# Monthly water situation report: Kent and South London Area

## 1 Summary - March 2025

The whole of the Kent and South London (KSL) area received 12% of the long-term average (LTA) rainfall during March. Rainfall received was exceptionally low across all catchments. The KSL area registered the driest March since 1990 and fifth driest March on record since records began in 1871. Soil moisture deficits (SMDs) increased in all catchments, ranging from 26 to 50mm. Across the whole KSL area, on average, effective rainfall received this month was at 0% of the LTA. Monthly mean flows (MMFs) ranged from normal to exceptionally low in March in KSL. Six out of the eleven key flow sites saw below normal MMFs. Groundwater levels in the Chalk are predominantly normal for this time of year at the end of March. Groundwater levels at the Lower Greensand aquifer at Riverhead decreased and are now registering above normal levels. Levels at the end of the month at the five water company reservoirs in the area ranged from below normal to notably high.

### 1.1 Rainfall

The whole of the KSL area received 12% of the LTA rainfall during March. Rainfall received was exceptionally low across all catchments. The percentage of long-term average rainfall received ranged from 9% in the Darent rainfall area to 16% in the Eastern Rother rainfall area. The whole KSL area registered the driest March since 1990 and fifth driest March on record since records began in 1871. In the previous three months, spanning from January to March, normal rainfall was recorded across all catchments. In the previous six months, from September to March, rainfall was normal across most catchments. Only North West Grain and Sheppey rainfall areas in the north of the patch recorded below normal rainfall. In the last twelve months, rainfall ranged from above normal to below normal in KSL area. The highest daily rainfall total of 7mm for March was recorded at Pett STW TBR in the Eastern Rother catchment on 23 March. The next highest daily rainfall totals were on 12, 13, 29 and 21 March and ranged from 4mm to 3mm. One day with less than 0.2mm of rainfall was recorded this month.

### 1.2 Soil moisture deficit and recharge

At the end of March, SMDs increased in all catchments, ranging from 26 to 50mm. Thanet Chalk continued to be the only catchment registering higher SMDs when compared to other

catchments of the patch. In March, all catchments registered slightly higher SMDs than long-term average. SMDs increased in all catchments due to the lack of effective rainfall in March. Across the whole area, on average, effective rainfall received this month was at 0% of the LTA. In March, the difference from LTA increased in all catchments.

## 1.3 River flows

MMFs ranged from normal to exceptionally low in March in KSL. River Wandle at Connolly's Mill in the northwest, River Darent at Hawley and River Dour at Crabble Mill in the east saw normal flows. River Dour at Crabble Mill recorded the highest MMF percentage LTA of 115% for the month of March. Six out of the eleven key flow sites saw below normal MMFs. River Mole at Dorking and River Ravensbourne at Catford saw notably low and exceptionally low flows respectively. River Ravensbourne at Catford recorded the lowest percentage LTA of 40%.

## 1.4 Groundwater levels

Groundwater levels in the Chalk are predominantly normal for this time of year at the end of March. Only groundwater levels at Riddles Lane and Wolverton are being registered as above normal. Groundwater levels at the Lower Greensand aquifer at Riverhead decreased and are now registering above normal levels. Groundwater levels in the Chalk are peaking or starting to decrease in most key monitoring points. The fall in groundwater levels is consistent with the effective rainfall of 0% of the LTA and the SMDs registered by the end of March.

## 1.5 Reservoir stocks

At the end of March, reservoir levels were:

- Below normal at Darwell at 88%
- Normal at Bewl at 90%
- Weir Wood, Bough Beech and Powdermill reservoirs were full at the end of this month. Weir Wood reservoir remained offline during March

## 1.6 Environmental impact

One fluvial flood alert was issued on 30 March.

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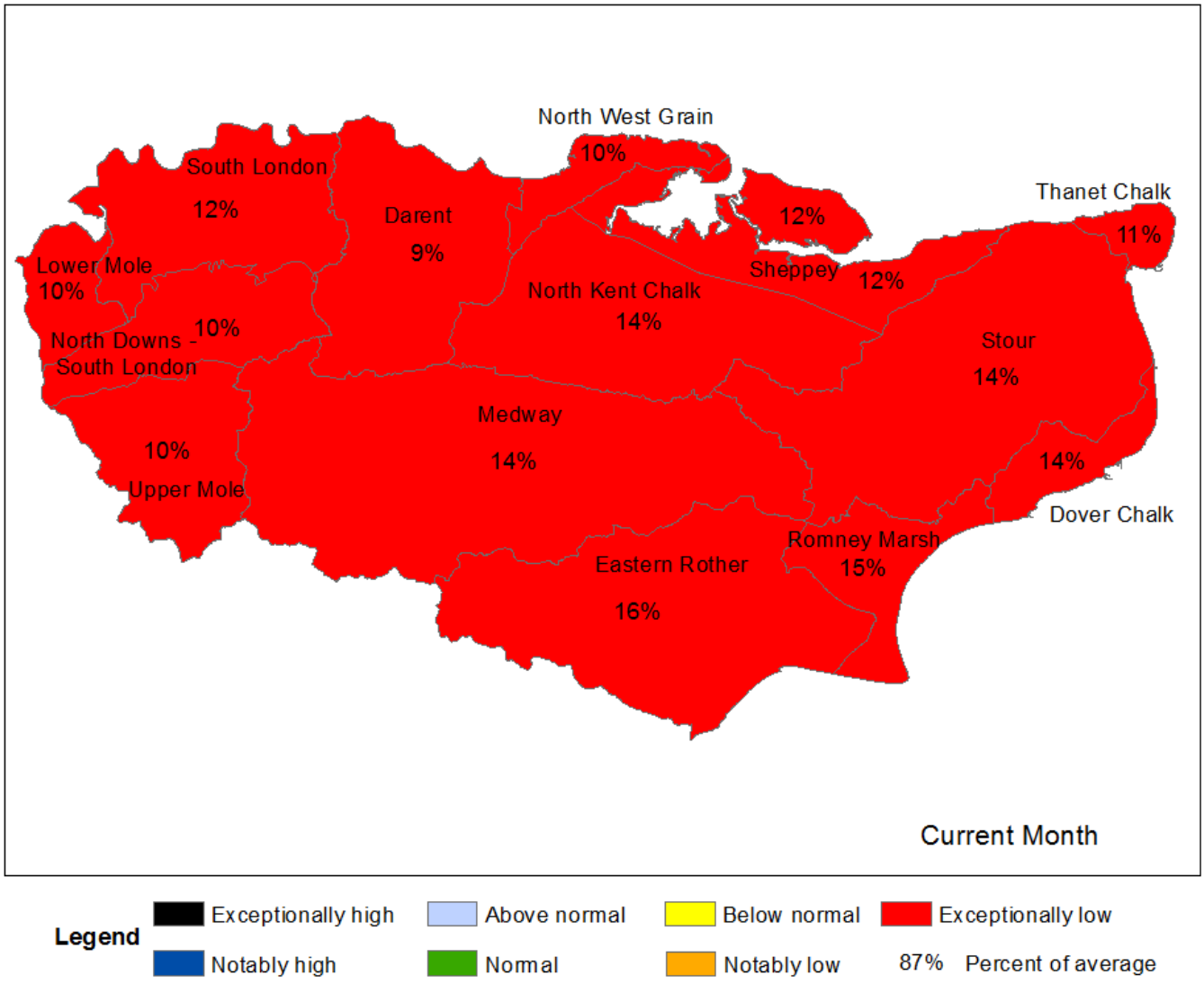
no liability for any loss or damage arising from the interpretation or use of the information, or reliance upon views contained in this report.

