Monthly water situation report: Hertfordshire and North London Area

1 Summary - August 2026

High pressure dominated the start of the August, much needed widespread rain developed during later in the month. However, the Hertfordshire and North London area recorded just 42% of the month's long term average rainfall (LTA), receiving the least rainfall across England. Soil moisture deficits (SMDs) continued to increase during the month in all hydrological areas (with the exception of the Lee Chalk), recording their second highest August month-end soil moisture deficit, only exceeded in August 1976. The Crane at Cranford, Brent at Monks Park and the Roding at Redbridge all recorded their lowest August monthly mean flows on record. Despite the dry weather, groundwater levels remained normal for August, with many chalk rivers continuing to flow along much of their length.

1.1 Rainfall

High pressure dominated the start of the August, continuing the dry conditions which had become established since June. Mid-month, unsettled weather with localised heavy downpours occurred, which developed into widespread heavy rainfall for the last week of the month. Despite the much need rainfall, the Hertfordshire and North London area only recorded an areal average of 26.7mm rainfall. This was just 42% of the August LTA rainfall, the lowest rainfall for any Environment Agency area in England during August.

Across the area the rainfall was not evenly distributed, due to the localised nature of the storms. The Lee Chalk hydrological area received 41.9mm or 66% of the August LTA, while in the North London hydrological area only 14.9mm or 26% of the LTA rainfall was seen, making it the driest hydrological area anywhere in England. The heaviest daily rainfall total of 30.2mm was recorded on the 26 August at Braughing rain gauge in the Lee Chalk hydrological area. Over the last 6 months the Hertfordshire and North London area has recorded exceptionally low rainfall, while the total rainfall recorded in July and August was the lowest on record (since 1871).

1.2 Soil moisture deficit and recharge

With the continued high temperatures and lower than average rainfall during August, SMDs continued to increase. All hydrological areas ended the month with near record SMDs, with all but the Lee Chalk recording their second highest August month-end SMD, only exceeded in 1976. With large SMDs there was negligible effective rainfall or recharge to groundwater.

1.3 River flows

The widespread heavy rainfall during the second half of August lead to an increase in flow at all indicator sites, with rivers peaking following the wettest weather on the 26 and 27 August. However, the rivers of north London and Essex experienced some of the lowest August monthly mean flows on record. The Ingrebourne at Upminster recorded (since 1971) its third lowest

August flows (only lower in August 2025 and 1976). Meanwhile the Crane at Cranford (since 1978), Brent at Monks Park (since 1979) and the Roding at Redbridge (since 1950) all recorded their lowest August monthly mean flows on record. In contrast, the rivers in chalk catchments continued to benefit from robust groundwater levels. River flow indicator sites across the Chilterns and Upper Lee catchments had normal flows for August. The exceptions included the Colne at Denham and Lee at Waterhall, which recorded month mean flows in the below normal band. This could be attributed to reduced discharge from each of the large sewage treatment works upstream of these sites.

1.4 Groundwater levels

All groundwater indicator sites across the Mid-Chilterns and the Upper Lee Chalk ended the month with groundwater levels in the normal band for August. Groundwater levels continued to decline during the month but remained resilient to the hot and dry weather.

1.5 Reservoir stocks

Both of Thames Waters' reservoir groups in the Hertfordshire and North London area were significantly lower than average at the end of August. The Lower Thames group in west London were at 60% live capacity, while the Lee group in east London were at 70% live capacity.

1.6 Environmental impact

In the Colne catchment, August saw most chalk river sources move slightly downstream and flows decline in the headwaters.

- The River Ver flowed temporarily downstream of Markyate, but did not start flowing again until Redbourn
- The source of the River Gade remained located just above Great Gaddesden
- The River Bulbourne source moved downstream and started flowing downstream of Northchurch
- The source of the River Chess remained above the tennis courts upstream of Chesham but flows were lower than July
- The River Misbourne continued to flow for its entire length from downstream of Great Missenden

In the Upper Lee, the River Mimram moved slightly downstream since July where it began flowing above Nine Wells Spring, Whitwell. No survey was undertaken in August for the River Beane, River Rib, River Ash (Herts) and River Stort.

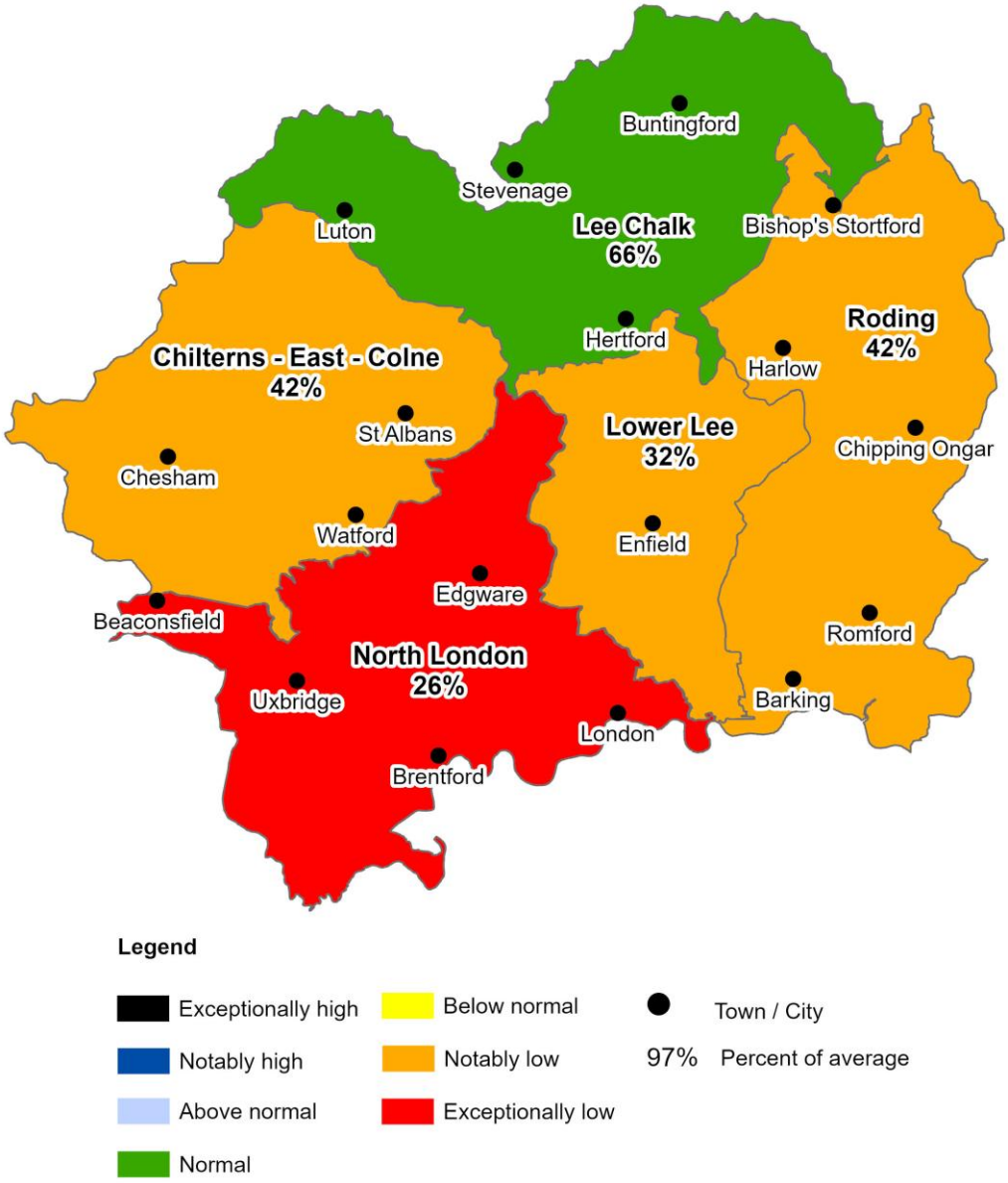
To protect the environment during August, 13 abstraction licence flow constraints were in force out of a monthly maximum of 31.

Author: Groundwater and Hydrology, groundwaterhydrology@environment-agency.gov.uk

2 Rainfall

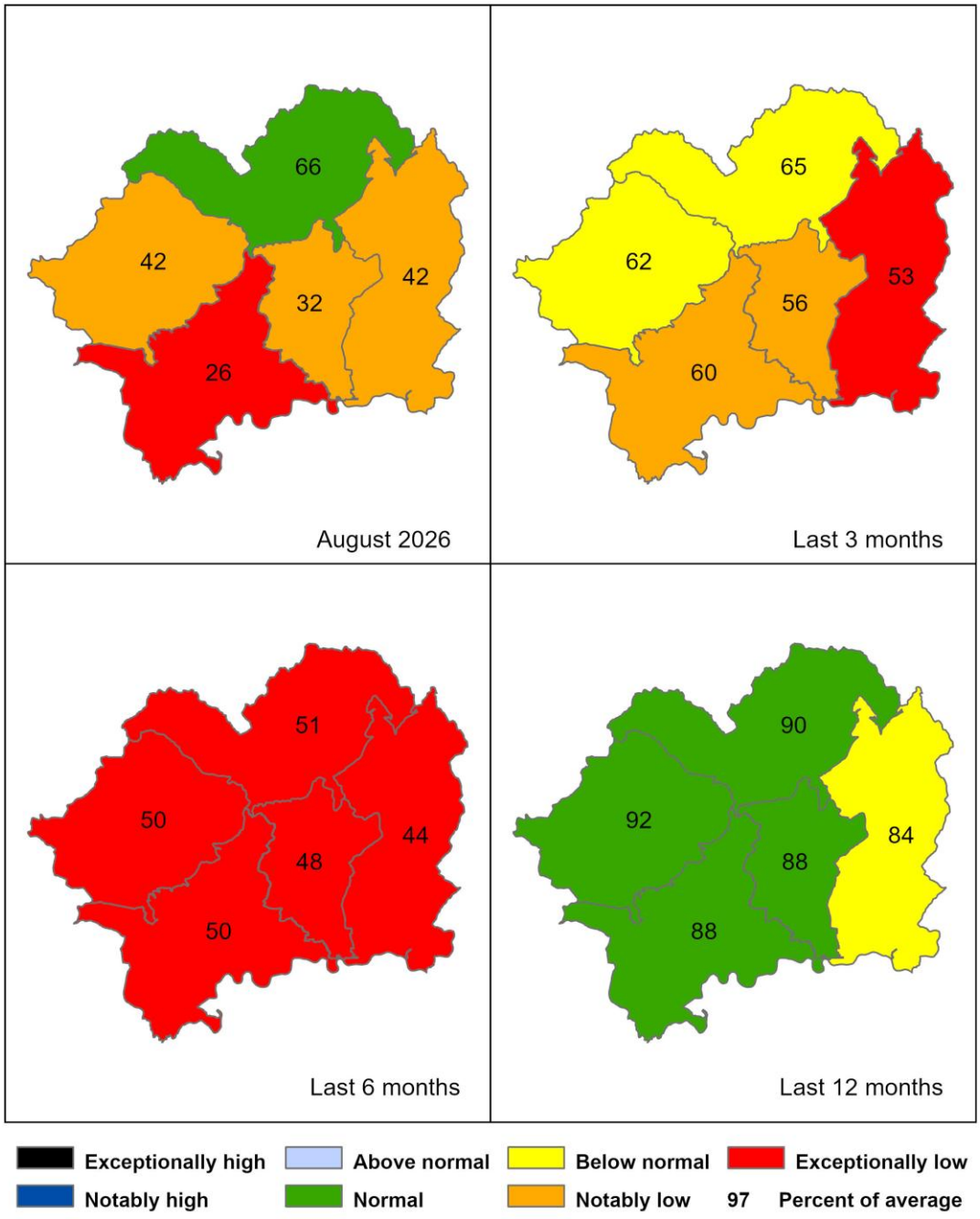
2.1 Rainfall map

Figure 2.1: Total rainfall for hydrological areas for the current month (up to 31 August 2026), classed relative to an analysis of respective historic totals. Table available in the appendices with detailed information.



Rainfall data extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency). Historic rainfall total data used in average values and categorisation extracted from Met Office HadUK 1km gridded rainfall dataset derived from registered rain gauges (Source: Met Office. Crown copyright, 2026). Map contains Ordnance Survey data (© Crown copyright, 2026, AC0000807064).

Figure 2.2: Total rainfall for hydrological areas for the current month (up to 31 August 2026), 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.



