

# KENT COUNTY COUNCIL

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## KENT FLOOD RISK AND WATER MANAGEMENT COMMITTEE

MINUTES of a meeting of the Kent Flood Risk and Water Management Committee held in the Council Chamber, Sessions House, County Hall, Maidstone on Wednesday, 20 November 2024.

PRESENT: Mr A R Hills (Chairman), Mr D L Brazier, Mr D Crow-Brown, Ms M Dawkins and Mr M A J Hood

ALSO PRESENT: Mrs L Wright

IN ATTENDANCE: Ms J Shippey (South East Water), Mr Andrew Halliday (South East Water), Mr A Feacey (Resilience and Emergency Planning Manager), Roshana Iruthayaraj (Resilience and Emergency Project Officer), Ms G Brown (KALC), Charles Mackonochie (KALC), Cllr C Cornell (Canterbury City Council), Cllr S Brown (Dartford Borough Council), Cllr C Gale (Dartford Borough Council), Ms D Croxton (Gravesham Borough Council), , Cllr Summersgill (Maidstone Borough Council), Cllr R Yates (Thanet District Council), and, Cllr M Boughton (Tonbridge and Malling Borough Council)

### UNRESTRICTED ITEMS

**1. Apologies**  
*(Item 1)*

Apologies were received from Mr Cole and Mrs McArthur.

**2. Declarations of Interest**  
*(Item 2)*

There were no declarations of interest.

**3. Minutes of the meeting on 16 July 2024**  
*(Item 3)*

RESOLVED that the minutes of the meeting held on 16 July 2024 were an accurate record and that they be signed by the Chair.

**4. How the Environment Agency manage water quality**  
*(Item 4)*

The agenda item was adjourned due to the absence of a representative from the Environment Agency.

## **5. South East Water - Water Resources Management Plan**

*(Item 5)*

*Jo Shippey, Community Engagement Manager and Andrew Halliday, Water Resources Strategy Manager, from South East Water were in attendance for this item*

1) Mr Halliday presented on the Water Resources Management Plan.

2) Further to questions from Members and guests, it was noted that:

- The housing projections and population growth projections were used in the water resources management planning but it was difficult to meet the challenge of localised changes in population density.
- South East Water worked closely with other stakeholders and regulators as part of environmental considerations. South East Water had a close working relationship with Southern Water.
- There was a national forum of water companies where desalination was discussed and other matters. Further understanding of how other countries are using desalination for water supply was being developed.
- South East Water was working with Southern Water on possible water recycling.
- Concerns were raised about risks associated with demand management and the emphasis on customers using less water. It was felt water auditing with customers would help them understand how to use less and smart metering would help to identify leaks.
- South East Water were due to receive the final settlement from Ofwat in December. South East Water were making representations as part of local plan engagement processes and seeking that where possible that developments have lower per capita consumption (PCC).

3) RESOLVED to note the report.

## **6. Kent Flood Resilience**

*(Item 6)*

*Andy Jeffery, Head of Resilience and Emergency Planning, was in virtual attendance for this item*

1) Mr Jeffery presented on planning for flooding in Kent. See presentation attached.

2) Further to questions from Members and guests, it was noted that:

- Different agencies who respond where there are flooding incidents have their own stocks of equipment such as sandbags, pumps, etc. Agencies would work together to mitigate the effects of a 'once in a lifetime' flooding event.
- In the case of a very severe event, such as the Wantsum Channel flooding and cutting of Thanet from the rest of Kent, national assistance would be required.

- Each district and borough had its own multi-agency flood plan. KCC worked with the Environment Agency on the template used for these plans and to make sure local representatives of the agencies were part of the process of updating these plans. As part of this work, it was considered where parts of plans could have impacts elsewhere. The plans were to be fully reviewed every 3 years but in the interim, they were monitored on at least an annual basis.
- It was felt that work was needed in communities to make sure residents were prepared and knew what actions to take in event of a flooding emergency.

3) RESOLVED to note the presentation.

**7. Environment Agency and Met Office Alerts and Warnings and KCC severe weather response activity**  
*(Item 7)*

*Andy Jeffery, Head of Resilience and Emergency Planning, was in virtual attendance for this item*

1) Mr Jeffery outlined the report.

2) Further to questions from Members, it was noted that:

- Data on Environment Agency flood alerts was missing but this would be brought to the next meeting and it was requested that more information be brought to show the direction of travel in terms of the Environment Agency's work in regard to flooding in Kent.

3) RESOLVED to note the report.

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# Kent County Council Flood Risk Management Committee meeting

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20 November 2024



# Agenda

About us / key dates

Water resources in Kent

Page 2 Water Resources Management Plan

- Creating the plan
- Regional planning
- Challenges
- Solutions
- Our final plan



## About us

We supply fresh, clean drinking water to **2.3 million** customers

On average, we treat and pump **530 million litres\*** to customers each day

Each customer uses an average of **144 litres** a day

The average daily household bill is **67p\***

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We operate **88 treatment works**

Deliver water 24/7 through **9,000 miles** of pipe

Manage **33 sites** of Special Scientific Interest

Undertake **one million** water quality tests each year

\*2021/22 figures

## Our purpose

**To provide today's public water service and create tomorrow's water supply solutions, fairly and responsibly, working with others to help society and the environment to thrive.**



# Key dates

**14 November 2022** - dWRMP24 Consultation launched  
- Regional best value preferred plan consultation launched

**20 February 2023** - dWRMP24 Consultation closed  
- Regional best value preferred plan consultation closed

**May 2023** - dWRMP24 statement of response  
- Regional best value preferred plan statement of response

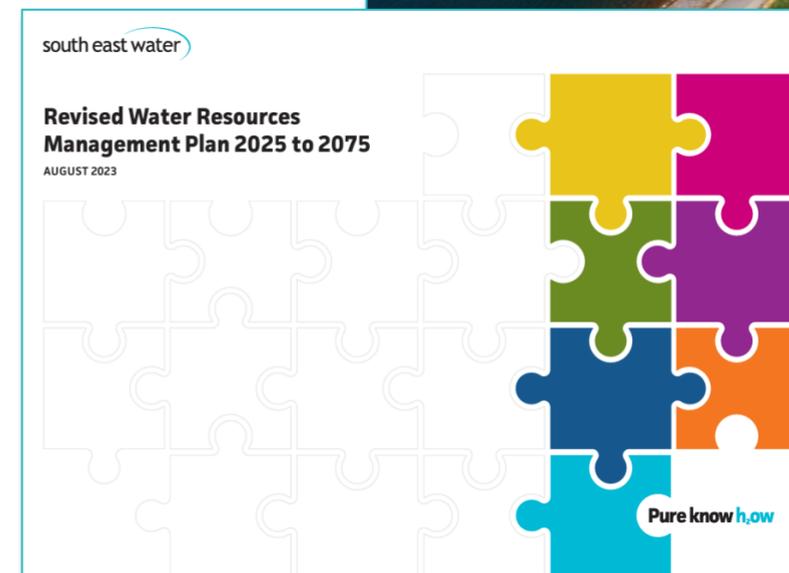
**August 2023** - Revised WRMP24 published  
- Revised regional best value plan published