# 2 Rainfall

## 2.1 Rainfall map one

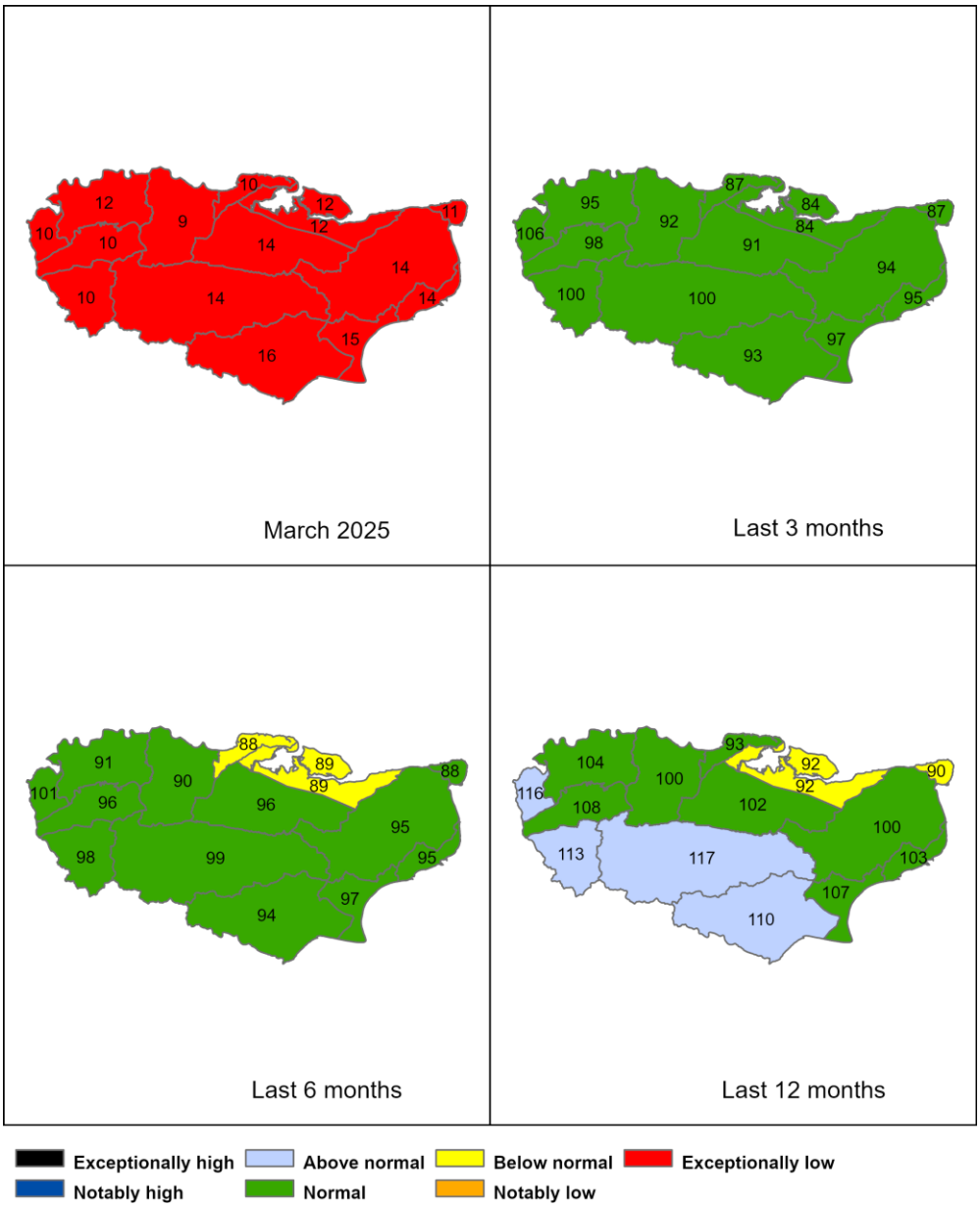
Figure 2.1: Total rainfall for hydrological areas across Kent and South London for the current month (up to 31 March 2025), classed relative to an analysis of respective historic totals. Table available in the appendices with more detailed information.




HadUK data for October 2023 onwards, based on the Met Office 1km gridded rainfall dataset derived from rain gauges (Source: Met Office. Crown copyright, 2025). Provisional data based on Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. Includes material based on Ordnance Survey 1:50 000 maps with the permission of the controller of His Majesty's Stationery Office © Crown copyright. All rights reserved. Environment Agency, 100026380, 2025.

## 2.2 Rainfall map two

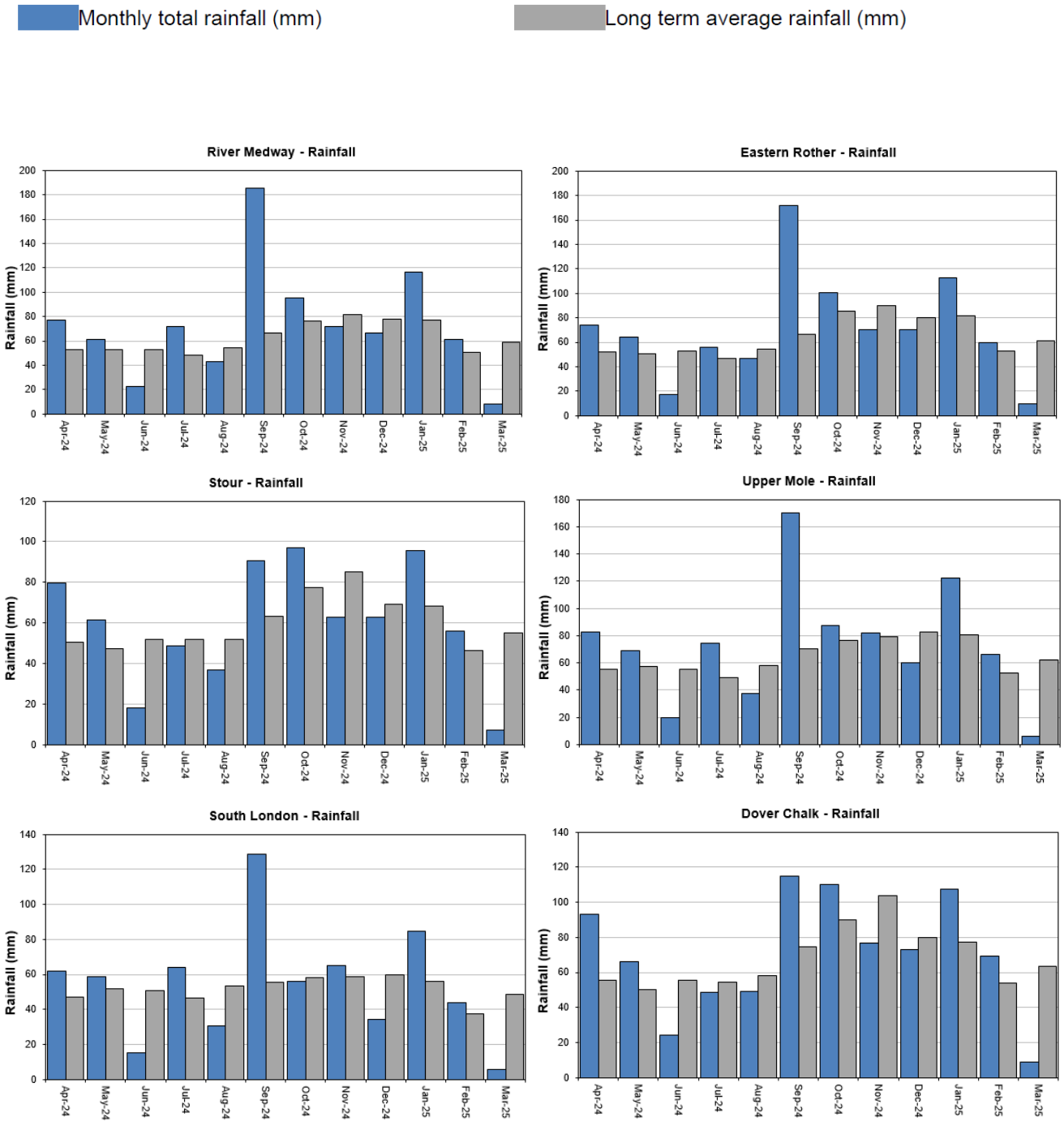
Figure 2.2: Total rainfall for hydrological areas for the current month (up to 31 March 2025), the last 3 months, the last 6 months, and the last 12 months, classed relative to an analysis of respective historic totals. Table available in the appendices with detailed information.

