flood alerts and five flood warning were issued by the EA since the last meeting of the Committee in November 2021 (14 fluvial and 52 coastal)¹. This contrasts with 91 flood alerts and 26 warnings (107 fluvial and 10 coastal) in the corresponding period in 2020/21.
- 2.7 The Met Office issued 23 weather warnings covering Kent between November and February³ (15 warnings for wind, five for fog, two for thunderstorms and one for snow)². This contrasts with 47 Met Office weather warnings (seven for wind, six for fog, one for rain and snow, 10 for snow and ice, eight for ice, eight for rain, seven for snow) in the corresponding period last year.
- 2.8 The Thames Barrier was closed on five occasions since the last meeting of the Committee in November (all for flood defence)⁴. The figure for the corresponding period was eight (seven for flood defence and one for test purposes).
- 2.9 The most significant flooding experienced in the County since the last meeting was associated with high spring tides coinciding with wave and surge activity driven by Storms Eunice and Franklin. Overtopping of defences was recorded at Denge on 18th February. Varying degrees of tidal flooding also affected a swathe of the North Kent coast, from Gravesend through to the Isle of Sheppey, on the afternoon of Monday 21st February, resulting in inundation of roads and commercial property requiring rescue operations by Kent Fire and Rescue Service personnel.

¹ Please see appendix 1

² Please see appendix 2

³ Please see appendix 3

⁴ Please see appendix 4

3. Outlook

- 3.1 The Met Office three month outlook summary covering February to April indicates a 5% chance that this period will be cooler than average, a 40% chance that it will be near average and a 55% chance that it will be milder than average. In terms of rainfall, the summary indicates a 10% chance the season will be drier than average, 60% chance that it will be near average and a 30% 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. 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 20th to 23rd March. However, coastal flooding can still occur outside of high spring tides, as the result of a storm or breach of defences.
- 3.3 To support local contingency planning for flood response, a multiagency flood response exercise was undertaken on 6th December 2021 to test and validate the updated [KCC Flood Response Plan](#). Further, an All Member Briefing, entitled Future Flooding, was delivered on 4th March, covering emergency planning, highways drainage, flood risk management and climate change adaptation subject matters.
- 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

Report Author: Tony Harwood (Resilience and Emergency Planning Manager), Infrastructure, Strategic and Corporate Services, tel. 03000 413 386, e-mail tony.harwood@kent.gov.uk

Relevant Director: Rebecca Spore (Director of Infrastructure), Strategic and Corporate Services tel. 03000 412 064, email rebecca.spore@kent.gov.uk

Appendix 1: EA Flood Alerts and Warnings issued since 24th November 2021

Date issued	Flood Zone	Status
07/12/2021	Hamstreet Arm area	Flood Alert
07/12/2021	Upper River Stour	Flood Alert
07/12/2021	Upper River Medway area	Flood Alert
08/12/2021	Lower River Medway area	Flood Alert
08/12/2021	River Beult from Pluckley and Bethersden to Hampstead Lock at Yalding	Flood Alert
25/12/2021	River Beult from Pluckley and Bethersden to Hampstead Lock at Yalding	Flood Alert
25/12/2021	Lower River Medway Area	Flood Alert
25/12/2021	Upper River Stour	Flood Alert
25/12/2021	River Rother and its tributaries from Turks Bridge to the Royal Military Canal	Flood Alert
27/12/2021	River Rother and its tributaries from Turks Bridge to the Royal Military Canal	Flood Alert
28/12/2021	Lower River Medway Area	Flood Alert
28/12/2021	Upper River Medway Area	Flood Alert
03/01/2022	Coast from St Margaret's at Cliffe to Sandgate	Flood Alert
03/01/2022	Coast from Ramsgate to Kingsdown	Flood Alert
04/01/2022	Coast from Dartford to Allhallows	Flood Alert
04/01/2022	Coast from Whitstable to Margate	Flood Alert
04/01/2022	Tidal Thames riverside from Dartford Creek and The Mardyke to the Thames Barrier	Flood Alert
04/01/2022	Isle of Sheppey and Coast from Kemsley to Seasalter	Flood Alert
04/01/2022	Tidal Medway, Medway estuary and Isle of Grain	Flood Alert
04/01/2022	Lower River Medway Area	Flood Alert
04/01/2022	Tidal Medway, Medway estuary and Isle of Grain	Flood Warning
05/01/2022	Tidal Thames riverside from Dartford Creek and The Mardyke to the Thames Barrier	Flood Alert
05/01/2022	Tidal Medway, Medway estuary and Isle of Grain	Flood Warning
31/01/2022	Tidal Thames riverside from Dartford Creek and The Mardyke to the Thames Barrier	Flood Alert
31/01/2022	Coast from Dartford to Allhallows	Flood Alert
31/01/2022	Tidal Medway, Medway estuary and Isle of Grain	Flood Alert
31/01/2022	Coast from Whitstable to Margate	Flood Alert
31/01/2022	Isle of Sheppey and Coast from Kemsley to Seasalter	Flood Alert
31/01/2022	Coast from St Margaret's at Cliffe to Sandgate	Flood Alert
31/01/2022	Coast from Ramsgate to Kingsdown	Flood Alert
01/02/2022	Coast from Whitstable to Margate	Flood Alert
01/02/2022	Isle of Sheppey and Coast from Kemsley to Seasalter	Flood Alert
01/02/2022	Coast from Dartford to Allhallows	Flood Alert
01/02/2022	Tidal Medway, Medway estuary and Isle of Grain	Flood Alert
04/02/2022	Coast from Whitstable to Margate	Flood Alert
04/02/2022	Coast from Dartford to Allhallows	Flood Alert
04/02/2022	Isle of Sheppey and Coast from Kemsley to Seasalter	Flood Alert
04/02/2022	Tidal Medway, Medway estuary and Isle of Grain	Flood Alert
04/02/2022	Tidal Thames riverside from Dartford Creek and The Mardyke to the Thames Barrier	Flood Alert
04/02/2022	Coast from St Margaret's at Cliffe to Sandgate	Flood Alert
04/02/2022	Coast from Ramsgate to Kingsdown	Flood Alert
06/02/2022	Coast from St Margaret's at Cliffe to Sandgate	Flood Alert
06/02/2022	Coast from Ramsgate to Kingsdown	Flood Alert
06/02/2022	Coast from Dartford to Allhallows	Flood Alert