**March 2024** - Responded to and published response to Defra comments on our revised WRMP24

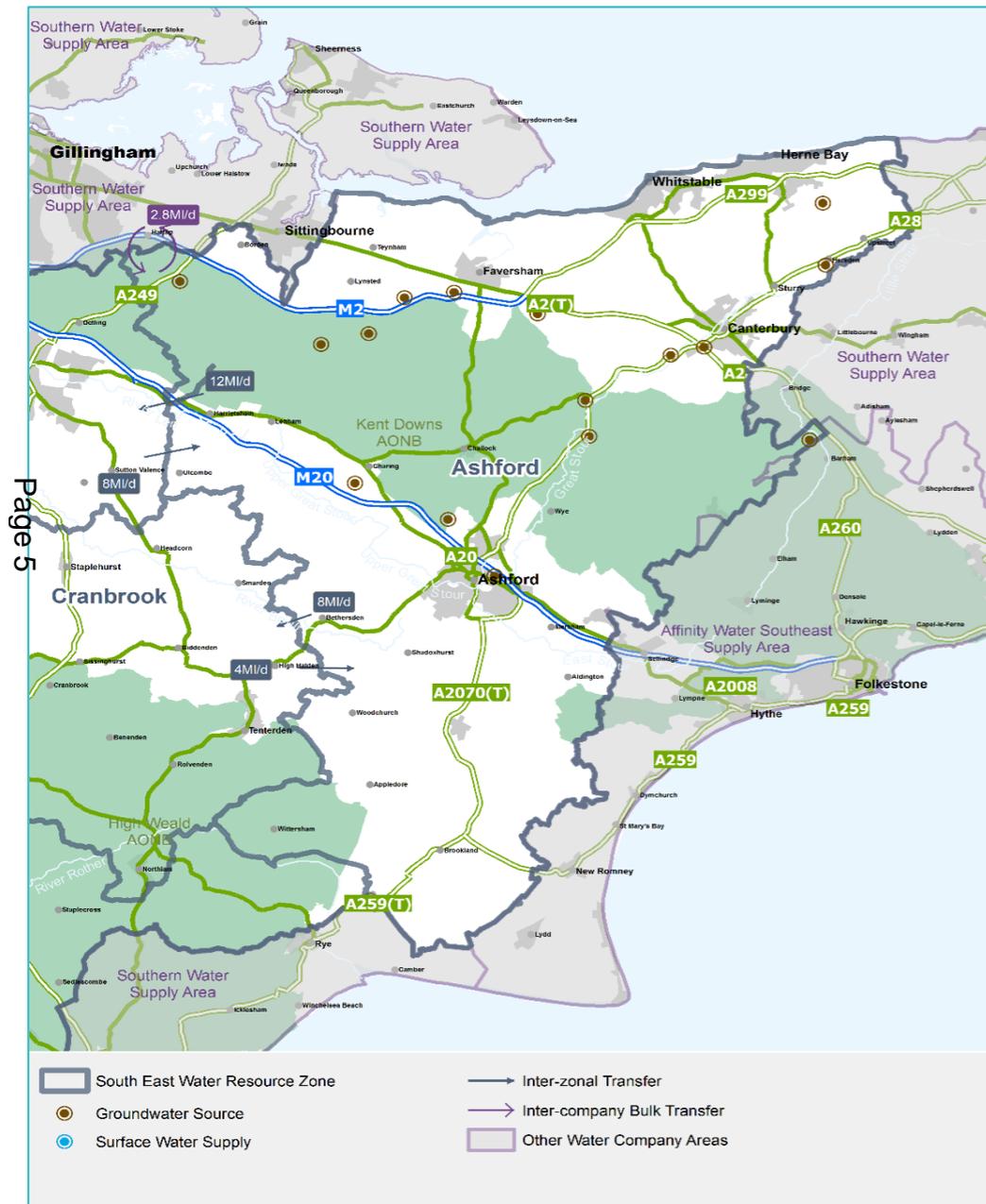
**October 2024** - Final WRMP24 published

**December 2024** - Price Review 2024 (business plan) final determination published with plan options included

**2025 onwards** - Delivery of our plans



# Water resources in Kent



- Population in our Kent region is **729,000** people.
- Average, normal year, daily demand in 2025 is forecast to be approximately **175 MI/d**. 19% is from non-household use.
- Available water during a normal year in 2025 is forecast to be approximately **207 MI/d**.
  - 87% of water is supplied by **groundwater sources**
  - 10% comes from our **shared surface water sources** which includes Bewl Reservoir and the River Medway.
  - We also have **1 bulk supply** of water from Southern Water which provides 3% of supplies

# Creating the water resources management plan (WRMP)

- The draft, revised and final WRMPs have been developed according to the guidelines set out by our environmental and economic regulators.
- They have been created in collaboration with Water Resources South East (WRSE) an alliance of six water companies.
- The final plan looks at how we will keep our customers taps running between 2025 and 2075 while minimising the impact on the environment and customers' bills.
- They have been developed with input from customers, communities, other water providers and stakeholders.
- Take into account both the challenges and opportunities we face over the next 50 years, such as:

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Challenges	Opportunities
Future population and housing growth	Delivering a plan that is affordable
Operating in an area of severe water stress	Sharing resources with neighbouring companies
Uncertainty of climate change impacts	Ensuring environmental resilience