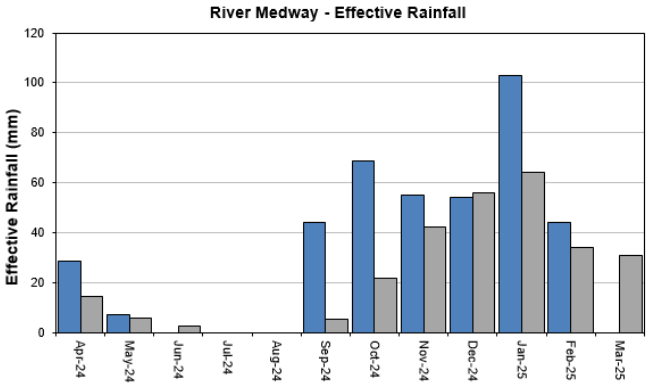


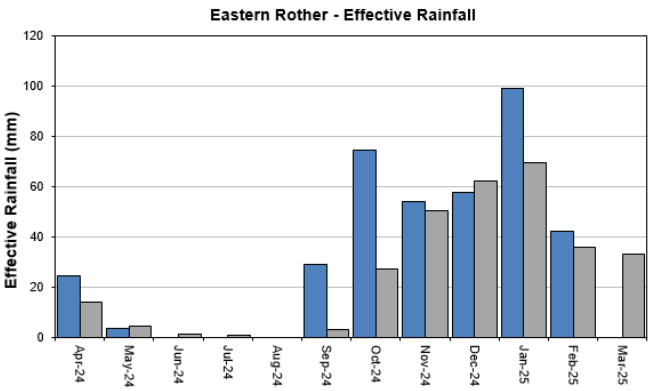

HadUK data for October 2023 onwards, based the Met Office 1km gridded rainfall dataset derived from rain gauges (Source: Met Office. Crown copyright, 2025). Provisional data based on Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. Includes material based on Ordnance Survey 1:50 000 maps with the permission of the controller of His Majesty's Stationery Office © Crown copyright. All rights reserved. Environment Agency, 100026380, 2025.

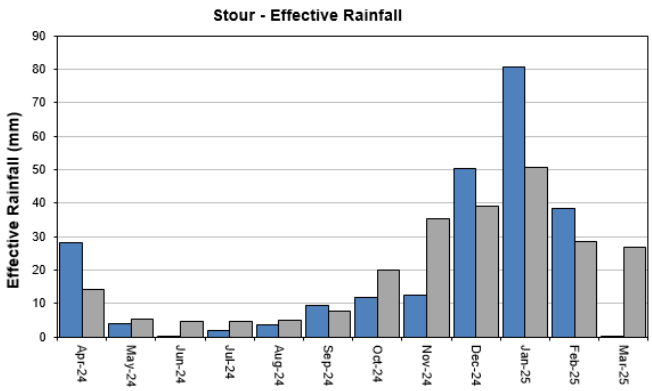
## 2.3 Rainfall and effective rainfall charts

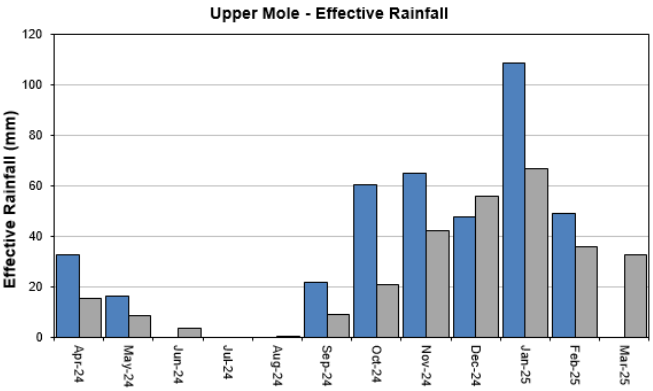
Figure 2.3: Monthly rainfall and effective rainfall totals for the past 12 months as a percentage of the 1961 to 1990 long term average (LTA) for a selection of areal units. HadUK rainfall data. (Source: Met Office. Crown copyright, 2025). EA effective rainfall data (Source EA Soil Moisture Model).

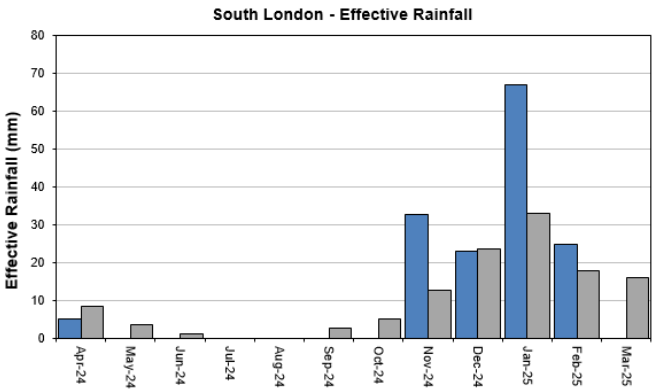


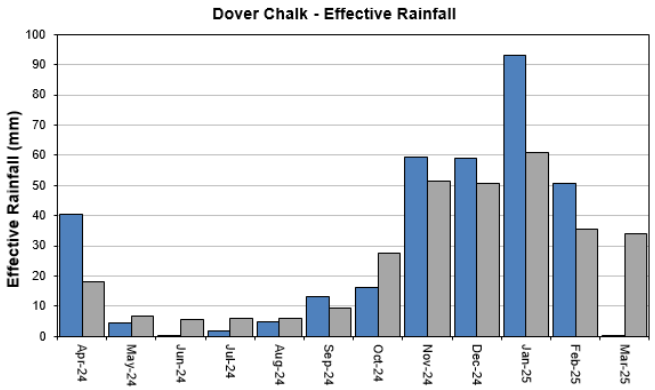

River Medway - Effective Rainfall
Effective Rainfall (mm)
0
20
40
60
80
100
120
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25


Eastern Rother - Effective Rainfall
Effective Rainfall (mm)
0
20
40
60
80
100
120
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25


Stour - Effective Rainfall
Effective Rainfall (mm)
0
10
20
30
40
50
60
70
80
90
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25


Upper Mole - Effective Rainfall
Effective Rainfall (mm)
0
20
40
60
80
100
120
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25


South London - Effective Rainfall
Effective Rainfall (mm)
0
10
20
30
40
50
60
70
80
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25


Dover Chalk - Effective Rainfall
Effective Rainfall (mm)
0
10
20
30
40
50
60
70
80
90
100
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25

## 2.4 Rainfall and effective rainfall table

Figure 2.4: This is a second estimate of areal rainfall and effective rainfall (percolation or runoff) for a selection of the hydrological areas across the Kent and South London area. There may be significant variation within each area which must be considered when interpreting these data. When additional meteorological data is available estimates are revised which will affect the period totals in section 2.5.

| Number | Hydrological Area | Rainfall (mm) 31 day Total | March % LTA | Effective Rainfall (mm) 31 day Total | March % LTA |
|---|---|---|---|---|---|
| 6230TH | North Downs - South London (W) | 6 | 10% | 0 | 1% |
| 6505TH | Upper Mole | 6 | 10% | 0 | 0% |
| 6508TH | South London | 5 | 12% | 0 | 0% |
| 6706So | Darent | 5 | 9% | 0 | 0% |
| 6707So | North Kent Chalk | 7 | 14% | 0 | 1% |
| 6708So | Stour | 7 | 14% | 0 | 0% |
| 6709So | Dover Chalk | 9 | 14% | 0 | 1% |
| 6710So | Thanet Chalk | 5 | 11% | 0 | 0% |
| 6809So | Medway | 8 | 14% | 0 | 0% |
| 6810So | Eastern Rother | 9 | 16% | 0 | 0% |

| | | | | | |
|---|---|---|---|---|---|
| 6811So | Romney Marsh | 8 | 15% | 0 | 0% |
| 6812So | North West Grain | 4 | 10% | 0 | 0% |
| 6813So | Sheppey | 5 | 12% | 0 | 0% |
| | Kent & South London Average | 7 | 12% | 0 | 0% |

HadUK rainfall data. (Source: Met Office. Crown copyright, 2025).