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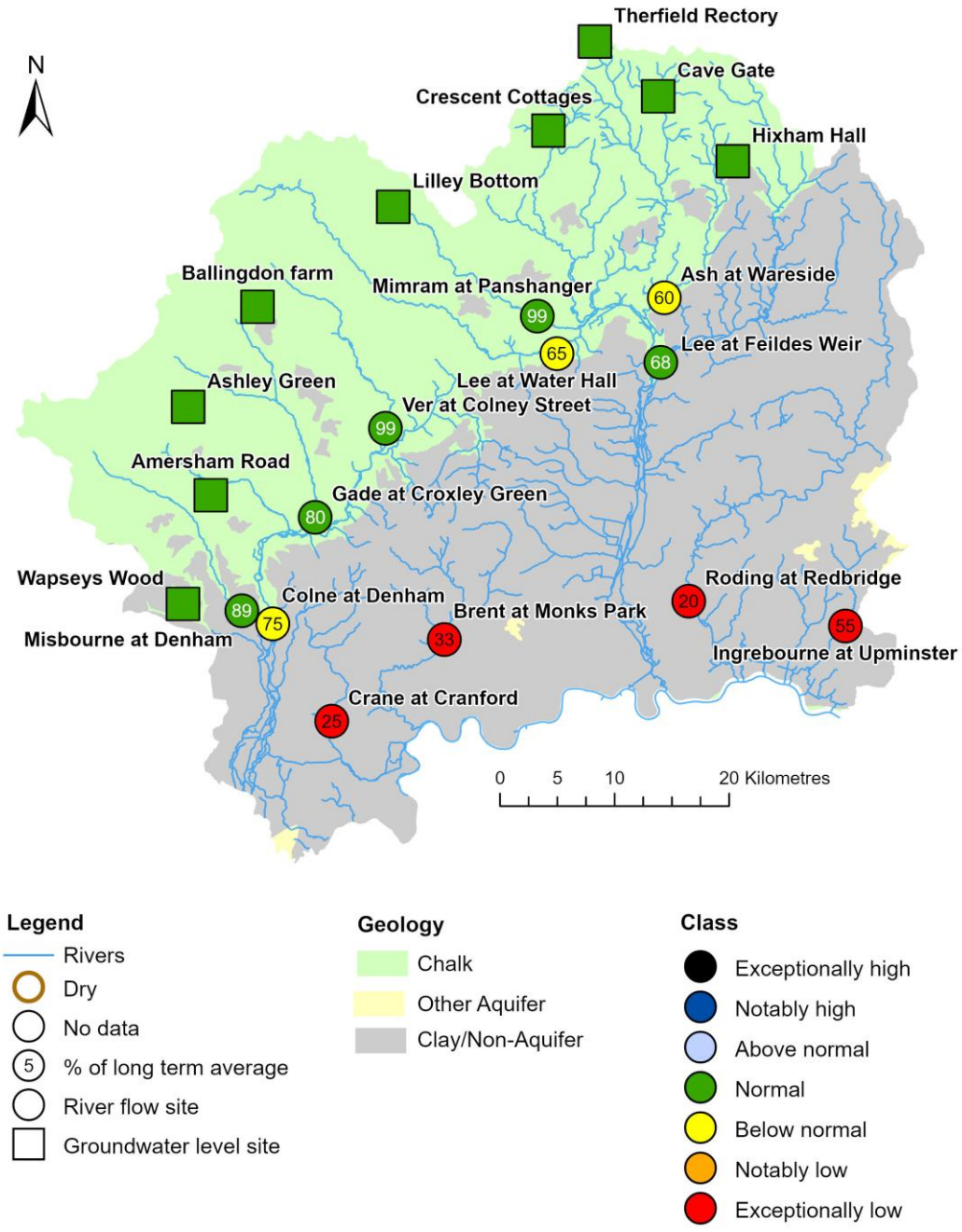
3 River flows and Groundwater levels

3.1 River flows and Groundwater level map

Figure 3.1: Monthly mean river flow and end of month groundwater levels for indicator sites for August 2026, expressed as a percentage of the respective long term average and classed relative to an analysis of historic August monthly means. Table available in the appendices with detailed information.

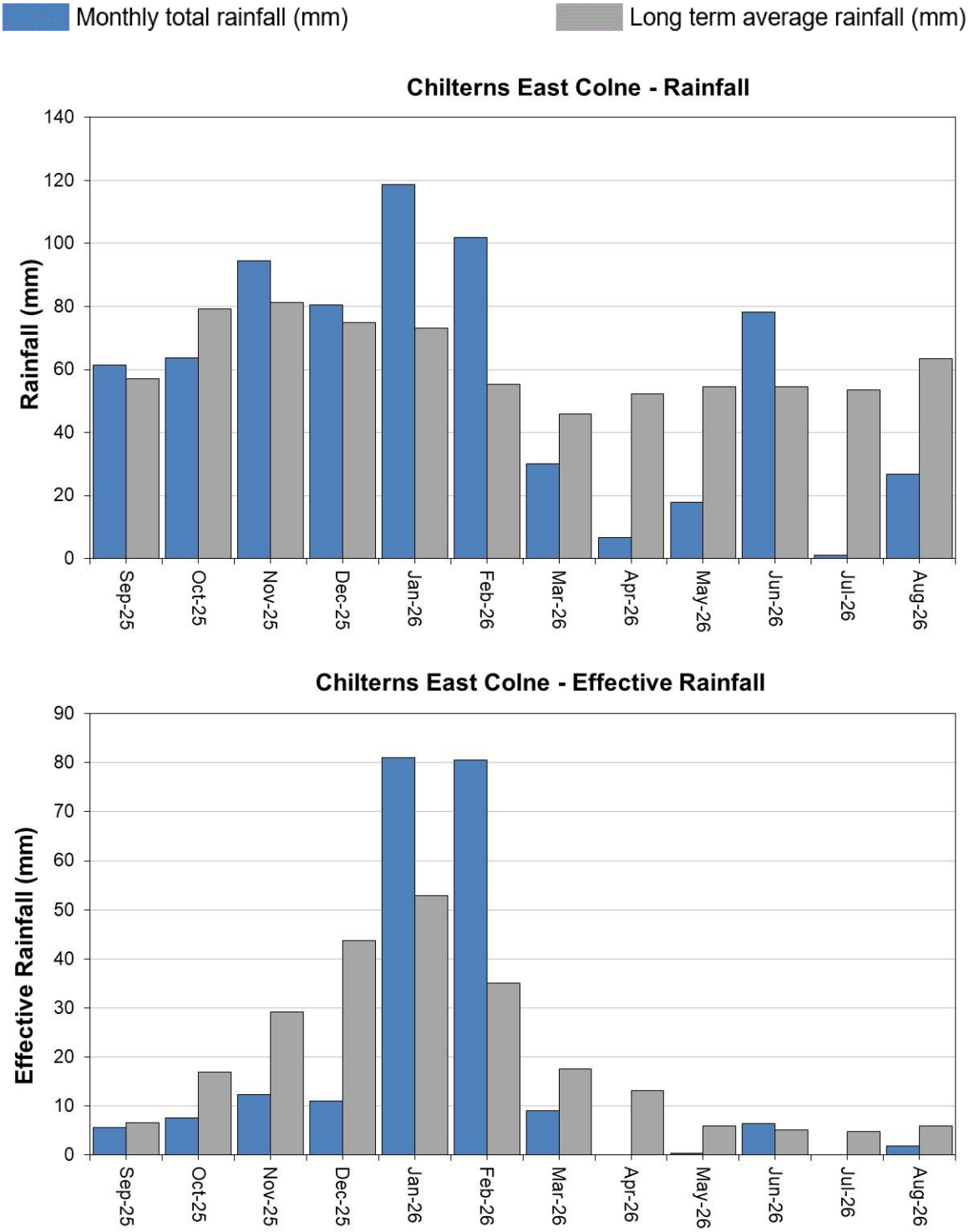


River flow and groundwater level monitoring data (Source: Environment Agency). Map contains Ordnance Survey data (© Crown copyright and database rights, 2026, AC0000807064). Geological map reproduced with the permission of the British Geological Survey © UKRI 2026.

4 Colne Catchment

4.1 Colne Rainfall and Effective Rainfall charts

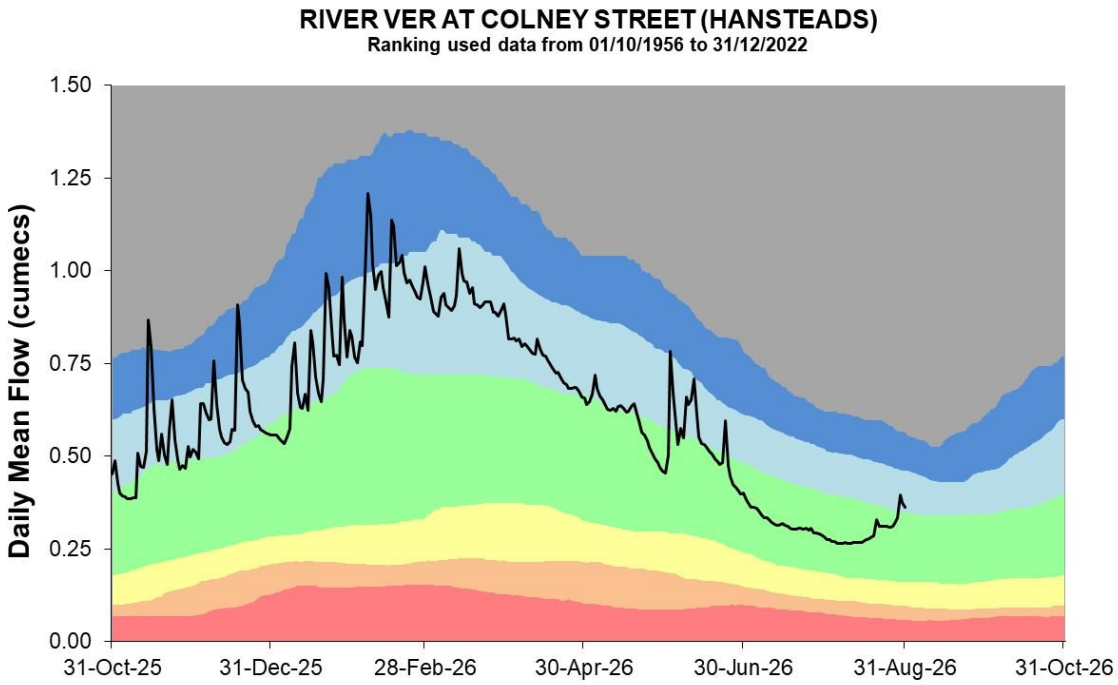
Figure 4.1: Monthly rainfall and effective rainfall totals for the past 12 months compared to the 1991 to 2020 long term average for the Colne hydrological area.

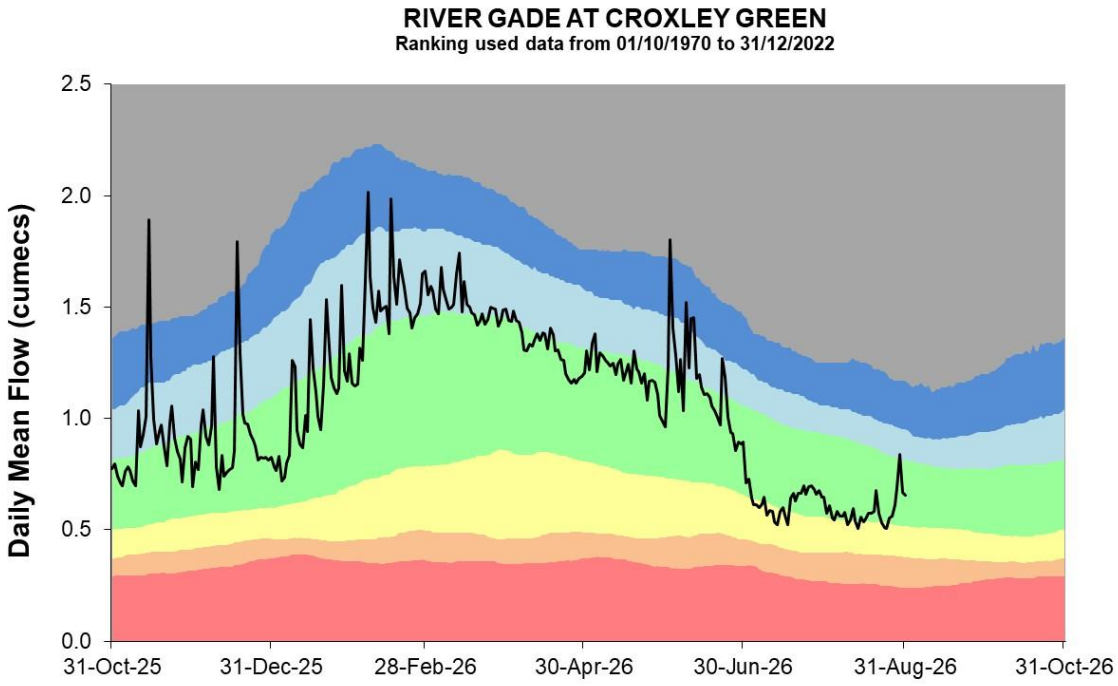


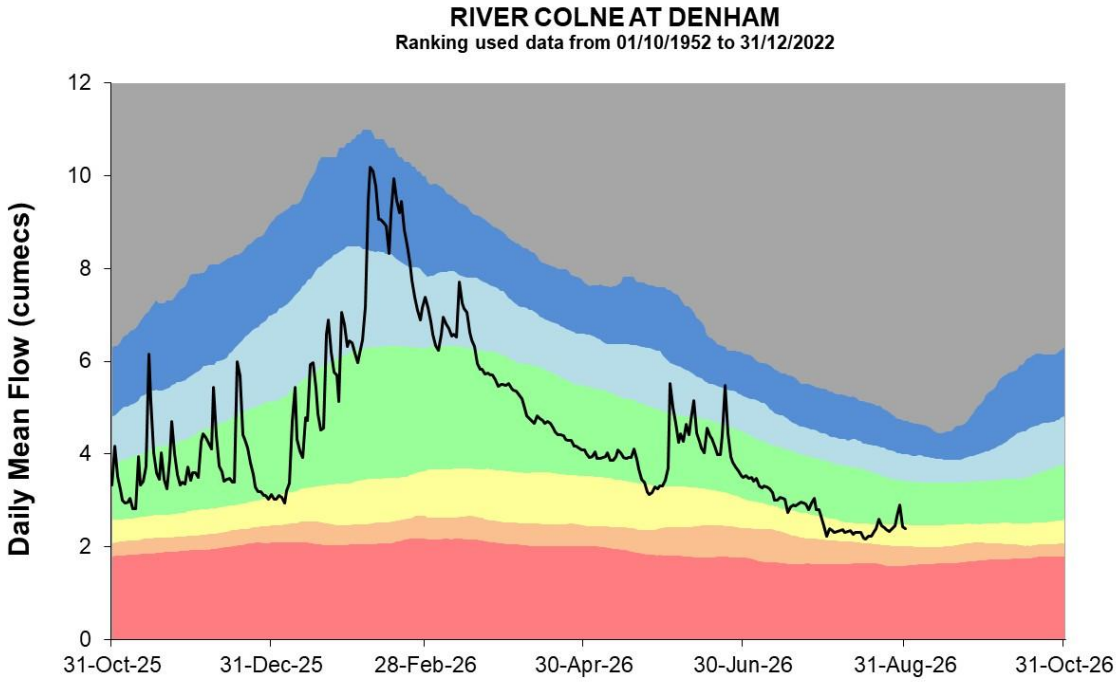
Rainfall data extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency). Long term average rainfall data (Source: Met Office. Crown copyright, 2026). Effective rainfall data (Source: Environment Agency South East Soil Moisture Model).