# Regional water resources planning

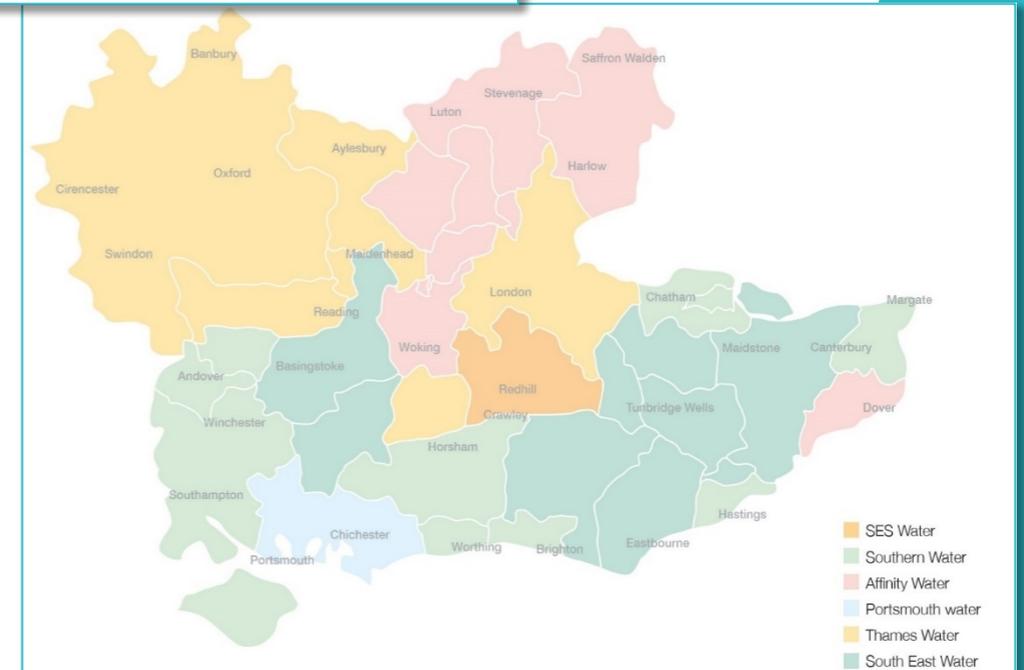
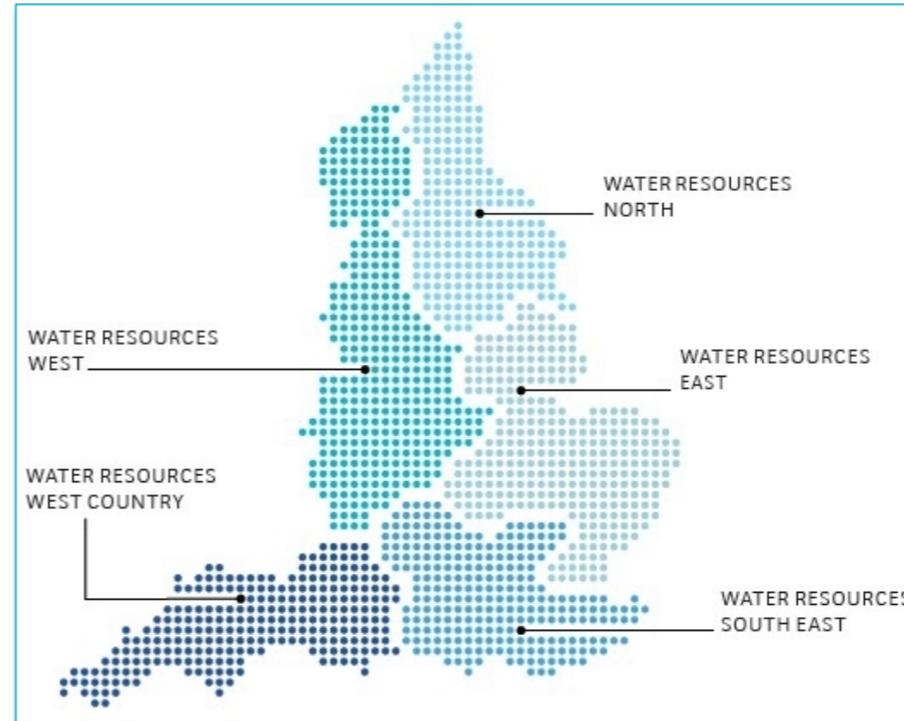
## The regional first approach

- Step-change in water resource planning.
- Ensures that, when combined, all plans can meet the national need for water in a dynamic and flexible way.

## Water Resources South East

Water Resources in the South East (WRSE) formed in 1996

- Working regionally ensures we look beyond boundaries at:
  - Population growth
  - Protection of the environment
  - Dry weather/drought resilience
  - Climate change
  - New infrastructure
  - Catchment management solutions

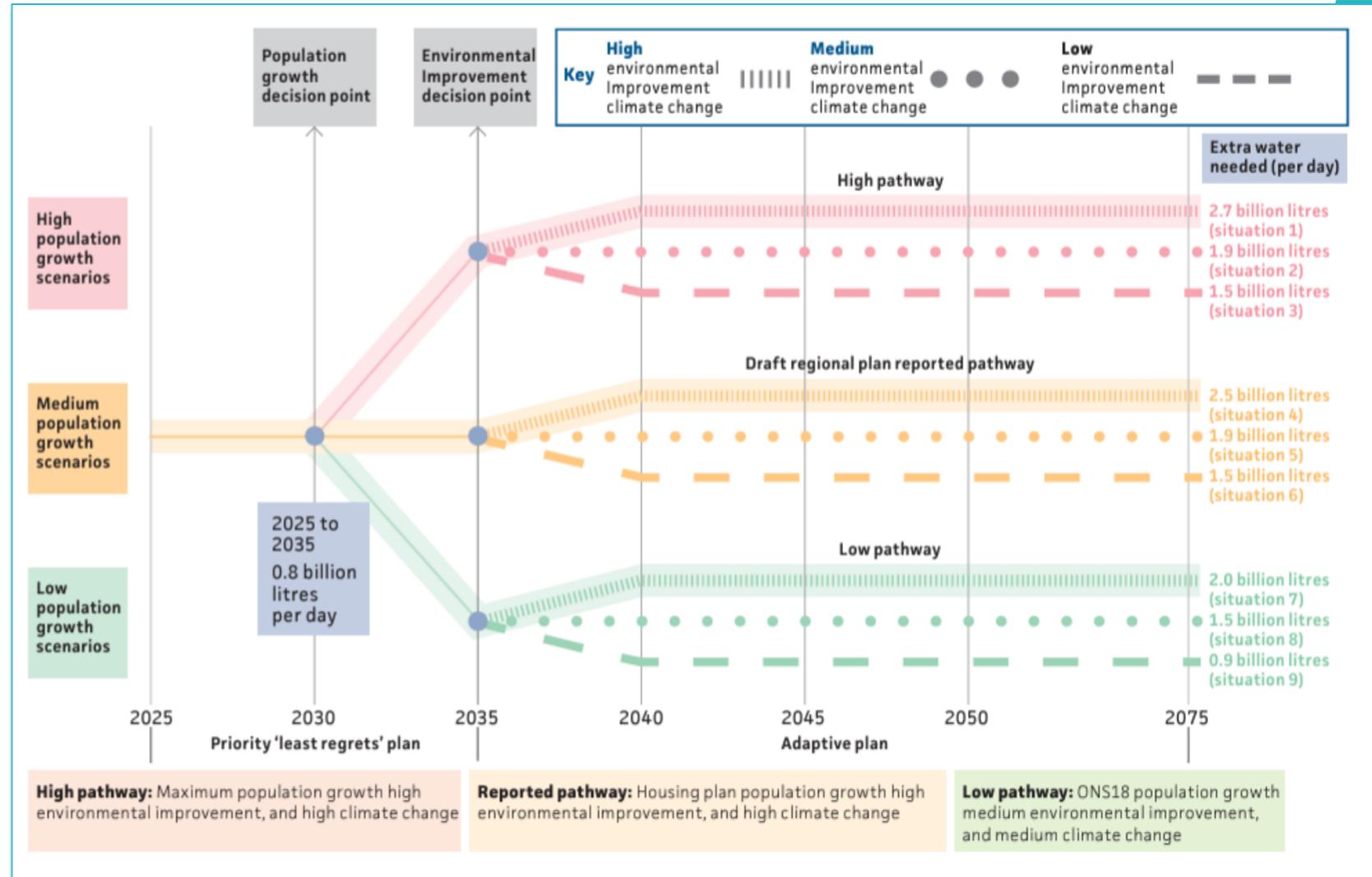


# Adaptive planning

We use the most up-to-date and relevant tools, methods and data to produce our supply and demand forecasts. We have looked at a range of nine future scenarios (situations) we might face over the next 50 years, with different combinations of:

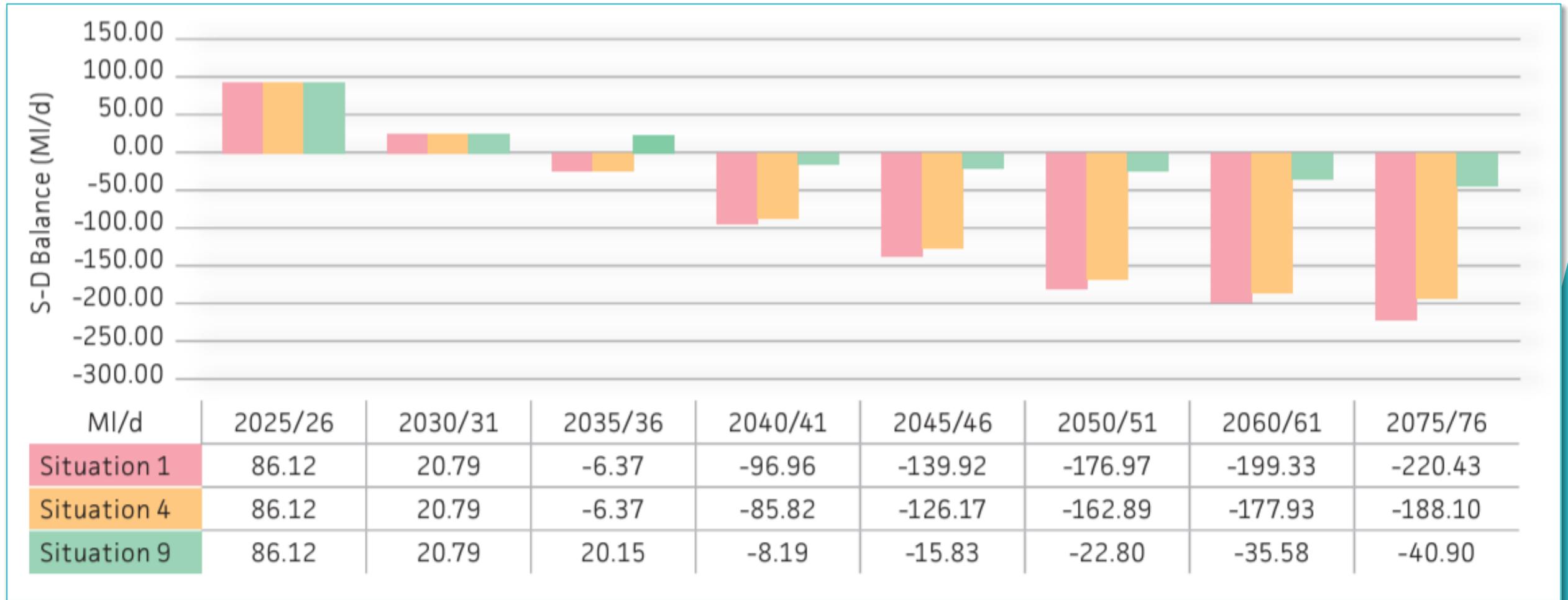
- Population changes
- Non-household (business) use
- Changes to abstraction licences
- Environment ambition
- Climate change
- Tolerance to drought restrictions
- Levels of drought resilience

The regional deficit by 2075 could range from **0.8 billion litres** to **2.7 billion litres**.



# Company-wide supply demand balance 2025 to 2075

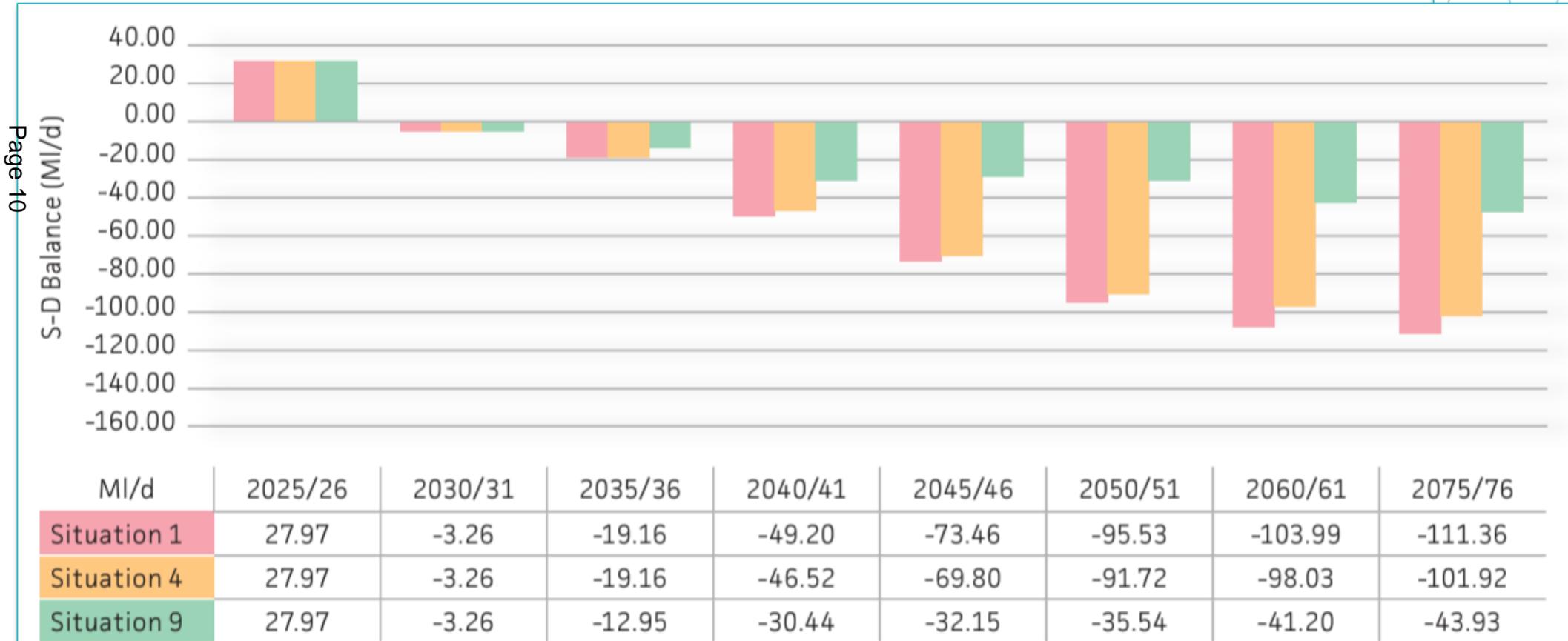
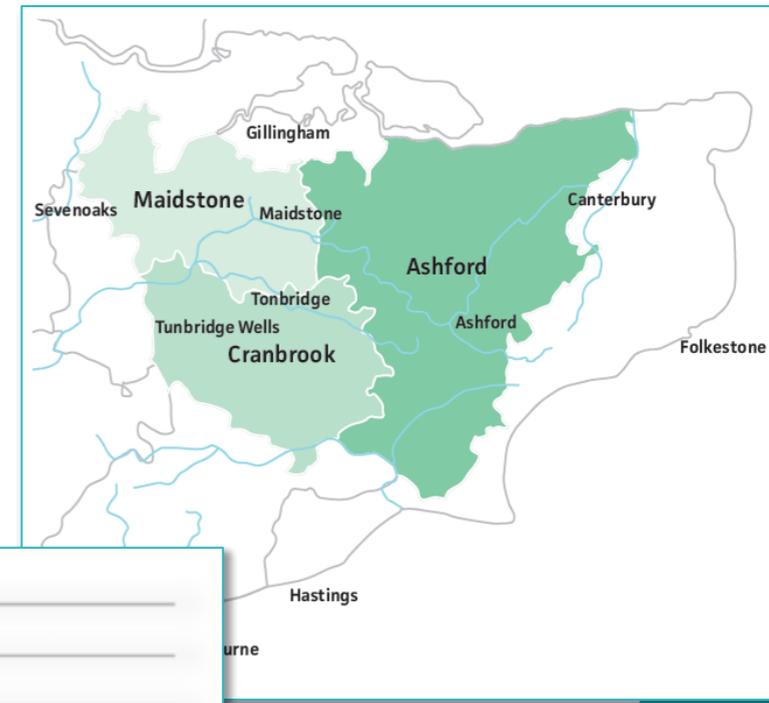
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One in 500 dry year annual average