EA effective rainfall data (Source EA Soil Moisture Model)

## 2.5 Seasonal summary table of rainfall and effective rainfall

Figure 2.5: This is a seasonal estimate of areal rainfall and effective rainfall (percolation or runoff) for a selection of the hydrological areas across the Kent and South London area, expressed as totals and as a percentage of the LTA. There may be significant variation within each area which must be considered when interpreting these data. When additional meteorological data is available estimates are revised which will affect the period totals.

Winter period 01/10/2024 to 31/03/2025

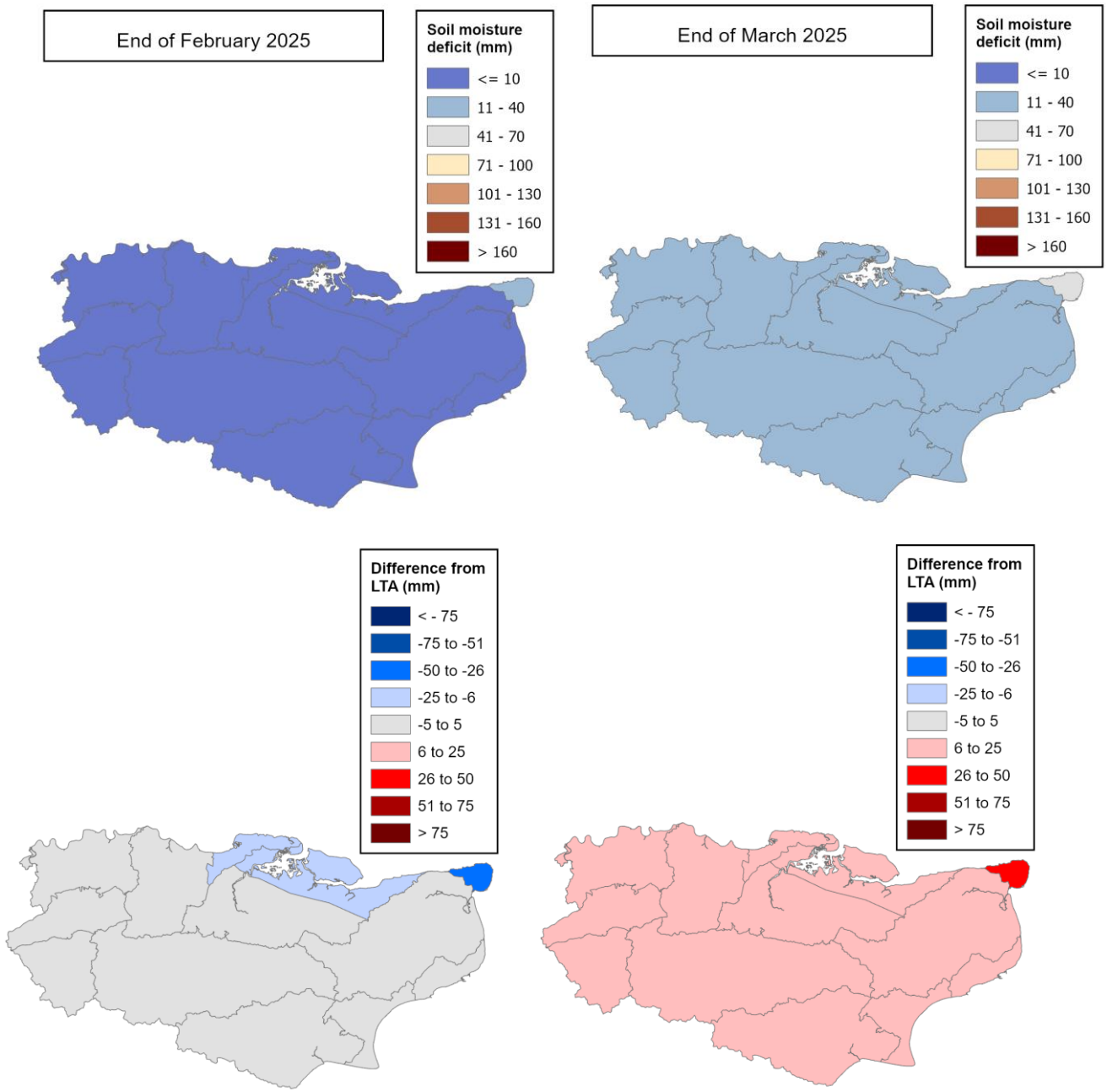
| Number | Hydrological Area | Seasonal Rainfall (mm) Total | % LTA | Seasonal Effective Rainfall (mm) Total | % LTA |
|---|---|---|---|---|---|
| 6230TH | North Downs - South London (W) | 397 | 96% | 282 | 120% |
| 6505TH | Upper Mole | 424 | 98% | 330 | 130% |
| 6508TH | South London | 289 | 91% | 147 | 136% |
| 6706So | Darent | 324 | 90% | 165 | 99% |
| 6707So | North Kent Chalk | 366 | 96% | 201 | 105% |
| 6708So | Stour | 382 | 95% | 194 | 96% |
| 6709So | Dover Chalk | 446 | 95% | 278 | 107% |
| 6710So | Thanet Chalk | 272 | 88% | 32 | 49% |
| 6809So | Medway | 419 | 99% | 325 | 130% |
| 6810So | Eastern Rother | 422 | 93% | 327 | 118% |

| | | | | | |
|---|---|---|---|---|---|
| 6811So | Romney Marsh | 371 | 97% | 233 | 124% |
| 6812So | North West Grain | 251 | 88% | 49 | 69% |
| 6813So | Sheppey | 269 | 89% | 52 | 65% |
| | Kent & South London Average | 356 | 94% | 201 | 111% |