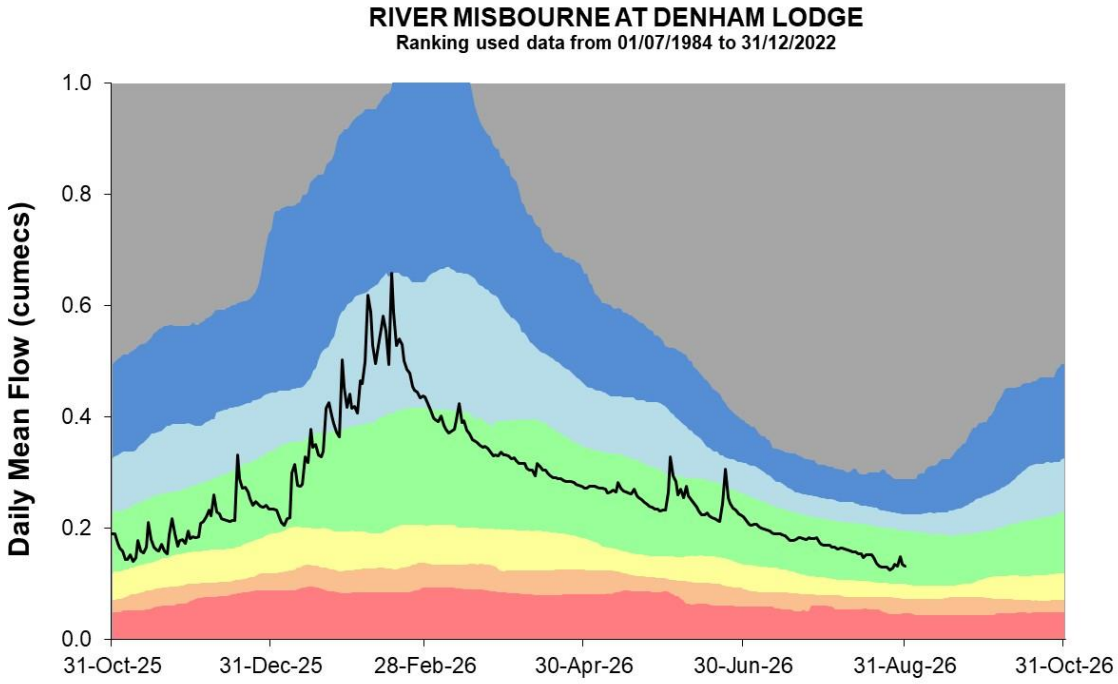
4.2 Colne River flow charts

Figure 4.2: Daily mean river flow for indicator sites over the past year, compared to an analysis of historic daily mean flows.





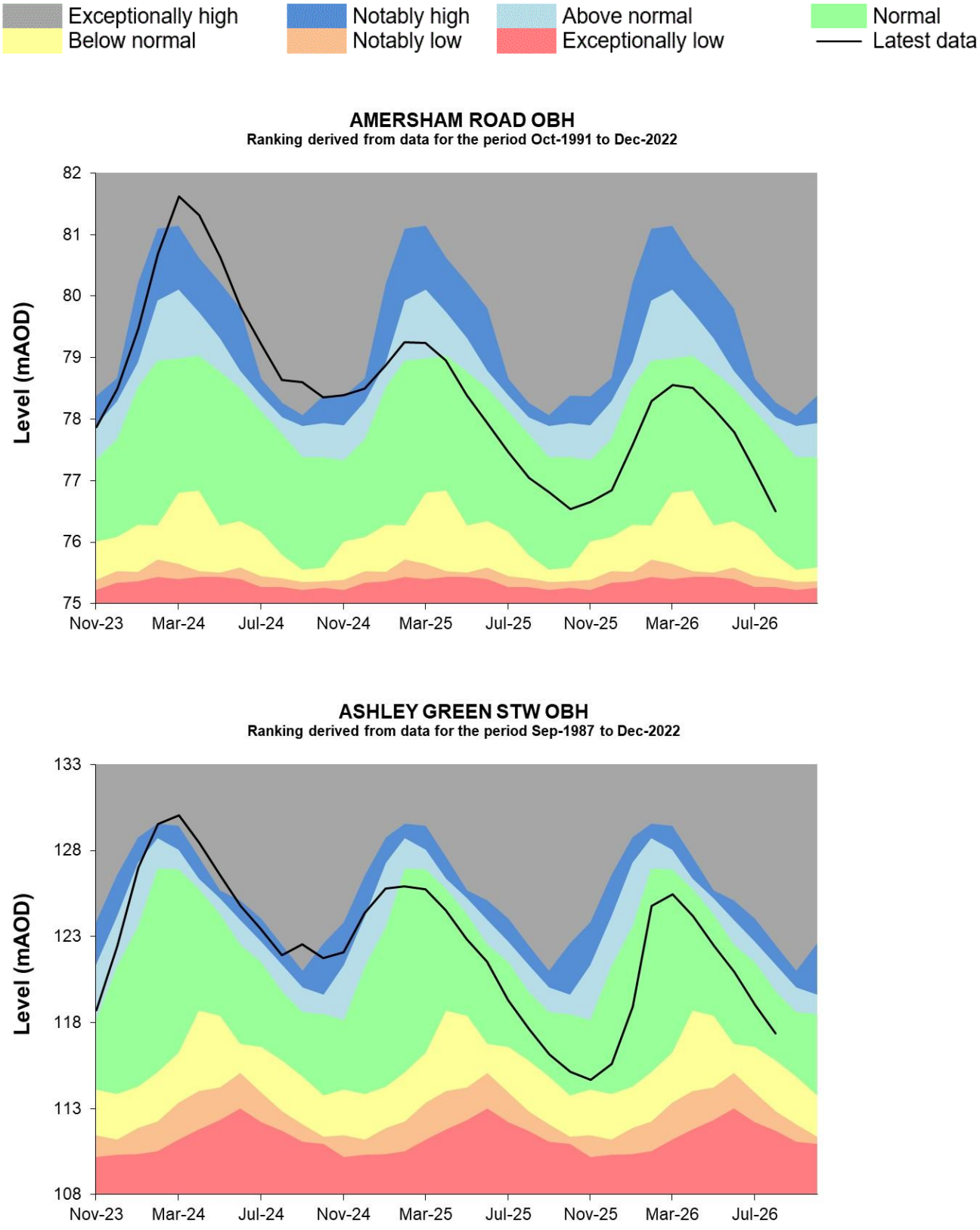


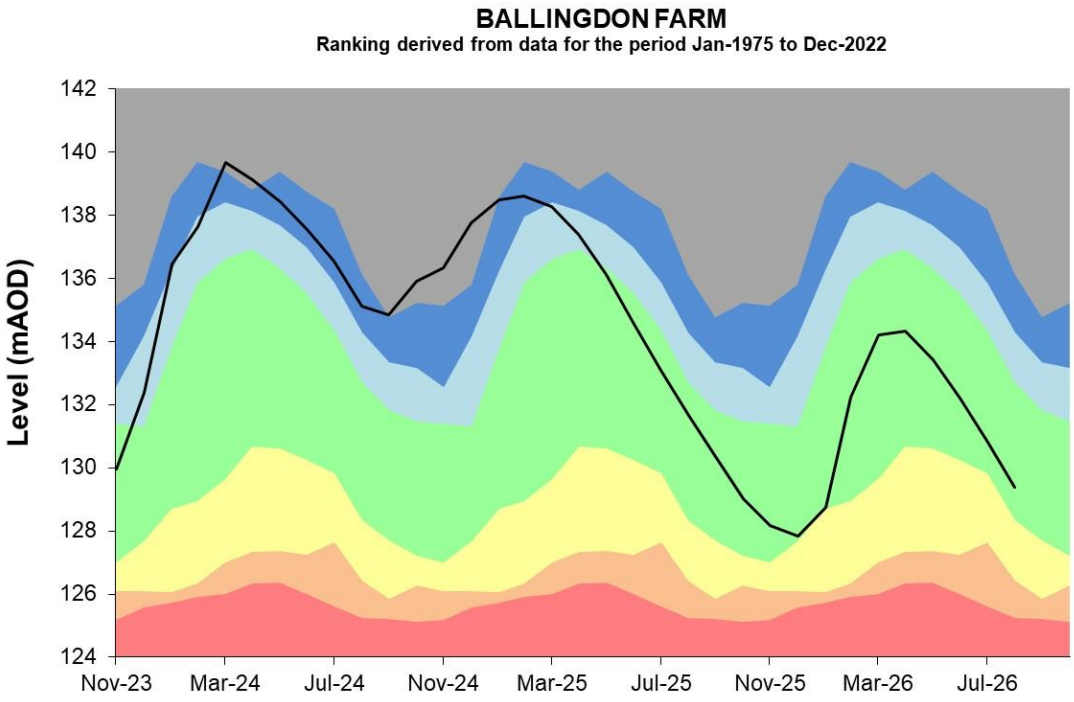


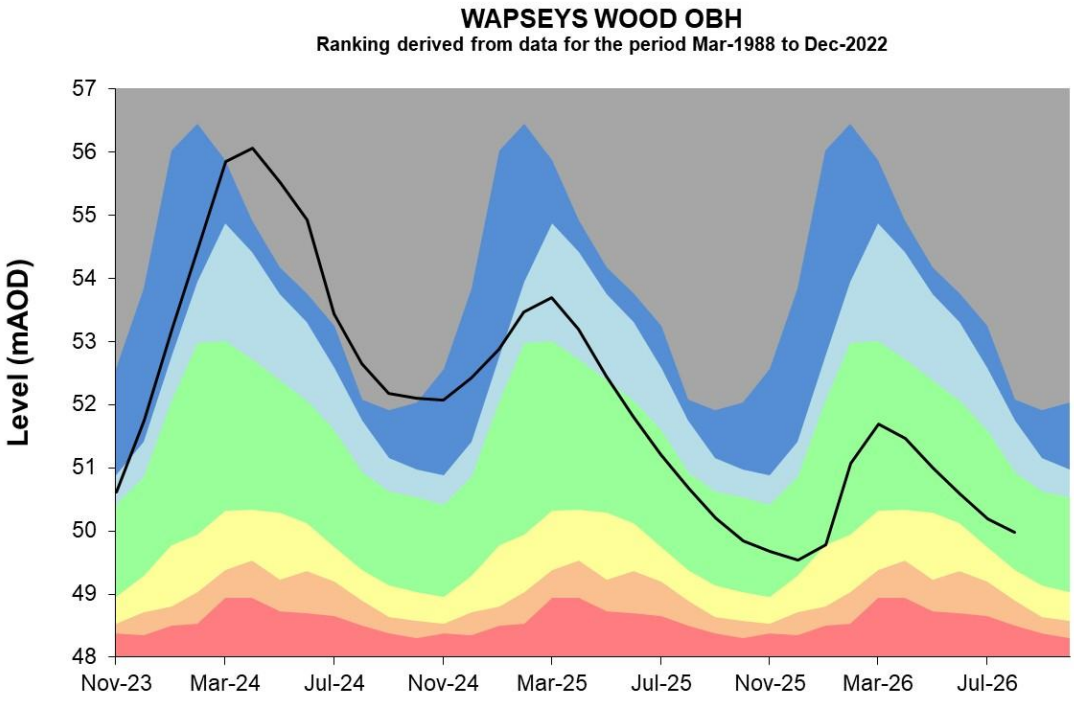
River flow monitoring data (Source: Environment Agency, 2026)

4.3 Colne Groundwater level charts

Figure 4.3: End of month groundwater levels at indicator sites, with the past 22 months compared to an analysis of historic end of month levels.