# Supply demand balance in Kent

- Growth in population is predicted to increase by 16% by 2050 and 23% by 2075 (14% increase in need for water).
- Abstraction reduction of up to 94 MI/d (45% reduction in available water)
- Climate change impacts of 7 MI/d by 2075 (3% reduction in available water)
- Drought resilience impacts of 3MI/d to move from 1:200 to 1:500 level



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# How we're addressing the challenge

- Plan includes a balance of water reduction measures and new infrastructure projects
- Investing **£1.1 billion** in demand management interventions to:

- drive down leakage levels to meet our target of **50 per cent\*** reduction by 2050
- reduce household water usage to **110 litres per person** a day by 2050
- reduce non-household water usage to meet our business demand target of **15 per cent\*\*** reduction by 2040

- Investing **£1.2 billion** to build large-scale infrastructure projects such as reservoirs, new transfers and desalination schemes
- Increase resilience across our supply area and maintain the integrity of our water resources zones

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## 2025 to 2040



## 2040 to 2075



# Our long-term preferred plan for the Kent region

Dry Year Annual Average Demand	2024-25 (MI/d)	2029-30 (MI/d)	2034-35 (MI/d)	2039-40 (MI/d)	2044-45 (MI/d)	2049-50 (MI/d)
Supply / Demand Balance	+ 27.9	- 3.3	- 19.2	- 46.5	- 69.8	- 91.7
Options	2024-25 (MI/d)	2029-30 (MI/d)	2034-35 (MI/d)	2039-40 (MI/d)	2044-45 (MI/d)	2049-50 (MI/d)
Leakage Reduction	0.0	2.8	5.1	6.7	8.7	10.0
Consumption Reduction	0.0	7.1	14.2	17.9	22.7	24.1
Aylesford Newsprint	18.2	18.2	18.2	18.2	18.2	18.2
Broad Oak Reservoir	0.0	0.0	19.6	19.6	19.6	19.6
Desalination at Reculver	0.0	0.0	0.0	0.0	30.0	30.0

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- Twin track approach – we are adopting an ambitious plan to reduce demand alongside our new resource schemes.
- Work is already underway to develop a major new groundwater scheme on the former Aylesford Newsprint site, near Maidstone, this will provide SEW with more operational flexibility and resilience in our Kent area.
- In our previous business plan, we were funded for the five year period, 2020-25, to further develop Broad Oak Reservoir. Our latest draft business plan seeks additional funding to allow us to move into full delivery of the scheme.

## Our final plan

- Our final WRMP24 was approved by the Secretary of State and published on 18 October 2024.
- The plan can be viewed at [southeastwater.co.uk/futurewater](https://southeastwater.co.uk/futurewater)
- Work is now beginning on our next plan, which is due for publication in 2029.
- We would be keen for Kent County Council involvement in formulating that plan.

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# Thank you

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# Planning for flooding in Kent

**Working in partnership across the Kent & Medway Resilience Forum**

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**Andy Jeffery (Kent County Council)**

20<sup>th</sup> November 2024

# Introduction

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We'd like to take the opportunity today to outline how we plan our response to a range of incidents and emergencies that may affect Kent and Medway. We'll look how KCC works as a member of the Kent & Medway Resilience Forum, with a focus on how we plan for flooding, and give some case studies of flooding incidents that have affected the county.



# Agenda



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## 01. Why does Kent plan for emergencies?

What are the legal duties, what is the risk profile that we look to mitigate?

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## 02. How do we plan?

What are Resilience Forums, why do we work in partnership, what are the benefits and challenges, what is the resilience life cycle?

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## 03. How do we respond?

How do we respond in partnership, how do individual agencies differ in their response and capabilities?

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## 04. How do we manage flooding?

What are the roles and responsibilities of agencies, how do we respond to flooding, and how does that differ to other responses?

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## 05. Discussion

How does the Belgian approach to emergency planning differ to the UK's, are there examples of good practice we can share, are there any potential areas of joint working?

# Why does Kent plan for emergencies?

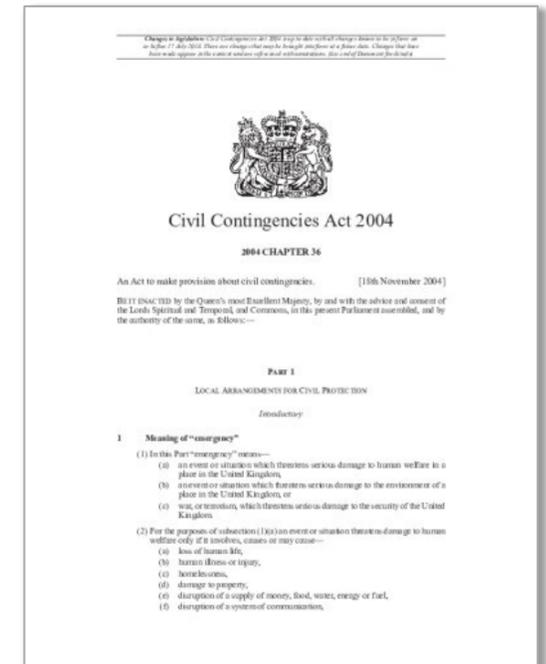
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# Civil Contingencies Act (2004)

- Single framework for civil protection in the UK
- Defines an emergency as:

*“An event or situation which threatens serious damage to human welfare in a place in the UK, the environment of a place in the UK, or war or terrorism which threatens serious damage to the security of the UK.”*



# Category 1



# Category 2

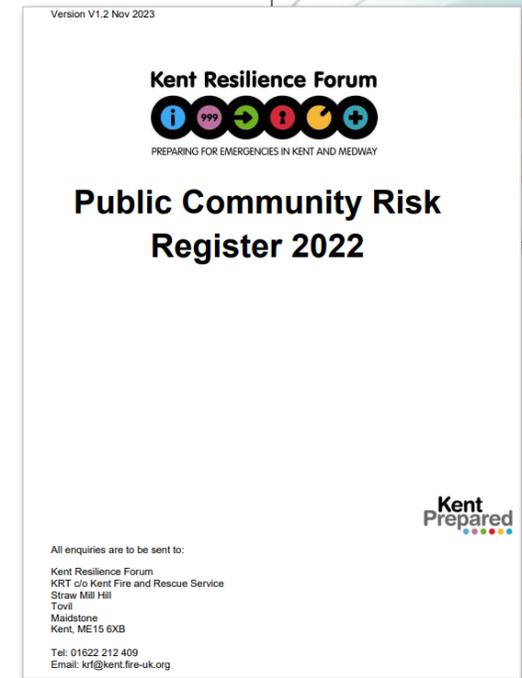
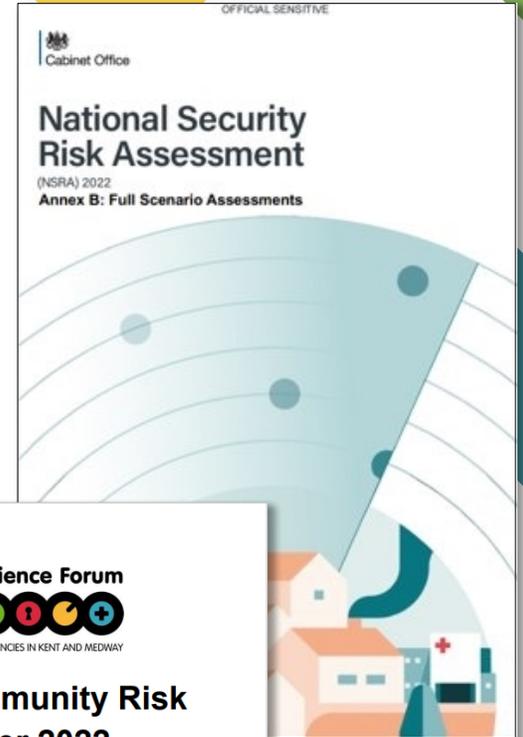


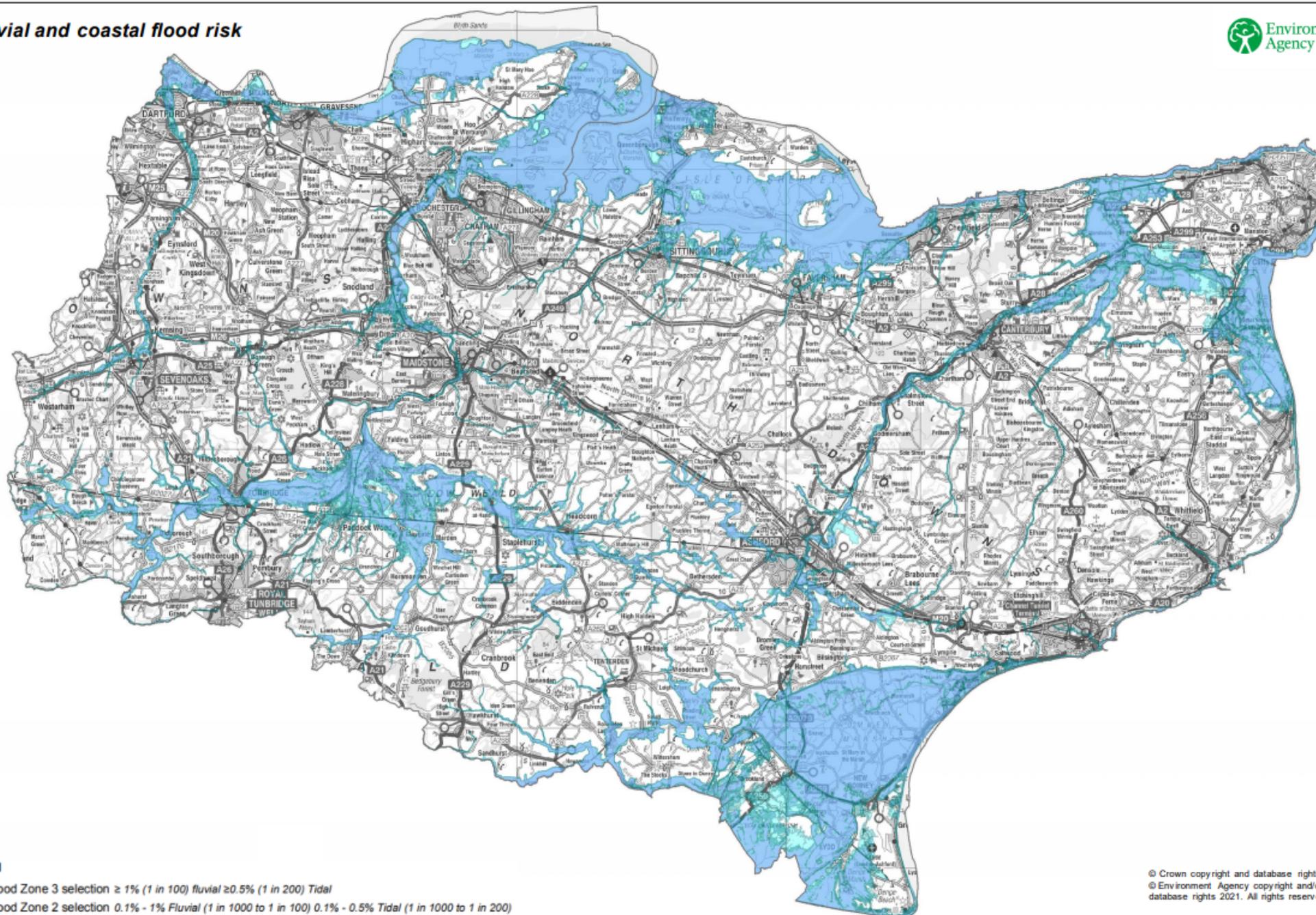
# Other responders



# The Risk to Kent and Medway

- National Security Risk Assessment > KMRF Community Risk Register
- Nationally the highest risk is pandemic disease
- Locally in Kent and Medway the highest risk is from flooding
- Rated **Very High:**
  - *Coastal Flooding*
- Rated **High:**
  - Fluvial (River) and Pluvial (Surface water) flooding