# 3 Soil moisture deficit

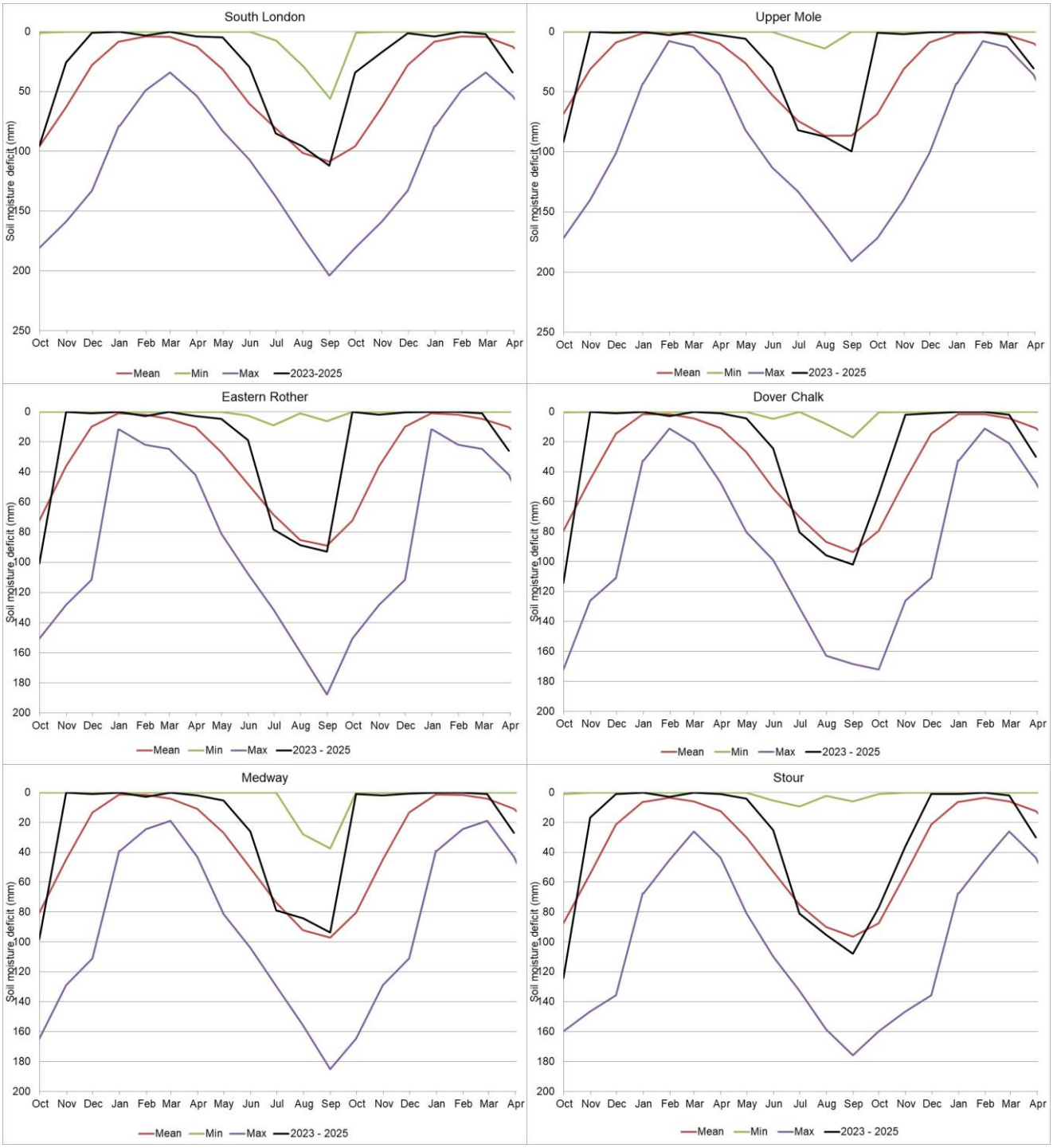
## 3.1 Soil moisture deficit map

Figure 3.1: Soil moisture deficits for weeks ending 28 February (left panel) and 31 March 2025 (right panel). Top row shows actual soil moisture deficits (mm) and bottom row shows the difference (mm) of the actual from the 1961 to 90 long term average soil moisture deficits. EA Soil Moisture Deficit data (Source EA Soil Moisture Model).



## 3.2 Soil moisture deficit charts

Figure 3.2: Latest soil moisture deficit compared to maximum, minimum, and 1961 to 1990 long term average. EA soil moisture deficit data (Source EA Soil Moisture Model).



## 3.3 Soil moisture deficit table

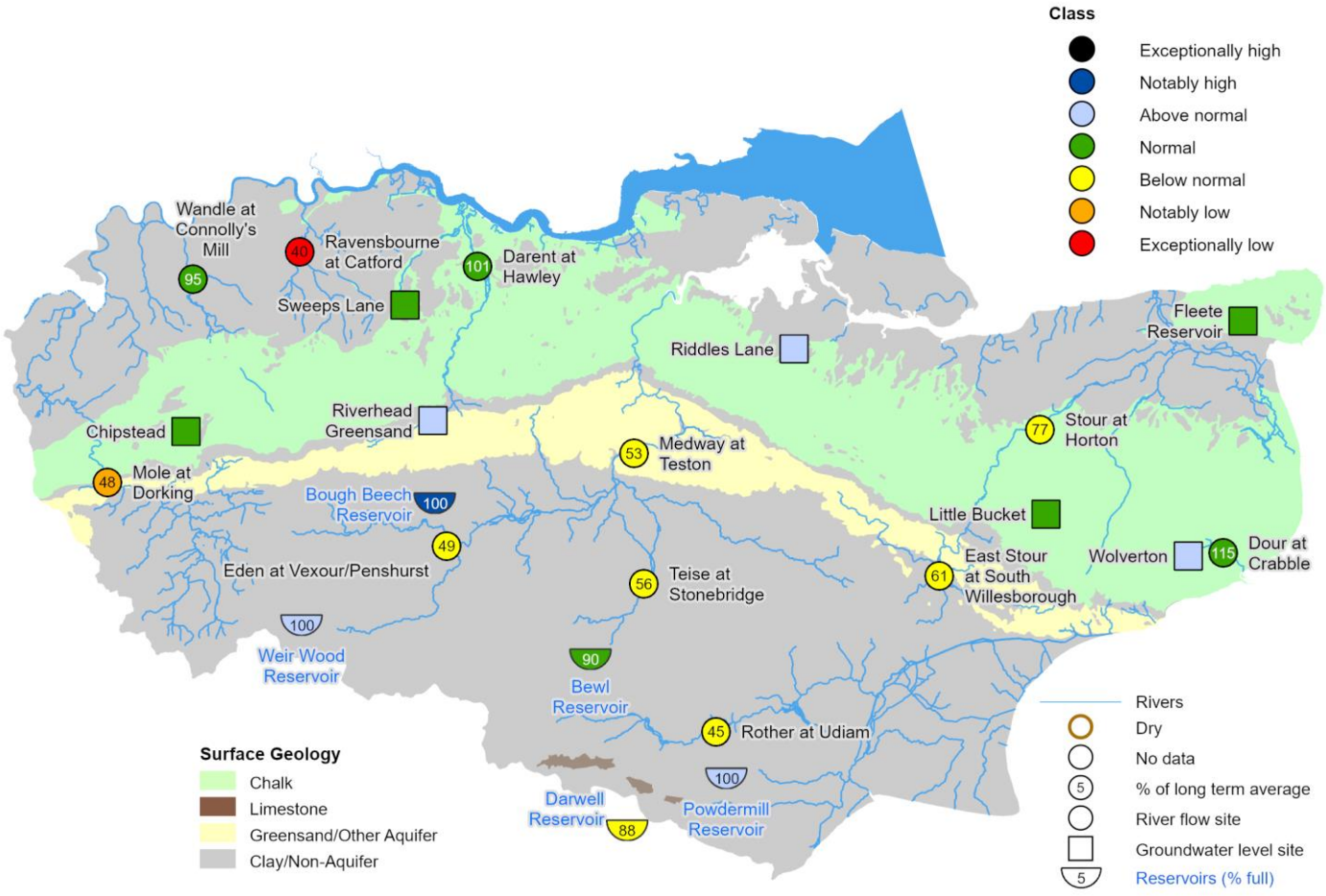
Figure 3.3: This is a second estimate of soil moisture deficit for the hydrological areas across the Kent and South London area. There may be significant variation within each area which must be considered when interpreting these data. EA soil moisture deficit data (Source EA Soil Moisture Model).

| Number | Hydrological Area | SMD (mm) Day 31 | End March LTA |
|---|---|---|---|
| 6230TH | North Downs - South London (W) | 30 | 7 |
| 6505TH | Upper Mole | 31 | 6 |
| 6508TH | South London | 34 | 11 |
| 6706So | Darent | 32 | 8 |
| 6707So | North Kent Chalk | 29 | 7 |
| 6708So | Stour | 30 | 7 |
| 6709So | Dover Chalk | 30 | 7 |
| 6710So | Thanet Chalk | 50 | 44 |
| 6809So | Medway | 27 | 6 |
| 6810So | Eastern Rother | 26 | 6 |
| 6811So | Romney Marsh | 29 | 7 |
| 6812So | North West Grain | 35 | 14 |
| 6813So | Sheppey | 35 | 13 |
| | Kent & South London Average | 32 | 11 |

# 4 River flows, groundwater levels and reservoir stocks

## 4.1 River flows, groundwater levels and reservoir stocks map

Figure 4.1: Monthly mean river flows* ** for indicator sites for March 2025, expressed as a percentage of the respective long term average and classed relative to an analysis of historic March monthly means. End of month groundwater levels for indicator sites for March 2025, expressed as a percentage of the respective long term average and classed relative to an analysis of historic March levels. Tables available in the appendices with detailed information. End of month levels for reservoirs for March 2025, expressed as percent full. (Source: Water Companies).