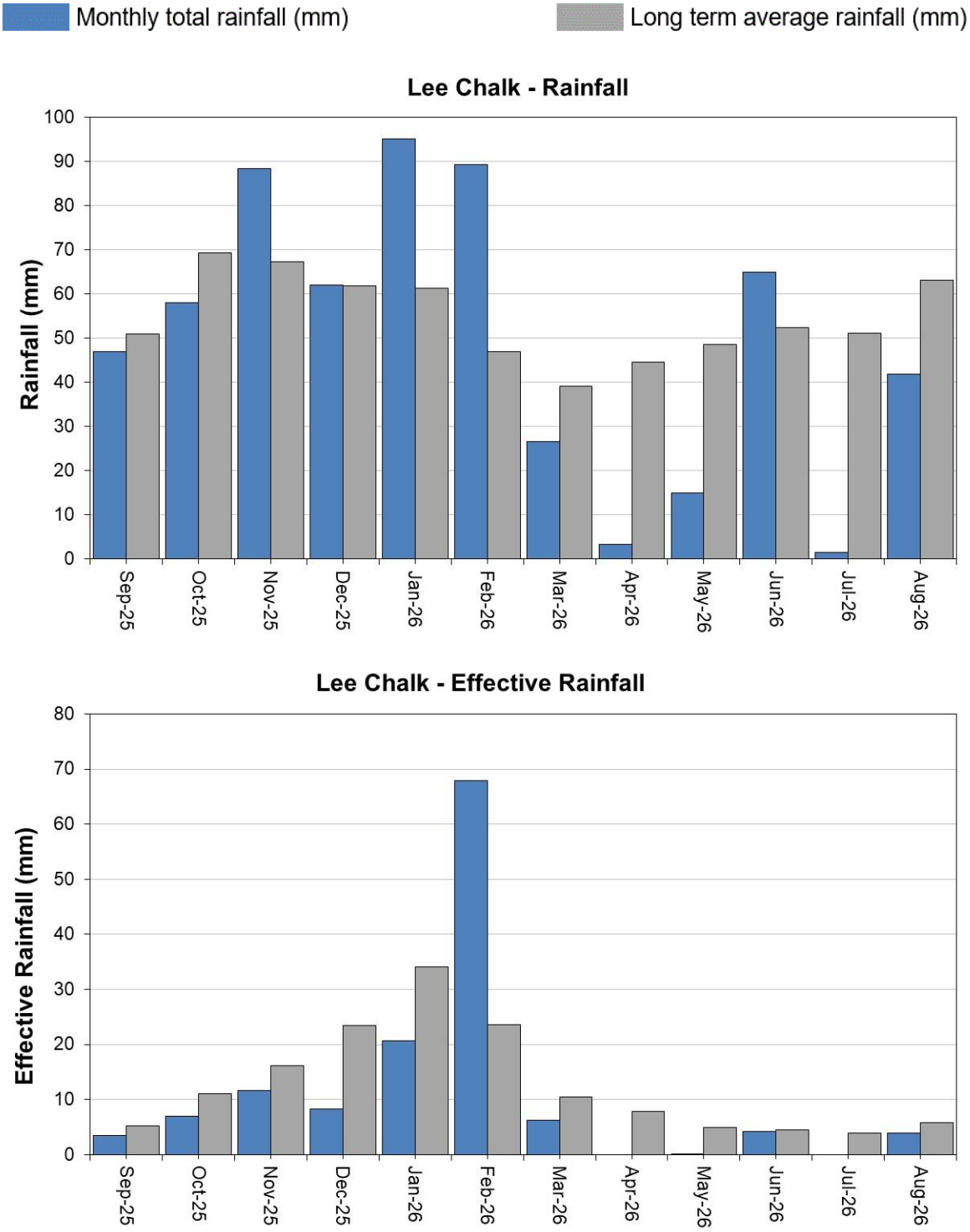


Groundwater level monitoring data (Source: Environment Agency, 2026)

5 Upper Lee Catchment

5.1 Upper Lee Rainfall and Effective Rainfall charts

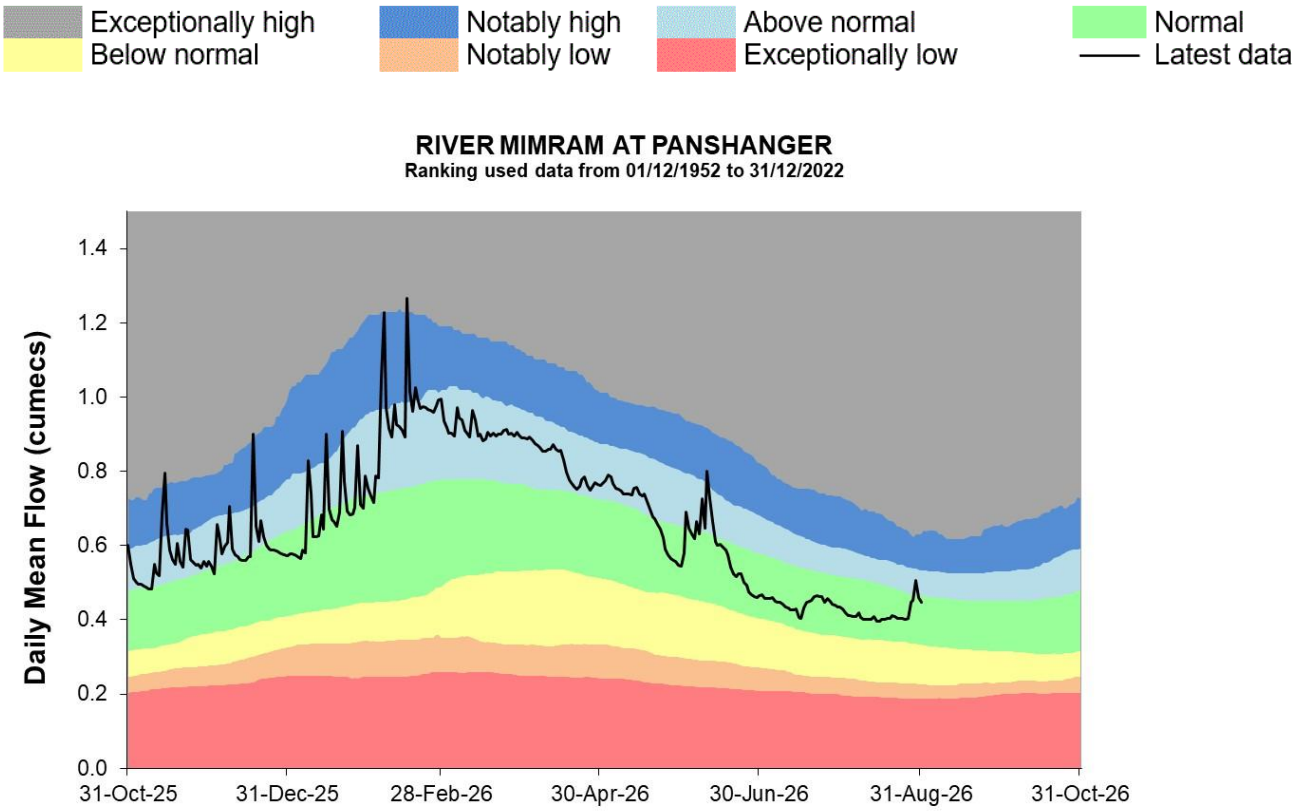
Figure 5.1: Monthly rainfall and effective rainfall totals for the past 12 months compared to the 1991 to 2020 long term average for the Upper Lee hydrological area.

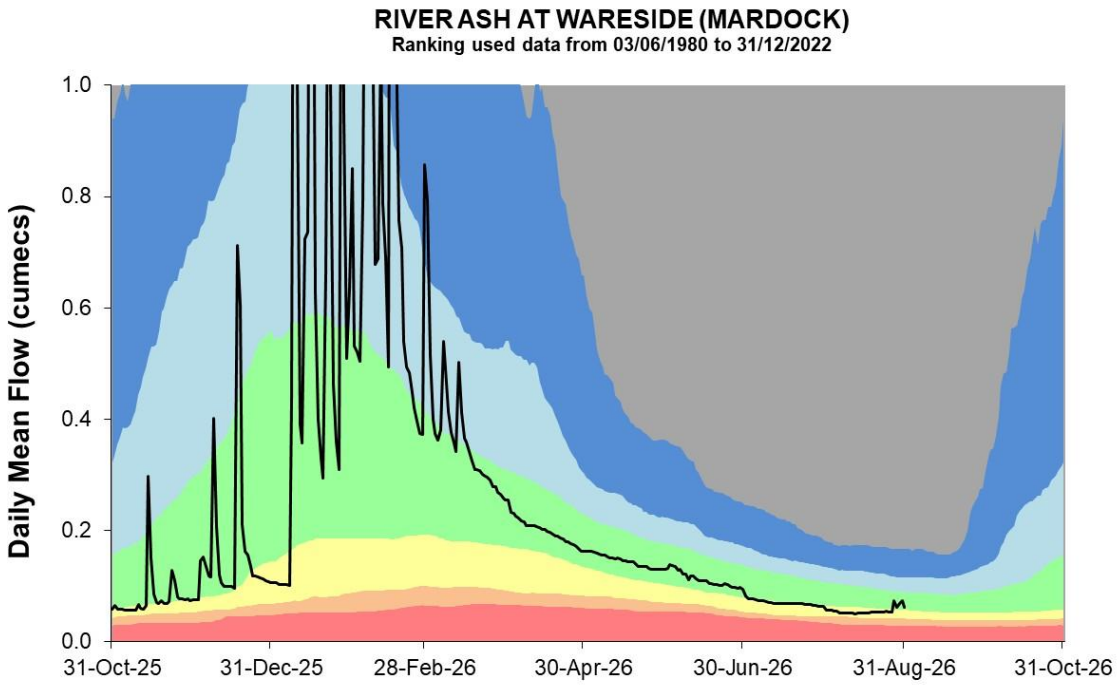


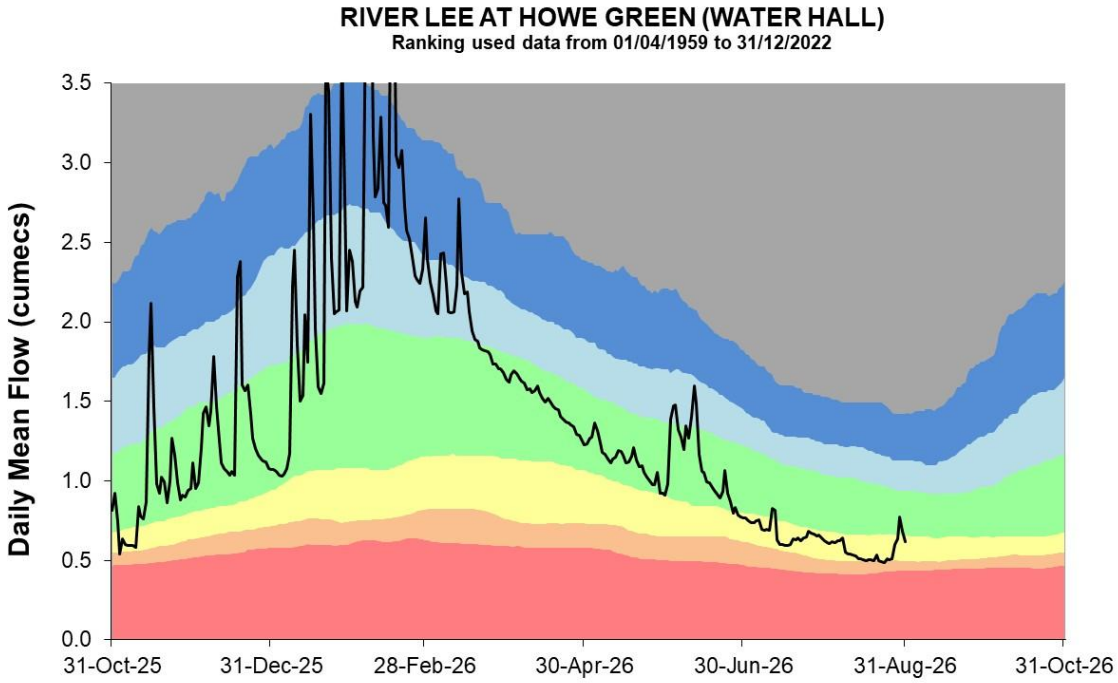
Rainfall data extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency). Long term average rainfall data (Source: Met Office. Crown copyright, 2026). Effective rainfall data (Source: Environment Agency South East Soil Moisture Model).