Legend

-  Flood Zone 3 selection  $\geq 1\%$  (1 in 100) fluvial  $\geq 0.5\%$  (1 in 200) Tidal
-  Flood Zone 2 selection 0.1% - 1% Fluvial (1 in 1000 to 1 in 100) 0.1% - 0.5% Tidal (1 in 1000 to 1 in 200)

# How do we plan?

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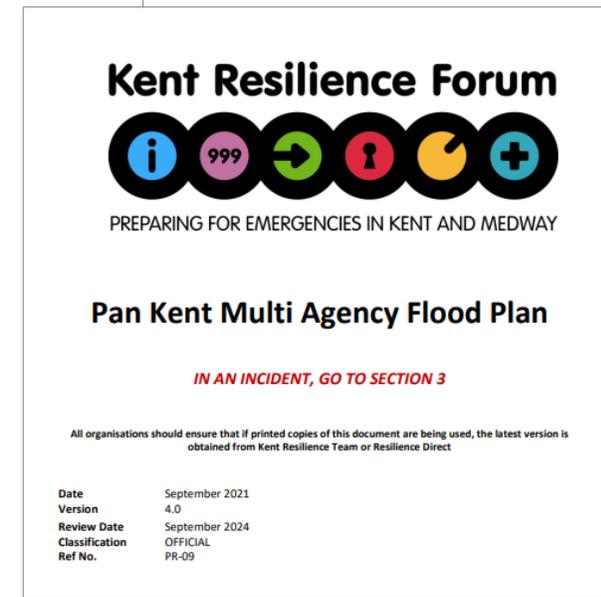
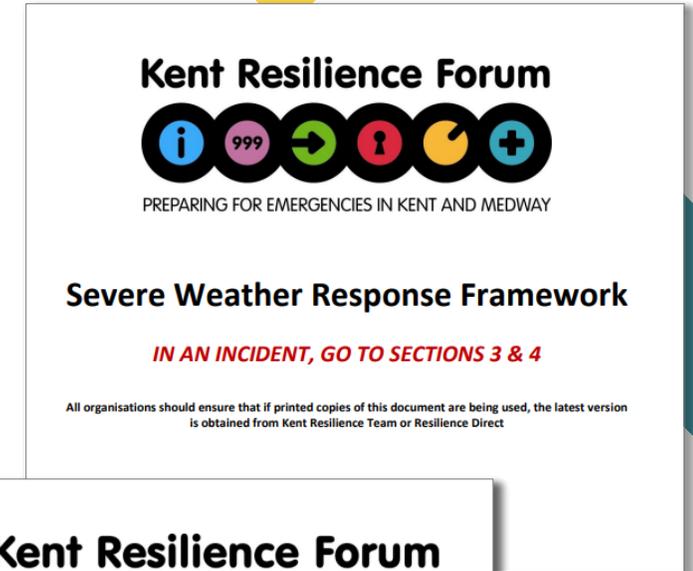
# The Kent and Medway Resilience Forum



- Every county must have a Local Resilience Forum (LRF)
- The KMRF is chaired by Kent Police.
- Workstreams include Risk, Plans and Capabilities, Training and Exercising and Lessons Identified
- Working groups lead on specific elements of planning e.g. severe weather
- Cross-border working with neighbouring LRFs to share lessons, best practice, and resources
- Targeted engagement with counties across the UK with similar risks

# KMRF Flood Response plans

- Both developed by the KMRF Severe Weather Group
- The Severe Weather Response Framework covers response structures for multiple impacts from storms, wind and flooding
- Both identify risk, triggers, roles of partners, resources and information to support decision making
- Borough and district councils have local versions of the flood plan to address individual area risk and response



# Exercise Surge

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- 3-day multi-site live exercise – command hubs, evacuation sites, wet rescue, airport incident
- Based on a 1:1,000-year tidal surge
- 900 participants
- 150 people were evacuated (1 person = 10 people in terms of the exercise)
- 3 debriefs to capture learning from each phase of the exercise



# Community Resilience

- Public facing website – [www.kentprepared.org.uk](http://www.kentprepared.org.uk)
- Advice, resources and signposting
- Community Emergency plan template including a flood plan for those communities at risk
- Flood wardens – community volunteers trained by the Environment Agency
- KMRF Community Resilience Group
- KCC's Compliance & Community Resilience team

The screenshot shows the 'Kent and Medway prepared' website. The main heading is 'Prepare for flooding' with the sub-heading 'Prepared communities are resilient communities'. A navigation menu includes 'Protect yourself', 'Community Resilience', 'What if?', 'Protect your business', 'Kent Community Risk Register', 'About us', 'News', and 'More'. A list of five links is provided: 'Check your flood risk', 'Protect your home', 'Protect your business', 'Flood wardens', and 'Prepare your community flood plan'. A 'Floodline' section displays the number '0345 988 1188'. A 'Flood warnings' section shows a vertical scale with three levels: 'Severe Flood Warning', 'Flood Warning', and 'Flood Alert', each with a corresponding icon and a '0' in a circle. A 'What are flood warnings?' section is partially visible at the bottom right.

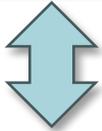
# How do we respond?

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# Command and control

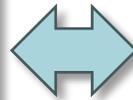
Government departments  
(DLUHC/COBR)



Strategic Co-ordinating Group (SCG)



Tactical Co-ordinating Group (TCG)



Local Authority  
Emergency Centres



Operational groups



Community Emergency  
Plans



# How do we manage flooding?

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# Roles & Responsibilities

## Pluvial (surface water)

- **Local Authority**
- Main impact on the highway and adjacent properties

## Groundwater

- **Local Authority** lead
- Main impacts along the courses of the winterbournes in East Kent.
- Due to the ephemeral nature of these watercourses, the riverbed includes roads as well as river channels through fields.

## Fluvial (river)

- **Environment Agency** lead
- Impact across most of Kent & Medway, particularly River Medway, River Beult, River Teise in West Kent; River Stour in Mid / East Kent.
- Infrastructure includes the Leigh Flood Storage area on R.Medway, and Aldington / Hothfield reservoirs on R.Stour.

## Coastal

- **Environment Agency** lead.
- Highest risk to Kent
- Longest coastline of any UK local authority
- 350 miles of cliffs, sand / shingle beaches, rock platforms, mudflats
- Significant areas of low-lying land at risk, including Romney Marsh, Graveney Marsh, Reculver, Pegwell / Sandwich Bays

# EA Role In: Coastal, Tidal and Fluvial flooding



- Early discussions with KMRF partners, attending Command & Control meetings.
- Advising Central Government & national partners.
- Pumping floodwater where resources allow.
- Monitoring, inspection, operation of flood defences.
- Deploying staff and equipment.
- Post-incident data collection, community engagement, asset repair.

# EA Role In: *Groundwater and Pluvial flooding*



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- Groundwater and Surface Water flood risks managed by **Lead Local Flood Authorities (LLFAs)**:
- Pluvial (surface water) flooding can occur when capacity of drainage systems exceeded.
- Groundwater flooding occurs when prolonged rainfall causes the water table to rise.