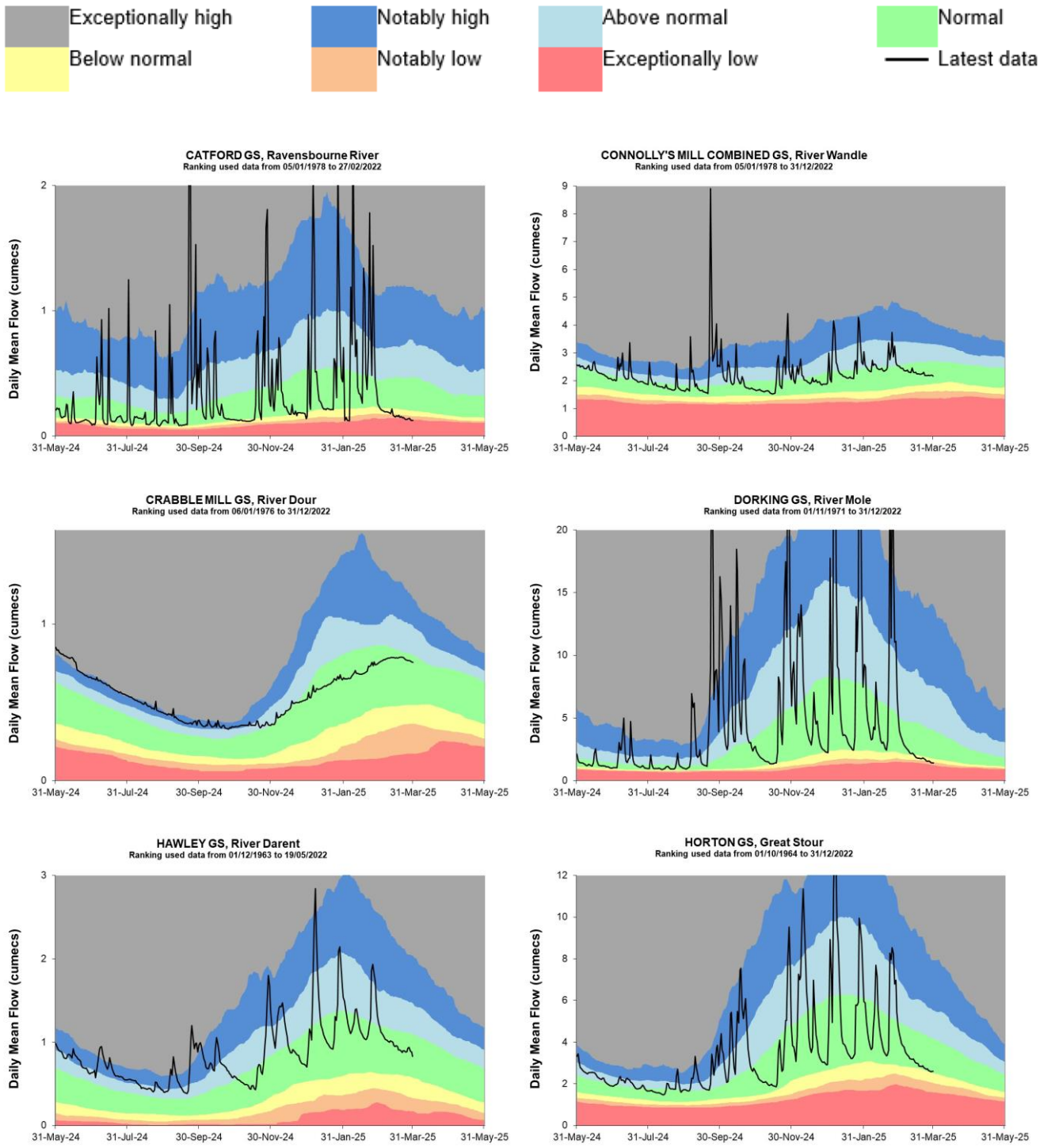


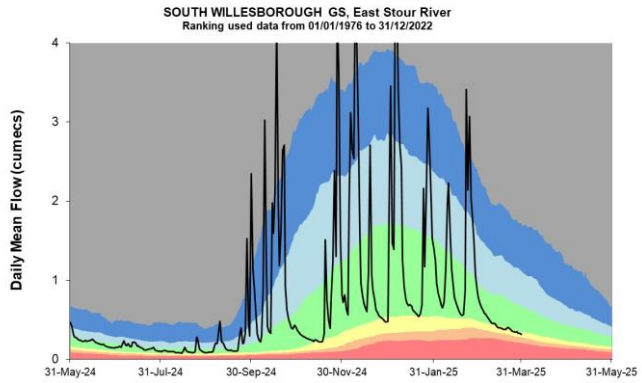

*Weir Wood Reservoir is currently offline

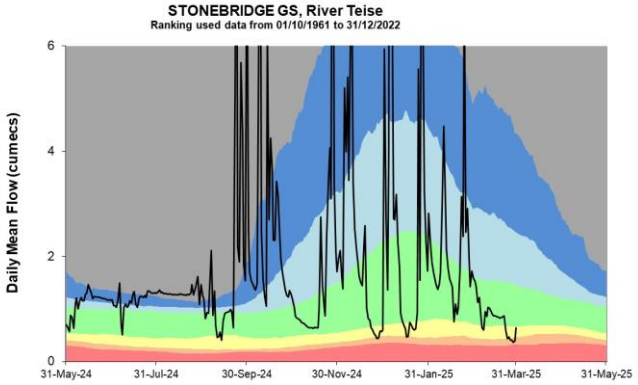
**Flows at gauging stations in the Medway catchment might be affected by upstream reservoir releases

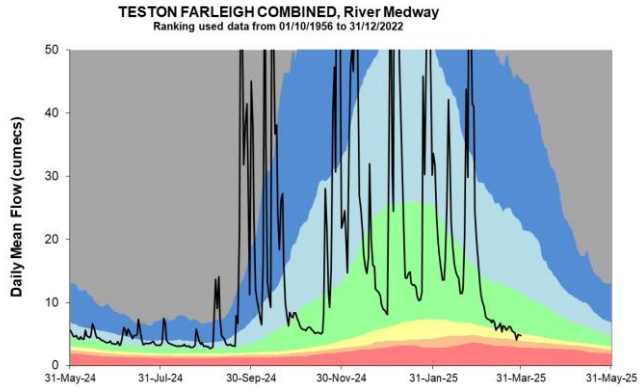
## 4.2 River flow charts

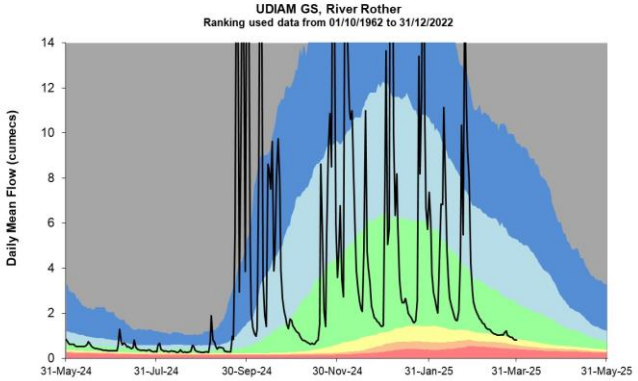
Figure 4.1: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.