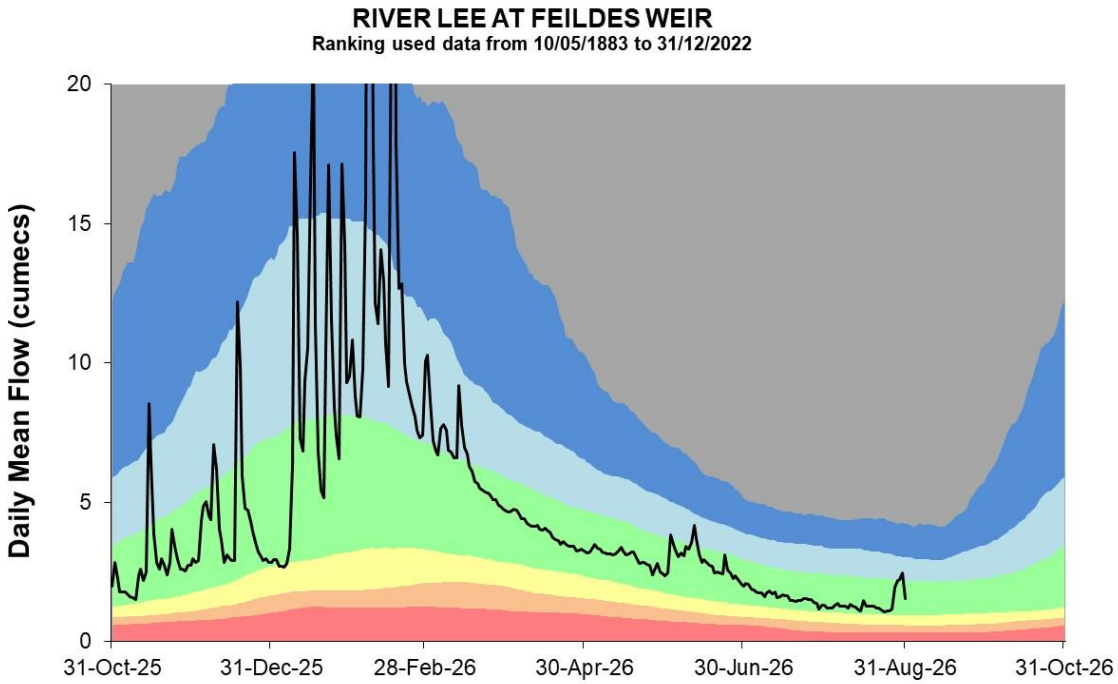
5.2 Upper Lee River flow charts

Figure 5.2 Daily mean river flow for indicator sites over the past year, compared to an analysis of historic daily mean flows.





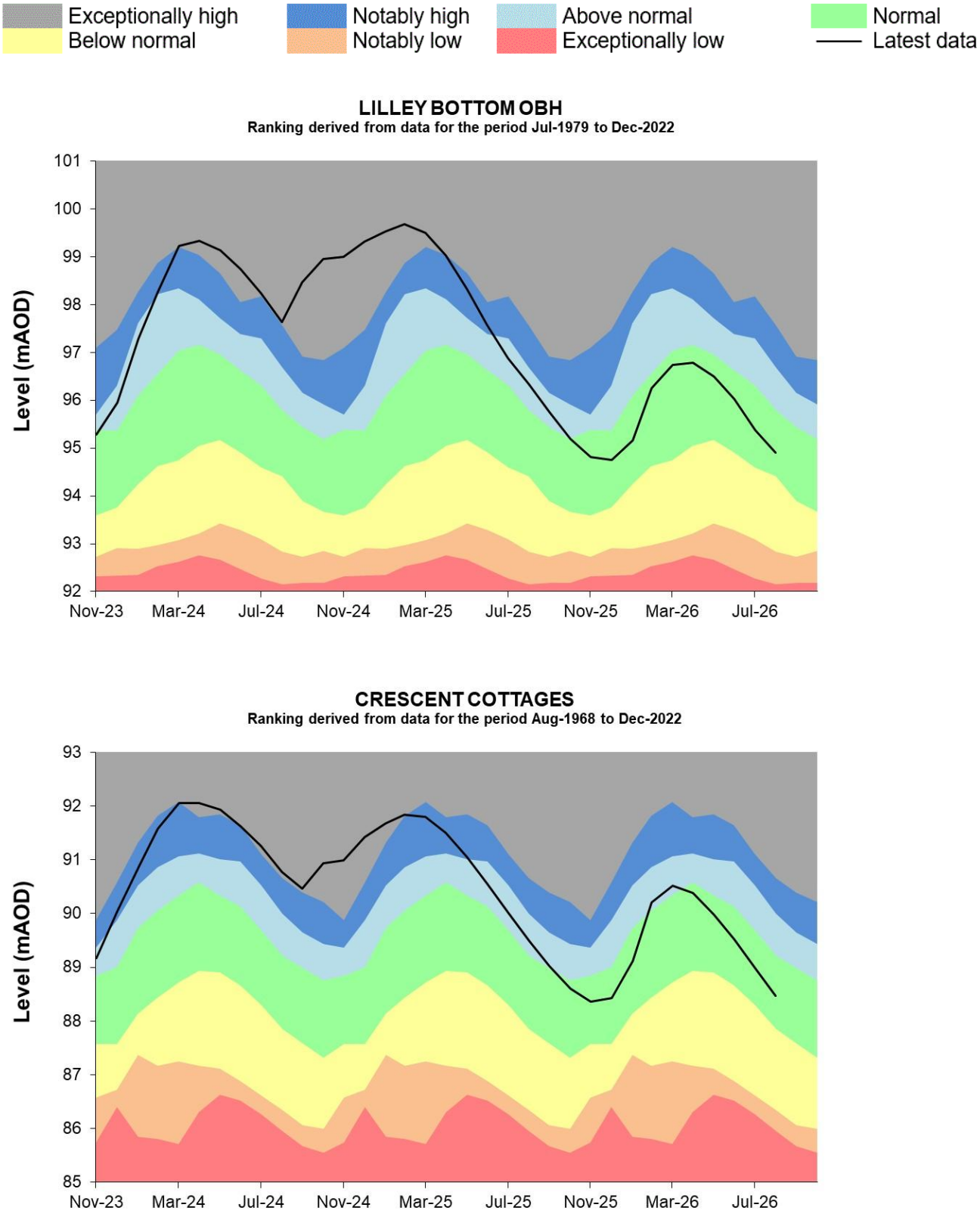




River flow monitoring data (Source: Environment Agency, 2026)

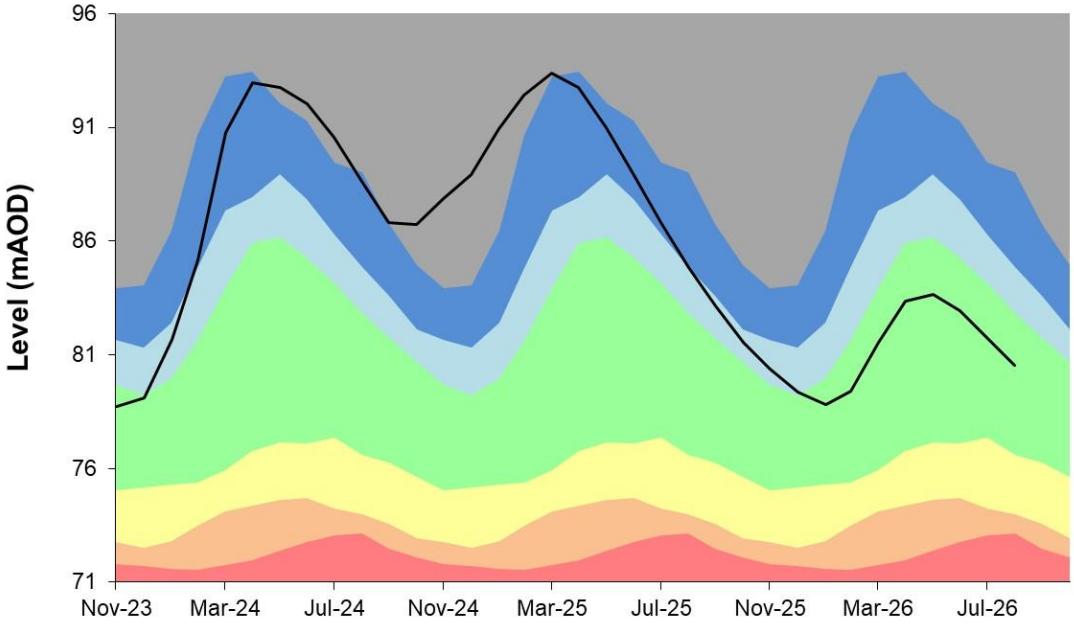
5.3 Upper Lee Groundwater level charts

Figure 5.3: End of month groundwater levels at indicator sites, with the past 22 months compared to an analysis of historic end of month levels.



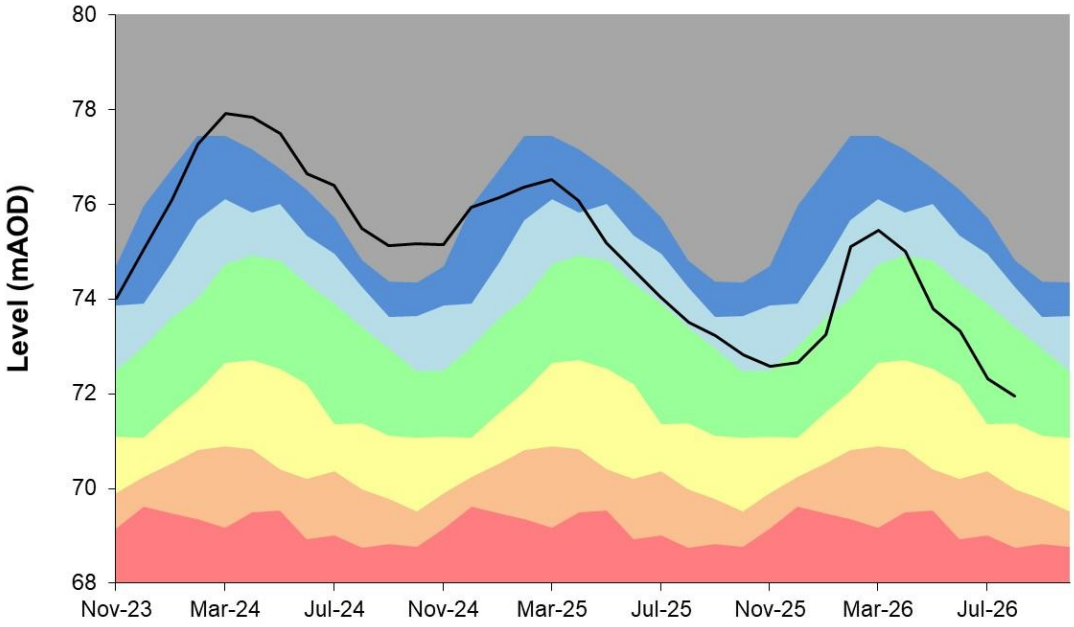
THERFIELD RECTORY

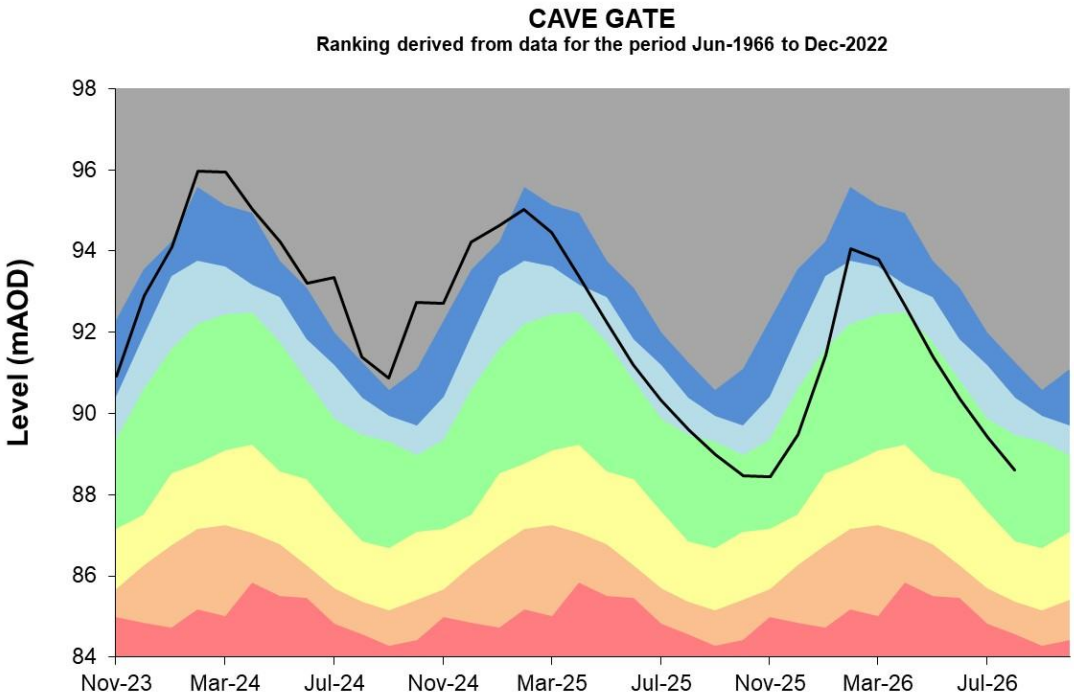
Ranking derived from data for the period Jan-1883 to Dec-2022