# Operational Assets



- Field teams to respond to incidents
- Scots Float Regional Depot in Rye
- Duty officers to monitor and respond to incidents
- Mobile high-volume pumps and hoses
- Aerators, floating pollution booms, cushions and containment kits
- Demountable flood defence barriers and sandbags
- Mutual Aid arrangements with other EA regions and the military.
- Mobile command vehicle for on-site co-ordination

# Warning and informing

## Flood Guidance Statement

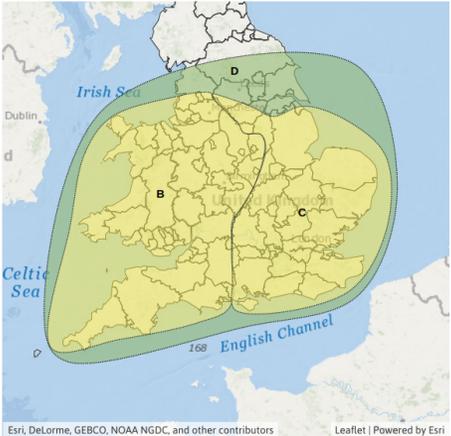
10:30hrs Thursday 12 October 2023

**Specific Areas of Concern Map 2 - Friday 13 October**

**RISK AREA B**  
Impact **MINOR**  
Likelihood **MEDIUM**

Source: River Surface  
Likely duration: 1 Day

Surface water and river flooding impacts probable following heavy rain.



**RISK AREA C**  
Impact **MINOR**  
Likelihood **MEDIUM**

Source: River Surface  
Likely duration: 1 Day

Surface water flooding probable and river flooding possible on Friday



**RISK AREA D**  
Impact **MINOR**  
Likelihood **LOW**

Source: River Surface  
Likely duration: 1 Day

Widespread rain with some locally heavy downpours may lead to flooding impacts



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## Flood Guidance Statement

10:30hrs Thursday 12 October 2023

### Flood risk matrix

LIKELIHOOD	HIGH				
	MEDIUM				
	LOW				
	VERY LOW				
		MINIMAL	MINOR	SIGNIFICANT	SEVERE
		IMPACT			
		VERY LOW	LOW	MEDIUM	HIGH
		OVERALL FLOOD RISK			

### Summary of potential impacts

**MINIMAL**  
Isolated and minor flooding of low-lying land and roads  
Isolated spray/wave on coastal promenades  
Little or no disruption to travel, but wet road surfaces

**MINOR**  
Localised flooding of land and roads  
Flooding affecting individual properties  
Disruption to travel and key sites in flood plans

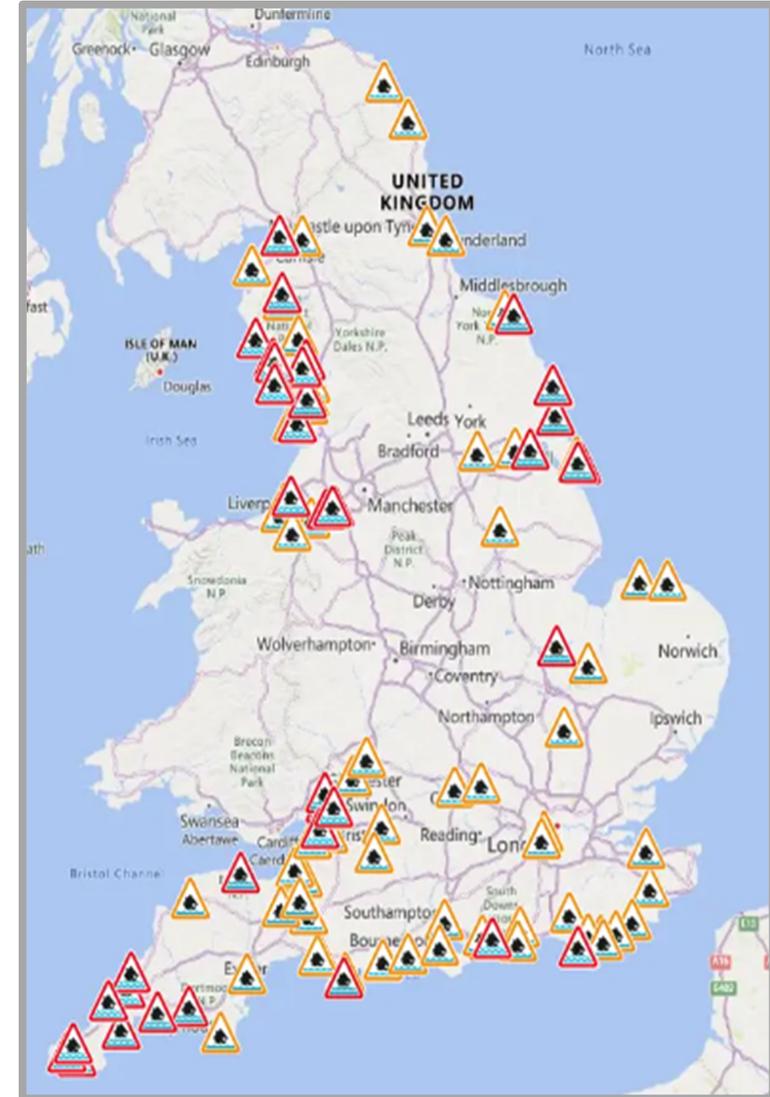
**SIGNIFICANT**  
Flooding affecting parts of communities  
Possible danger to life and damage to buildings/structures  
Disruption to travel and key sites in flood plans

**SEVERE**  
Danger to life, severe disruption to travel  
Widespread flooding affecting whole communities  
Widespread disruption or loss of infrastructure  
Large scale evacuation of properties possible

Next statement due: 10:30hrs Friday 13 October 2023 (all times are local)

Contact details: Flood Forecasting Centre Duty Hydrometeorologist - 0330 135 4400

More information: <https://www.gov.uk/government/organisations/flood-forecasting-centre>



## Flood Guidance Statement

10:30hrs Thursday 12 October 2023







<b>Thursday</b> 12 Oct 2023 10:30-23:59 Trend since last FGS Steady →	<b>Friday</b> 13 Oct 2023 Increased ↑	<b>Saturday</b> 14 Oct 2023 Steady →	<b>Sunday</b> 15 Oct 2023 Steady →	<b>Monday</b> 16 Oct 2023 Steady →
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# Response: Winter 2013 / 14

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- 929 properties flooded
- 4.7m peak sea level (highest since 1905)
- 91 Flood Alerts, 73 Flood Warnings, 5 Severe Flood Warnings
- 50,000 sandbags deployed
- Main impacts at Yalding (R. Medway), Boughton Monchelsea (R. Beult), R. Nailbourne Valley
- £8.6m central government grant received by KCC under the 'Severe Weather Recovery Scheme' to help repair damaged highways infrastructure



# Any questions?

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# Thank you

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KCC Resilience & Emergency Planning  
Service:

[resilience@kent.gov.uk](mailto:resilience@kent.gov.uk)

Kent Resilience Forum:

[krf@kent.fire-uk.org](mailto:krf@kent.fire-uk.org)