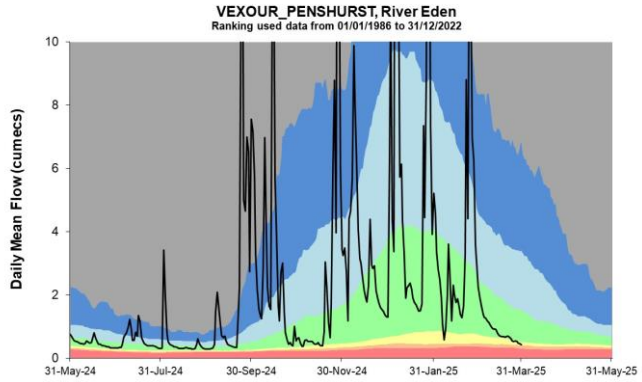




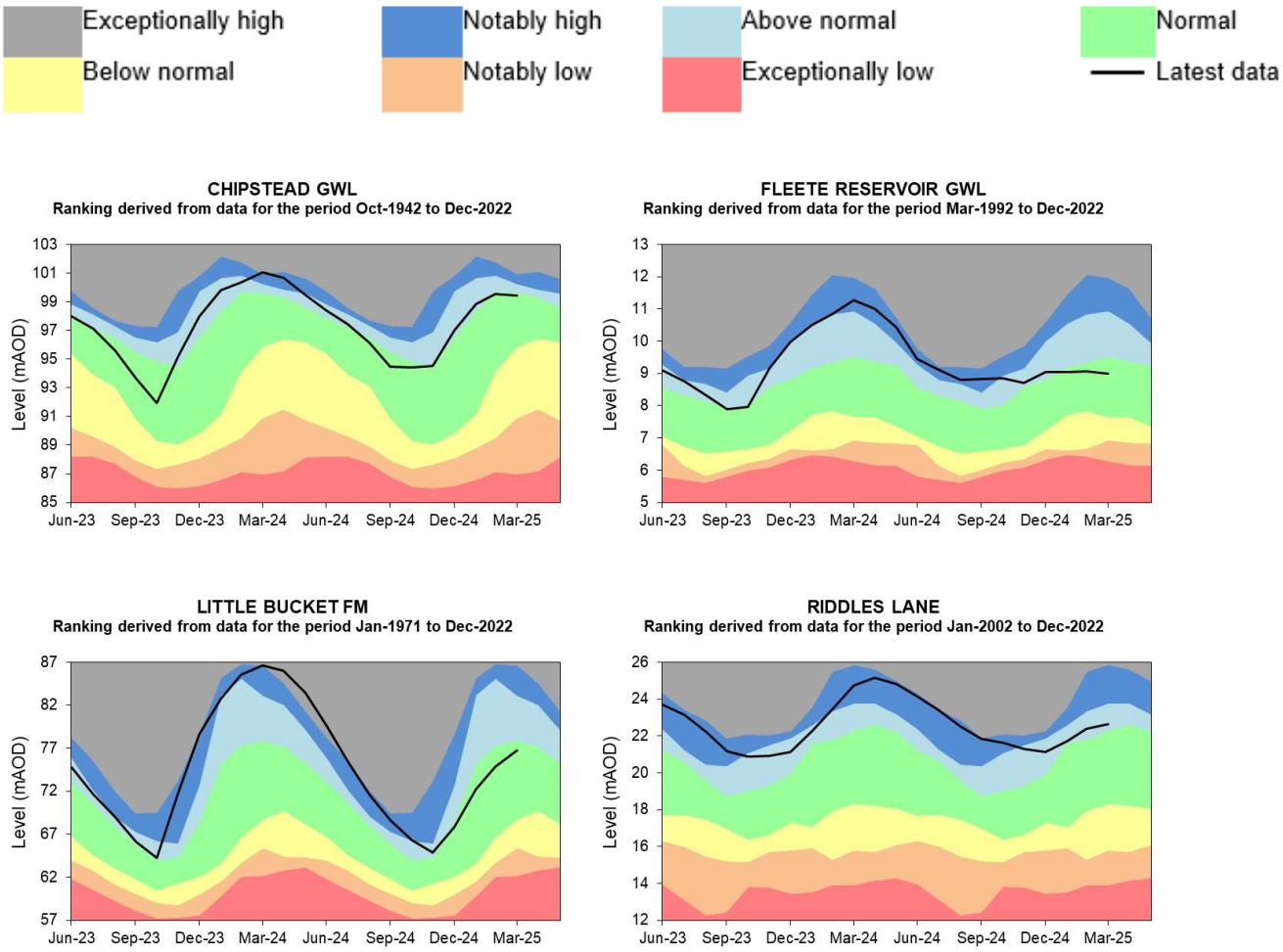



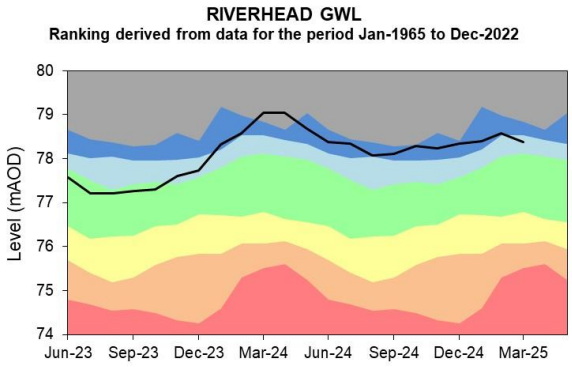

Source: Environment Agency.

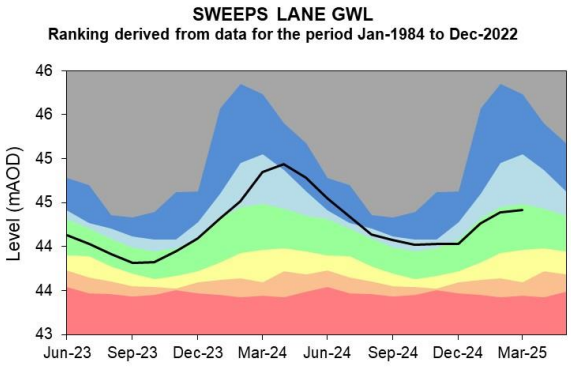
# 5 Groundwater levels

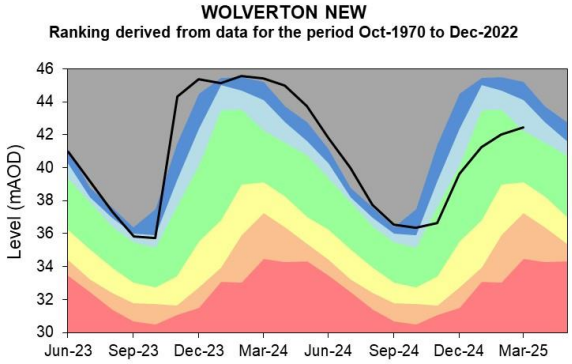
## 5.1 Groundwater level charts

Figure 5.1: End of month groundwater levels at index groundwater level sites for major aquifers. 22 months compared to an analysis of historic end of month levels and long term maximum and minimum levels.





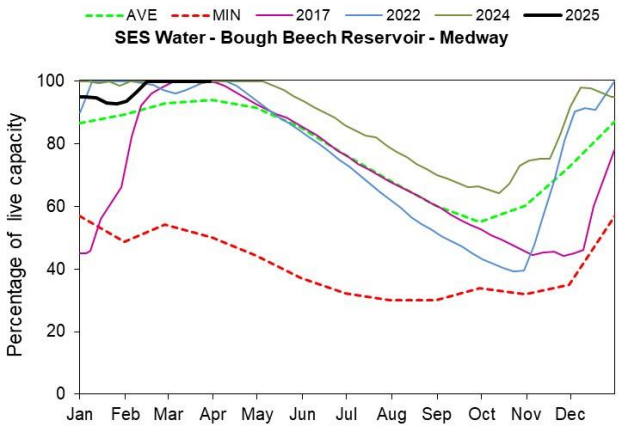



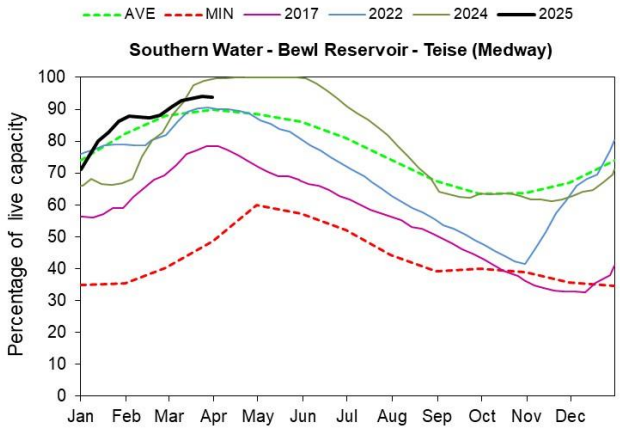

Source: Environment Agency, 2025.