HIXHAM HALL

Ranking derived from data for the period Jun-1964 to Dec-2022



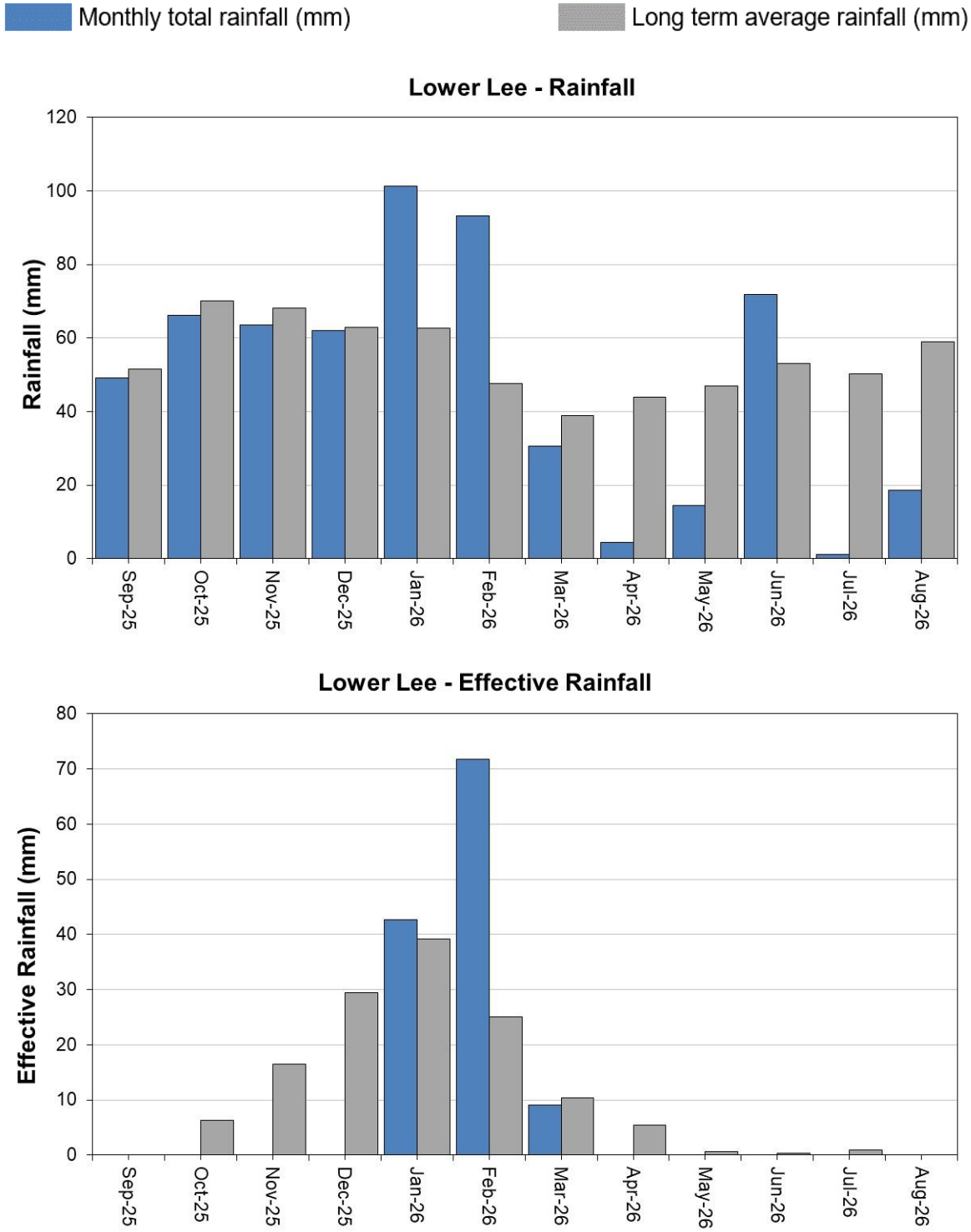


Groundwater level monitoring data (Source: Environment Agency, 2026)

6 Lower Lee Catchment

6.1 Lower Lee Rainfall and Effective Rainfall charts

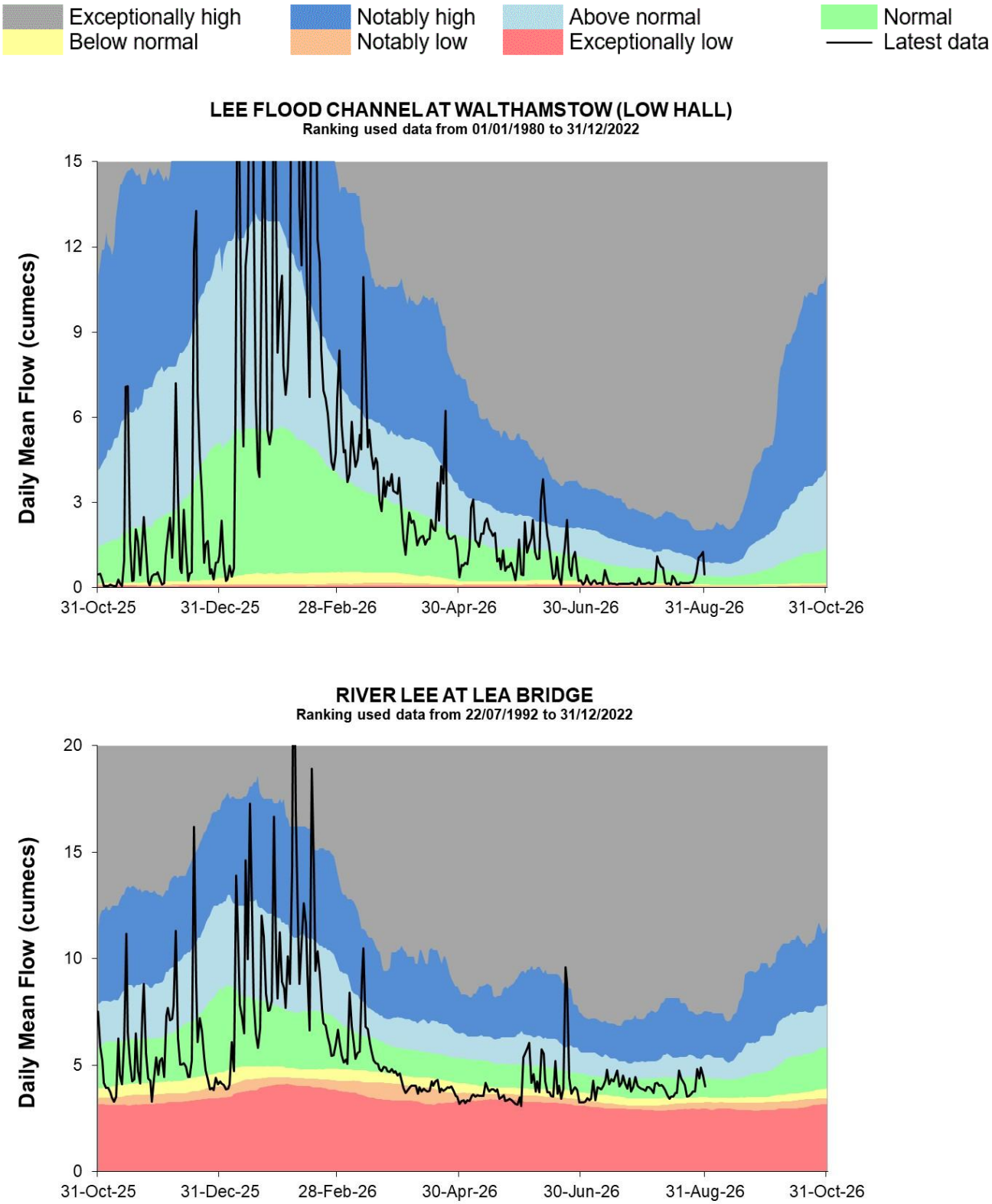
Figure 6.1: Monthly rainfall and effective rainfall totals for the past 12 months as a percentage of the 1991 to 2020 long term average for the Lower Lee hydrological area.



Rainfall data extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency). Long term average rainfall data (Source: Met Office. Crown copyright, 2026). Effective rainfall data (Source: Environment Agency South East Soil Moisture Model).

6.2 Lower Lee River flow charts

Figure 6.2: Daily mean river flow for indicator sites over the past year, compared to an analysis of historic daily mean flows.

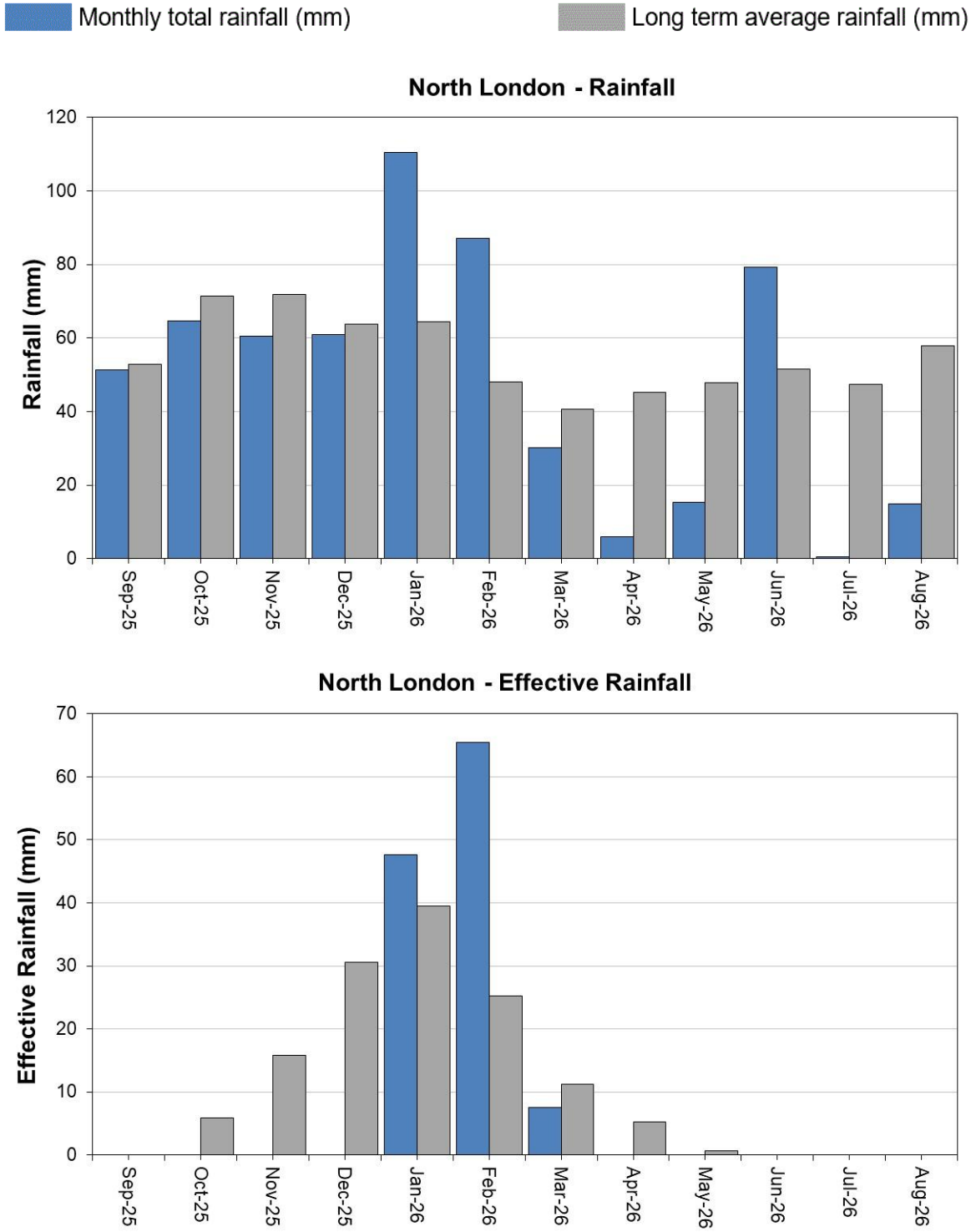


River flow monitoring data (Source: Environment Agency, 2026)