06/02/2022	Tidal Medway, Medway estuary and Isle of Grain	Flood Alert
06/02/2022	Isle of Sheppey and Coast from Kemsley to Seasalter	Flood Alert
06/02/2022	Coast from Whitstable to Margate	Flood Alert
17/02/2022	Coast from Fairlight to Dungeness Including The Tidal Rother	Flood Alert
17/02/2022	Coast from Sandgate to Dungeness	Flood Alert
20/02/2022	Coast from Dartford to Allhallows	Flood Alert
20/02/2022	Tidal Medway, Medway estuary and Isle of Grain	Flood Alert
20/02/2022	Coast from Whitstable to Margate	Flood Alert
20/02/2022	Isle of Sheppey and Coast from Kemsley to Seasalter	Flood Alert
20/02/2022	Coast from Whitstable to Margate	Flood Alert
20/02/2022	Isle of Sheppey and Coast from Kemsley to Seasalter	Flood Alert
20/02/2022	Coast from Dartford to Allhallows	Flood Alert
20/02/2022	Tidal Medway, Medway estuary and Isle of Grain	Flood Alert
21/02/2022	Tidal Thames riverside from Dartford Creek and The Mardyke to the Thames Barrier	Flood Alert
21/02/2022	Properties seaward side of tidal defences from Greenhithe to Gravesend	Flood Warning
21/02/2022	Coast from Kemsley to Seasalter	Flood Warning
21/02/2022	Tidal River Medway and Medway estuary	Flood Warning
21/02/2022	Lower River Medway Area	Flood Alert
22/02/2022	Coast from Dartford to Allhallows	Flood Alert
22/02/2022	Tidal Medway, Medway estuary and Isle of Grain	Flood Alert
22/02/2022	Isle of Sheppey and Coast from Kemsley to Seasalter	Flood Alert
22/02/2022	Coast from Whitstable to Margate	Flood Alert

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	2	1	2 nd January
Snow	1	1	27 th November
Wind	15	4	5 th – 7 th December 18 th – 21 st February
Fog	5	5	13 th – 18 th January

Appendix 3: Met Office Severe Weather Warnings by Warning Level – November 2021 to March 2022

Warning Type	Number of Warnings
Yellow Warnings	16
Amber Warnings	2
Red Warnings	1
Total Warnings	19

Appendix 4: Environment Agency Thames Barrier closures since 24th November 2021

Thames Barrier closures	Date	Status
Thames Barrier closed	04/01/2022	Operational
Thames Barrier closed	30/01/2022	Operational
Thames Barrier closed	31/01/2022	Operational
Thames Barrier closed	04/02/2022	Operational
Thames Barrier closed	21/02/2022	Operational