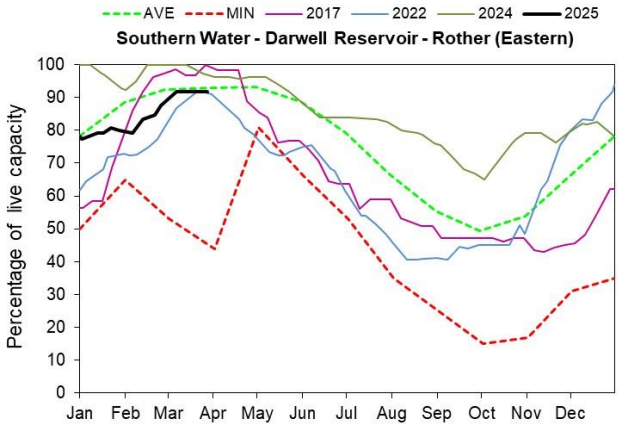
# 6 Reservoir stocks

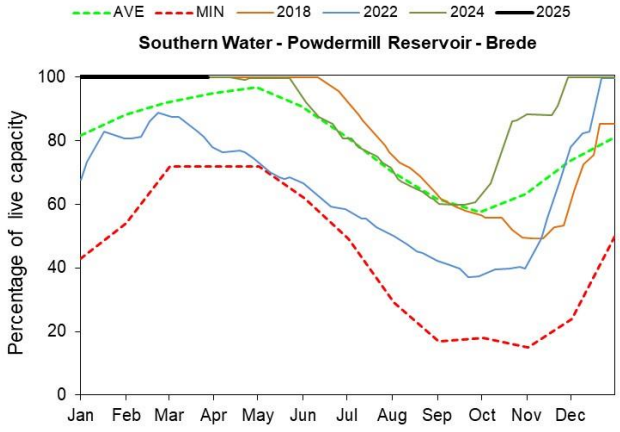
## 6.1 Reservoir stocks charts

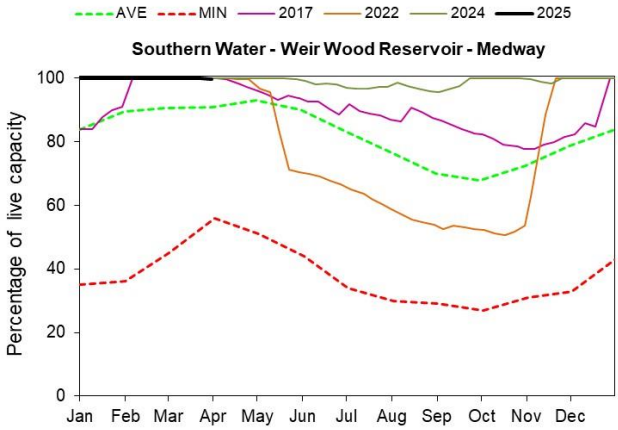
Figure 7.1: End of month regional reservoir stocks compared to long term maximum, minimum and average stocks. (Source: Water Companies). Note: Historic records of individual reservoirs and reservoir groups making up the regional values vary in length.



# 7 Glossary

## 7.1 Terminology

**Aquifer**

A geological formation able to store and transmit water.

**Areal average rainfall**

The estimated average depth of rainfall over a defined area. Expressed in depth of water (mm).

**Artesian**

The condition where the groundwater level is above ground surface but is prevented from rising to this level by an overlying continuous low permeability layer, such as clay.

**Artesian borehole**

Borehole where the level of groundwater is above the top of the borehole and groundwater flows out of the borehole when unsealed.

**Cumecs**

Cubic metres per second ($m^{3s-1}$).

**Effective rainfall**

The rainfall available to percolate into the soil or produce river flow. Expressed in depth of water (mm).

**Flood alert and flood warning**

Three levels of warnings may be issued by the Environment Agency. Flood alerts indicate flooding is possible. Flood warnings indicate flooding is expected. Severe flood warnings indicate severe flooding.

**Groundwater**

The water found in an aquifer.

**Long term average (LTA)**

The arithmetic mean calculated from the historic record, usually based on the period 1961 to 1990. However, the period used may vary by parameter being reported on (see figure captions for details).

**mAOD**

Metres above ordnance datum (mean sea level at Newlyn Cornwall).

**MORECS**

Met Office Rainfall and Evaporation Calculation System. Met Office service providing real time calculation of evapotranspiration, soil moisture deficit and effective rainfall on a 40 by 40 km grid.

**Naturalised flow**

River flow with the impacts of artificial influences removed. Artificial influences may include abstractions, discharges, transfers, augmentation and impoundments.

**NCIC**

National Climate Information Centre. NCIC area monthly rainfall totals are derived using the Met Office 5 km gridded dataset, which uses rain gauge observations.

**Recharge**

The process of increasing the water stored in the saturated zone of an aquifer. Expressed in depth of water (mm).

**Reservoir gross capacity**

The total capacity of a reservoir.

**Reservoir live capacity**

The capacity of the reservoir that is normally usable for storage to meet established reservoir operating requirements. This excludes any capacity not available for use (for example, storage held back for emergency services, operating agreements or physical restrictions). May also be referred to as ‘net’ or ‘deployable’ capacity.

**Soil moisture deficit (SMD)**

The difference between the amount of water actually in the soil and the amount of water the soil can hold. Expressed in depth of water (mm).

## 7.2 Categories

**Exceptionally high**

Value likely to fall within this band 5% of the time.

**Notably high**

Value likely to fall within this band 8% of the time.

**Above normal**

Value likely to fall within this band 15% of the time.

**Normal**

Value likely to fall within this band 44% of the time.

**Below normal**

Value likely to fall within this band 15% of the time.

**Notably low**

Value likely to fall within this band 8% of the time.

**Exceptionally low**

Value likely to fall within this band 5% of the time.

# 8 Appendices

## 8.1 Rainfall table

| Hydrological area | Mar 2025 rainfall % of long term average 1961 to 1990 | Mar 2025 band | Jan 2025 to March cumulative band | Oct 2024 to March cumulative band | Apr 2024 to March cumulative band |
|---|---|---|---|---|---|
| North Downs - South London | 10 | Exceptionally Low | Normal | Normal | Normal |
| Upper Mole | 10 | Exceptionally Low | Normal | Normal | Above normal |
| South London | 12 | Exceptionally Low | Normal | Normal | Normal |
| River Darent | 9 | Exceptionally Low | Normal | Normal | Normal |
| North Kent Chalk | 14 | Exceptionally Low | Normal | Normal | Normal |
| Stour | 14 | Exceptionally Low | Normal | Normal | Normal |
| Dover Chalk | 14 | Exceptionally Low | Normal | Normal | Normal |
| Thanet Chalk | 11 | Exceptionally Low | Normal | Normal | Below normal |
| River Medway | 14 | Exceptionally Low | Normal | Normal | Above normal |

| | | | | | |
|---|---|---|---|---|---|
| Eastern Rother | 16 | Exceptionally Low | Normal | Normal | Above normal |
| Romney Marsh | 15 | Exceptionally Low | Normal | Normal | Normal |
| North West Grain | 10 | Exceptionally Low | Normal | Below normal | Normal |
| Sheppey | 12 | Exceptionally Low | Normal | Below normal | Below normal |

## 8.2 River flows table

| Site name | River | Catchment | Mar 2025 band | Feb 2025 band |
|---|---|---|---|---|
| Catford Gs | River Ravensbourne | Ravensbourne | Exceptionally low | Normal |
| Connolly's Mill Combined Gs | River Wandle | Wandle | Normal | Above normal |
| Crabble Mill Gs | River Dour | Dour | Normal | Normal |
| Dorking Gs | River Mole | Mole Surrey | Notably low | Above normal |
| Hawley Gs | River Darent and Cray | Darent and Cray | Normal | Normal |
| Horton Gs | Great Stour River | Great Stour | Below normal | Normal |
| South Willesborough Gs | East Stour River | East Stour | Below normal | Normal |
| Stonebridge Gs | River Teise | Teise | Below normal | Normal |
| Teston Farleigh Combined | River Medway | Medway (Middle) | Below normal | Above normal |
| Udiam Gs | River Rother | Rother (Kent) | Below normal | Normal |
| Vexour_penshurst | River Eden | Eden (Kent) | Below normal | Normal |

## 8.3 Groundwater table

| Site name | Aquifer | End of Mar 2025 band | End of Feb 2025 band |
|---|---|---|---|
| Fleete Reservoir Gwl | Isle Of Thanet Chalk | Normal | Normal |
| Chipstead Gwl | Epsom North Downs Chalk | Normal | Normal |
| Little Bucket Fm | East Kent Chalk - Stour | Normal | Normal |
| Riddles Lane | North Kent Swale Chalk | Above normal | Above normal |
| Riverhead Gwl | Kent Greensand | Above normal | Notably high |
| Sweeps Lane Gwl | West Kent Chalk | Normal | Normal |
| Wolverton New | East Kent Chalk - Stour | Above normal | Normal |