7 North London Catchment

7.1 North London Rainfall and Effective Rainfall charts

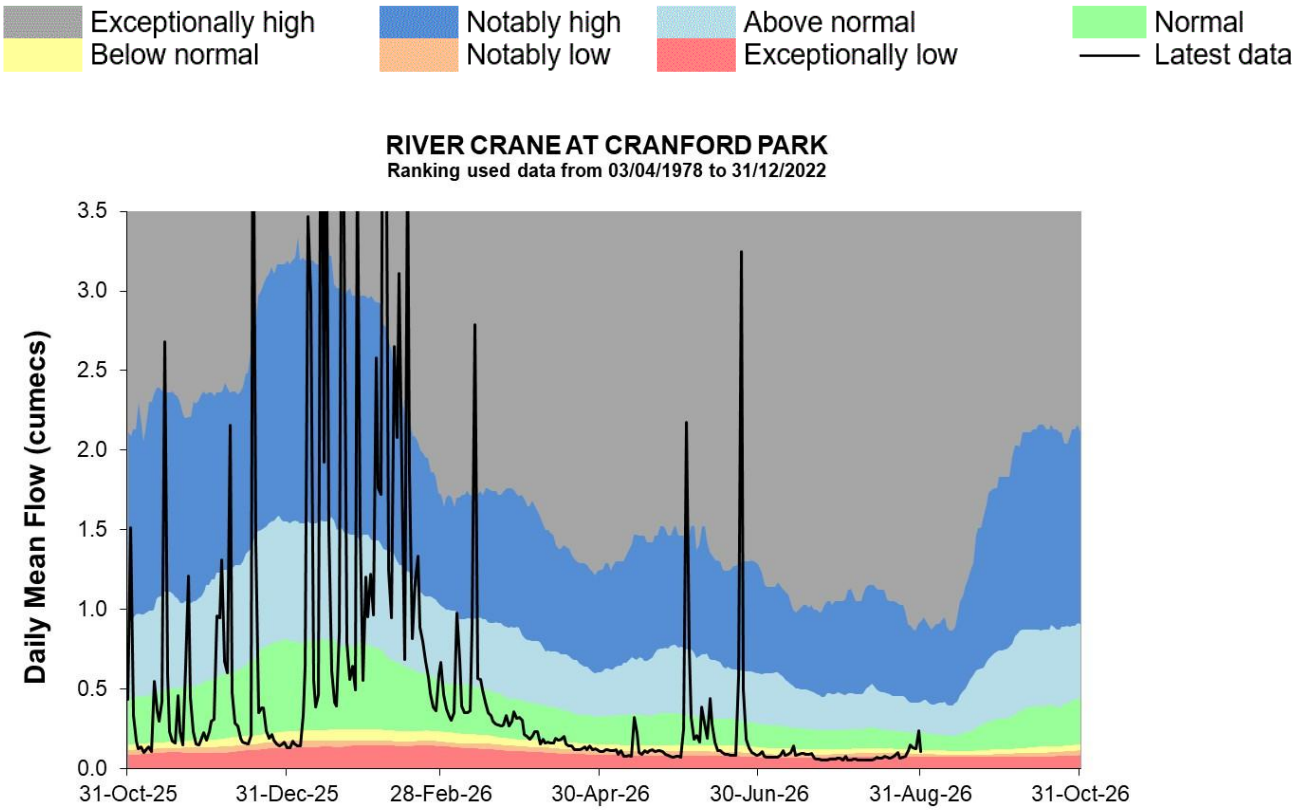
Figure 7.1: Monthly rainfall and effective rainfall totals for the past 12 months compared to the 1991 to 2020 long term average for the North London hydrological area.

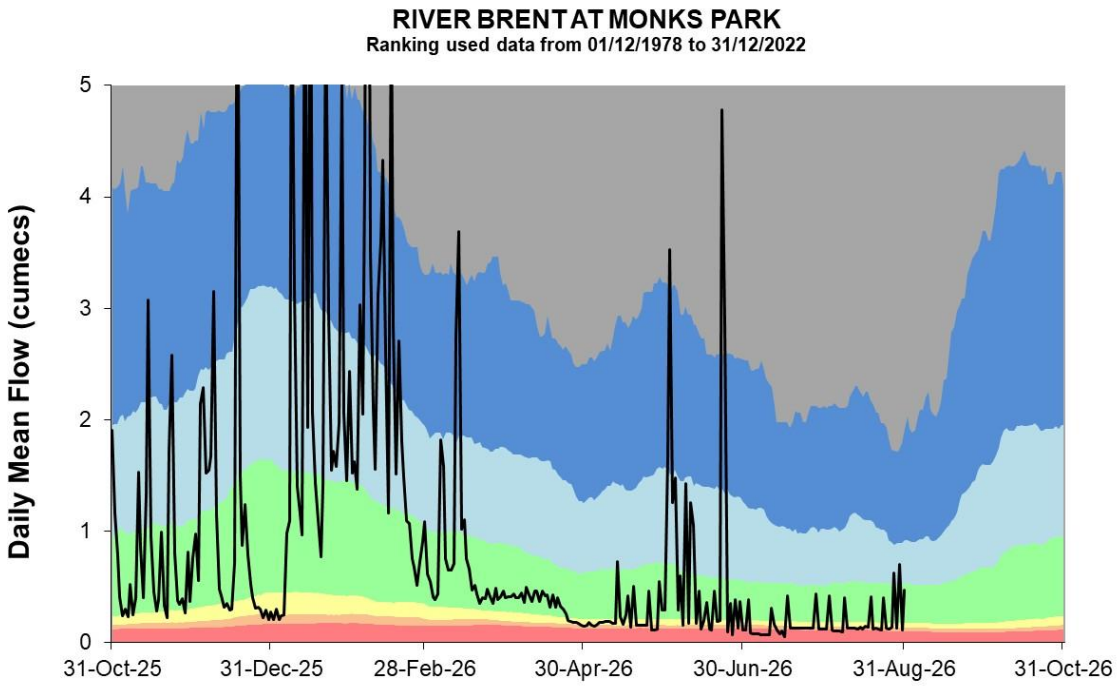


Rainfall data extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency). Long term average rainfall data (Source: Met Office. Crown copyright, 2026). Effective rainfall data (Source: Environment Agency South East Soil Moisture Model).

7.2 North London River flow charts

Figure 7.2: Daily mean river flow for indicator sites over the past year, compared to an analysis of historic daily mean flows.



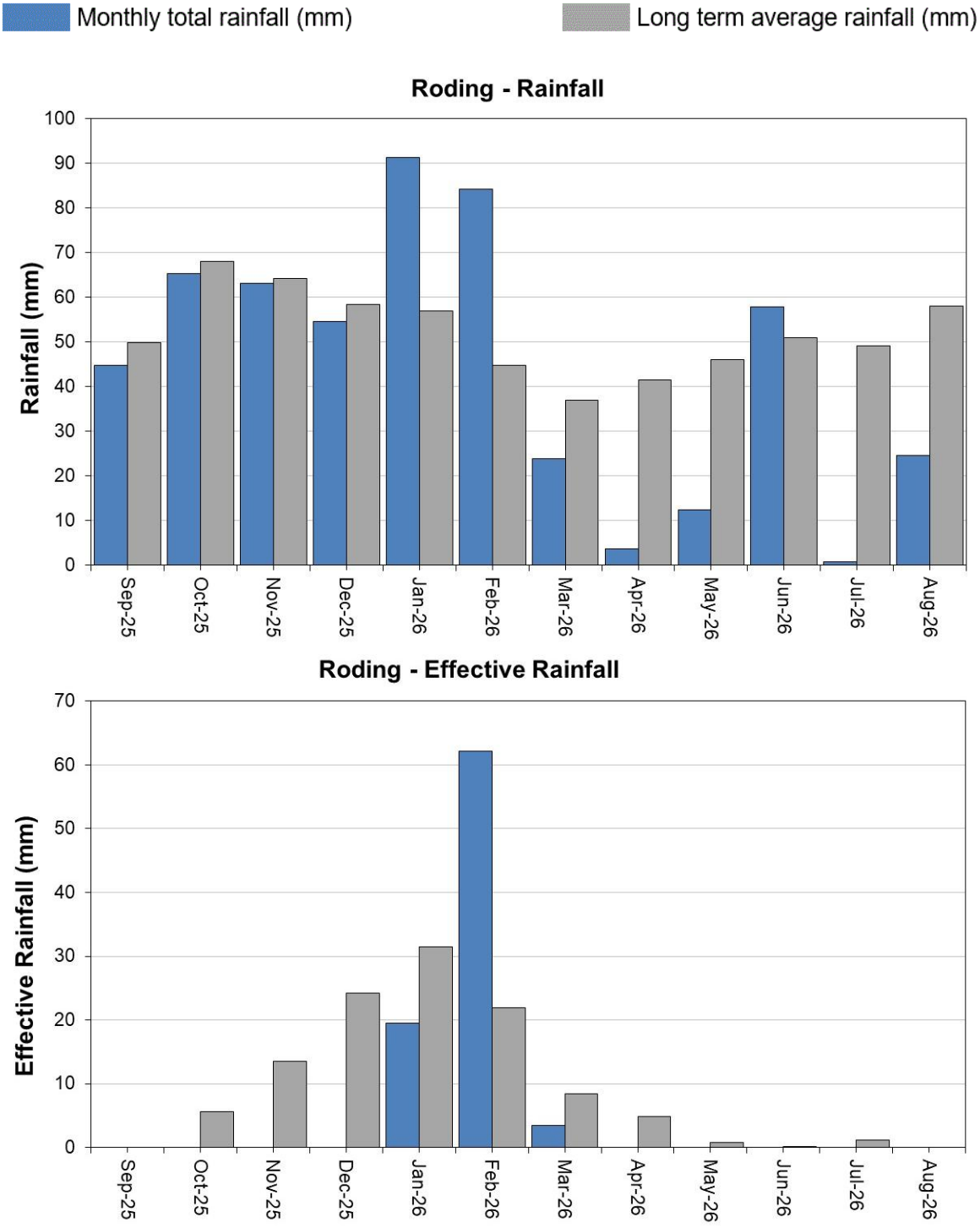


River flow monitoring data (Source: Environment Agency, 2026)

8 Roding Catchment

8.1 Roding Rainfall and Effective Rainfall charts

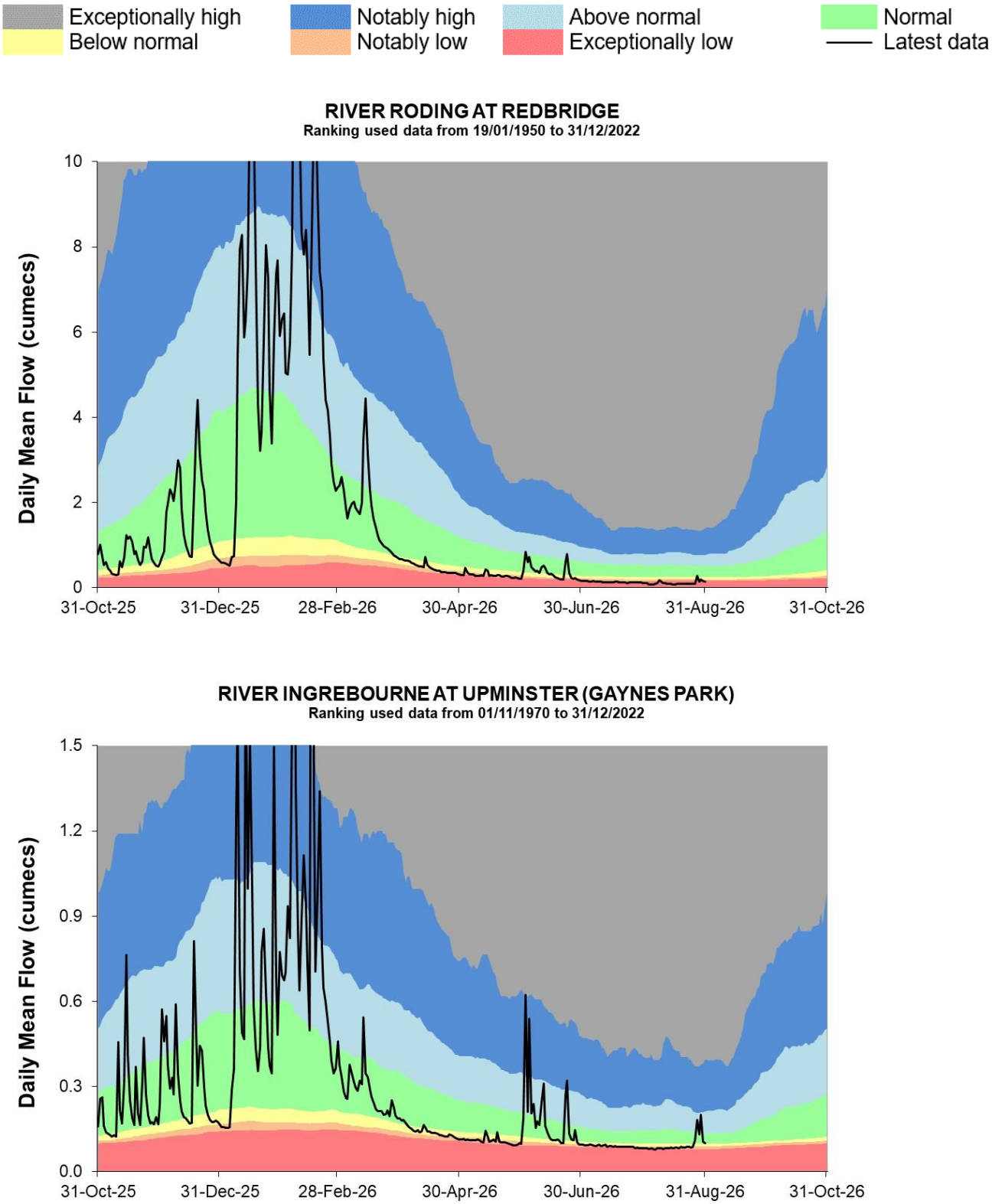
Figure 8.1: Monthly rainfall and recharge totals for the past 12 months compared to the 1991 to 2020 long term average for the Roding hydrological area.



Rainfall data extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency). Long term average rainfall data (Source: Met Office. Crown copyright, 2026). Effective rainfall data (Source: Environment Agency South East Soil Moisture Model).

8.2 Roding River flow charts

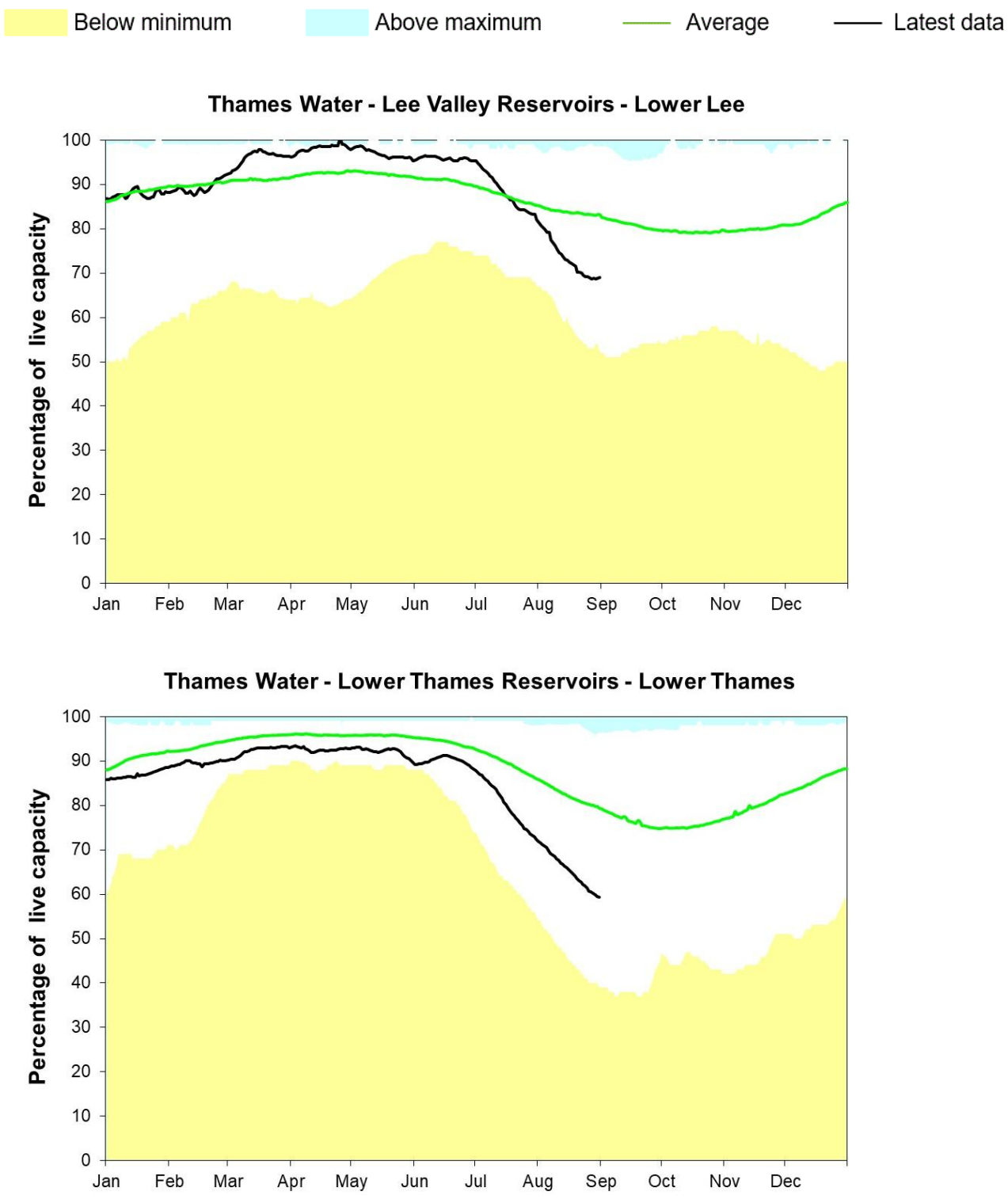
Figure 8.2: Daily mean river flow for indicator sites over the past year, compared to an analysis of historic daily mean flows.



River flow monitoring data (Source: Environment Agency, 2026)

9 Reservoir stocks

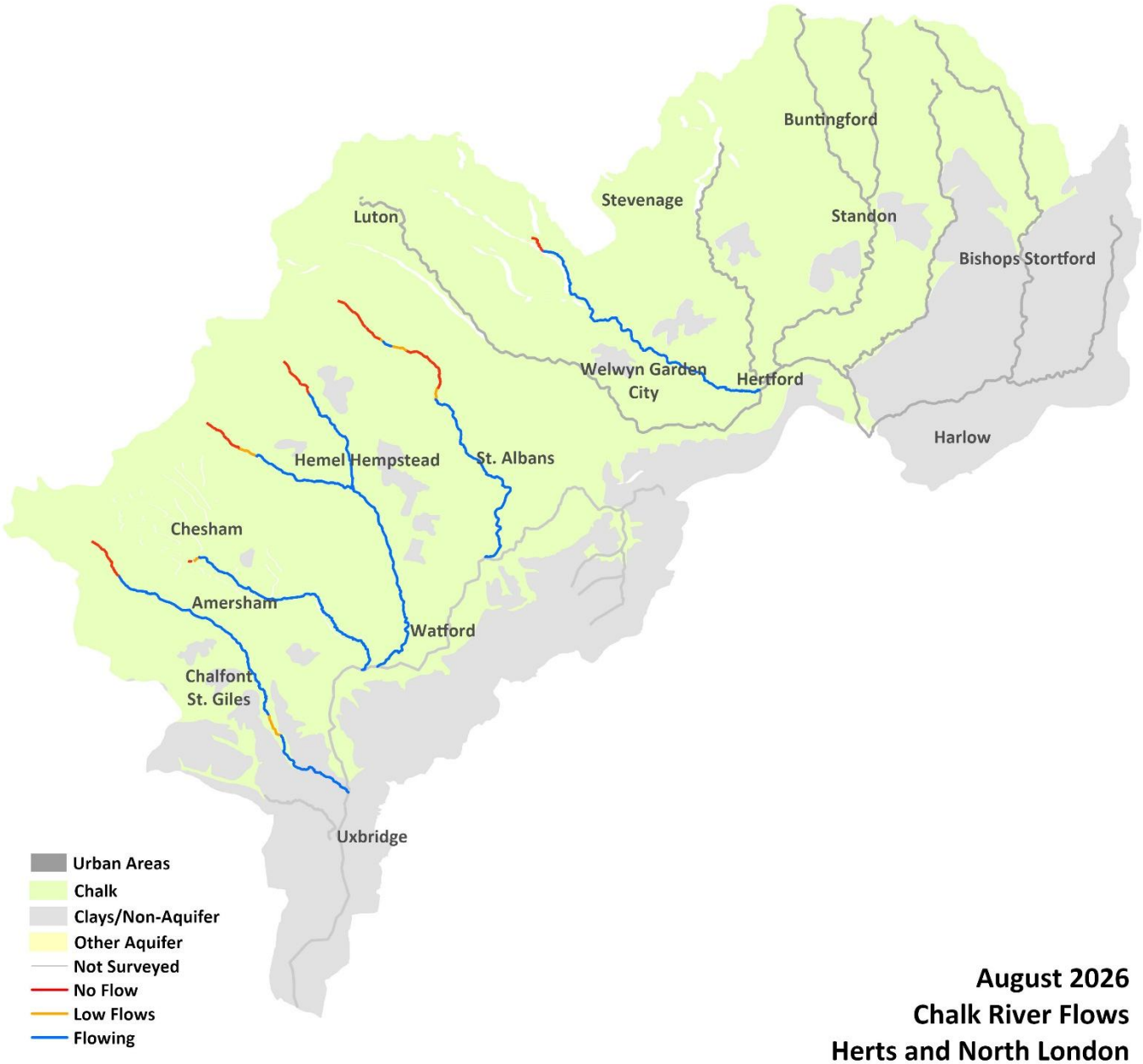
Figure 9.1: End of month reservoir stocks for the Lower Thames reservoir group and the Lee Valley reservoir group compared to long term maximum, minimum and average stocks. Note: Historic records of individual reservoirs making up the group values vary in length.



Reservoir level data (Source: Thames Water, 2026)

10 Chalk Rivers

Figure 10.1: Length of Chalk Rivers surveyed during the month and categorised as: Flowing, Low Flows, No Flow or Not Surveyed.



Chalk river flow monitoring data (Source: Environment Agency, 2026). Map contains Ordnance Survey data (© Crown copyright, 2026, AC0000807064). Geological map reproduced with the permission of the British Geological Survey © UKRI 2026.

11 Glossary

11.1 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 1991 to 2020. 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 1 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).

11.2 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.

12 Appendices

12.1 Rainfall table

Hydrological area	Aug 2026 total rainfall in mm	Aug 2026 rainfall long term average 1991 to 2020	Aug 2026 rainfall % of long term average 1991 to 2020	Summer Apr 2026 to Aug 2026 total rainfall in mm	Summer Apr 2026 to Aug 2026 rainfall % of long term average 1991 to 2020
Chilterns East Colne	27	63	42	131	47
Lee Chalk	42	63	66	127	48
Lower Lee	19	59	32	111	44
North London	15	58	26	116	46
Roding	25	58	42	99	40
Herts and North London total	26	60	42	117	45

12.2 Rainfall banding table

Hydrological area	Aug 2026 band	Jun 2026 to Aug 2026 cumulative band	Mar 2026 to Aug 2026 cumulative band	Sep 2025 to Aug 2026 cumulative band
Chilterns East Colne	Notably low	Below normal	Exceptionally low	Normal
Lee Chalk	Normal	Below normal	Exceptionally low	Normal
Lower Lee	Notably low	Notably low	Exceptionally low	Normal
North London	Exceptionally low	Notably low	Exceptionally low	Normal
Roding	Notably low	Exceptionally low	Exceptionally low	Below normal

12.3 Effective Rainfall table

Hydrological area	Aug 2026 total effective rainfall in mm	Aug 2026 effective rainfall long term average 1991 to 2020 in mm	Aug 2026 effective rainfall % of long term average 1991 to 2020	Summer Apr 2026 to Aug 2026 total effective rainfall in mm	Summer Apr 2026 to Aug 2026 effective rainfall % of long term average 1991 to 2020
Chilterns East Colne	2	6	31	9	25
Lee Chalk	4	6	67	8	31
Lower Lee	0	0	0	0	0
North London	0	0	0	0	0
Roding	0	0	0	0	0
Herts and North London total	1	2	49	3	21

12.4 Soil Moisture Deficit table

Hydrological area	Aug 2026 end of month soil moisture deficit in mm	Aug 2026 end of month soil moisture deficit long term average 1991 to 2020 in mm	Jul 2026 end of month soil moisture deficit in mm	Jul 2026 end of month soil moisture deficit long term average 1991 to 2020 in mm
Chilterns East Colne	182	105	152	92
Lee Chalk	177	118	159	105
Lower Lee	192	110	155	98
North London	193	114	155	101
Roding	191	112	161	99
Herts and North London total	187	112	157	99

12.5 River flows table

Site name	River	Catchment	Aug 2026 band	Jul 2026 band
Colney Street (Hansteads)	Ver	Colne	Normal	Normal
Croxley Green	Gade	Colne	Normal	Normal
Denham Lodge	Misbourne	Colne	Normal	Normal
Denham Colne	Colne	Colne	Below normal	Normal
Howe Green (Water Hall)	Lee	Upper Lee	Below normal	Below normal
Panshanger	Mimram	Upper Lee	Normal	Normal
Wareside (Mardock)	Ash	Upper Lee	Below normal	Normal
Feildes Weir (naturalised)	Lee	Upper Lee	Normal	Normal
Brent (Monks Park)	Brent	North London	Exceptionally low	Exceptionally low
Cranford (Cranford Park)	Crane	North London	Exceptionally low	Exceptionally low
Redbridge	Roding	Roding, Beam and Ingrebourne	Exceptionally low	Exceptionally low
Upminster (Gaynes Park)	Ingrebourne	Roding, Beam and Ingrebourne	Exceptionally low	Exceptionally low

12.6 Groundwater table

Site name	Aquifer	Aug 2026 band	Jul 2026 band
Ashley Green	Mid-Chilterns Chalk	Normal	Normal
Ballingdon Farm	Mid-Chilterns Chalk	Normal	Normal
Amersham Road	Mid-Chilterns Chalk	Normal	Normal
Wapseys Wood	Mid-Chilterns Chalk	Normal	Normal
Lilley Bottom	Upper Lee Chalk	Normal	Normal
Crescent Cottages	Upper Lee Chalk	Normal	Normal
Cave Gate	Upper Lee Chalk	Normal	Normal
Hixham Hall	Upper Lee Chalk	Normal	Normal
Therfield Rectory	Upper Lee Chalk	Normal	Normal

12.7 Abstraction licence flow constraints

Number of flow constraints in force between 3 and 9 August 2026	Number of flow constraints in force between 10 and 16 August 2026	Number of flow constraints in force between 17 and 23 August 2026	Number of flow constraints in force between 24 and 30 August 2026
13	13	13	13