

Hertfordshire and North London

Summary – March 2015

With modest rainfall across the Hertfordshire and North London Area, March delivered **below normal** rainfall totals. With a developing soil moisture deficit, there was limited water available for effective rainfall / recharge. During March, river flows generally declined in response to the limited effective rainfall, while groundwater levels generally levelled off or fell.

Rainfall

With modest rainfall across the Hertfordshire and North London Area (the "Area"), March delivered **below normal** rainfall totals. Across the Area, there were nearly 20 days when no precipitation (<0.2mm) was recorded at our rain gauges. Only 41% of the March Long Term Average (LTA) rainfall was recorded. This varied between 50% LTA for the Chilterns – East – Colne to only 29% LTA across the Lee-Chalk. The wettest day was the 25 March with widespread light rainfall and largest daily total (7.8mm) was recorded at Pinner Cemetery in North London. This winter (1 October 2014 to 31 March 2015) there has been average or above rainfall. The Area recorded 112% of the winter LTA rainfall.

Soil Moisture Deficit/Recharge

The low rainfall totals and start of the growing season meant that the Area ended the month with a slightly above normal SMD. With a developing SMD, there was limited water available for effective rainfall / recharge. The Area had only 6% of the LTA effective rainfall. Over the winter period the Area recorded 104% of the LTA effective rainfall. However, this varied across the catchments with the Roding seeing 130% LTA effective rainfall while the Chilterns-East- Colne had only 84% of the LTA effective rainfall / recharge.

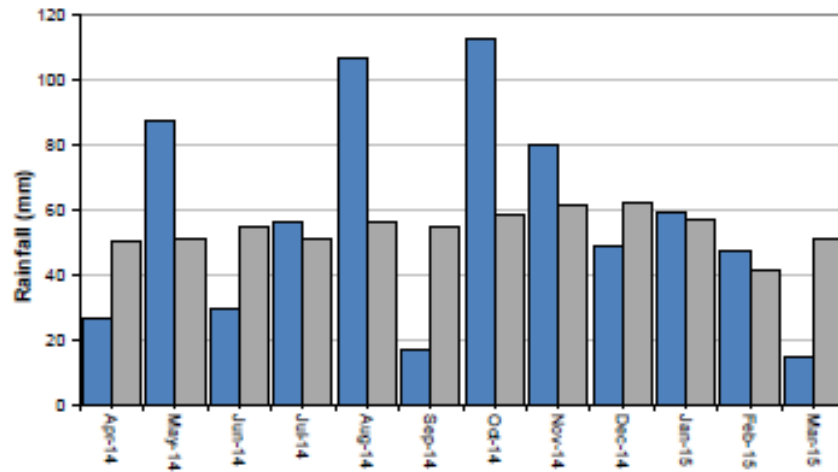
River Flows

During March, river flows generally declined in response to the limited effective rainfall. The rivers with sources in the Chalk of the Colne and Lee all had **normal** or greater flows. The only exception was the Colne at Denham which recorded **below normal** river flows during March. The rivers draining the Clay and urban catchments suffered from the low rainfall. All were **below normal** flows or lower, with the Crane at Cranford having **notably low** flows. The only exception was the Ingrebourne at Upminster which had **normal** flows. No flood alerts or warnings were issued for Hertfordshire and North London Area during March.

Upper Lee

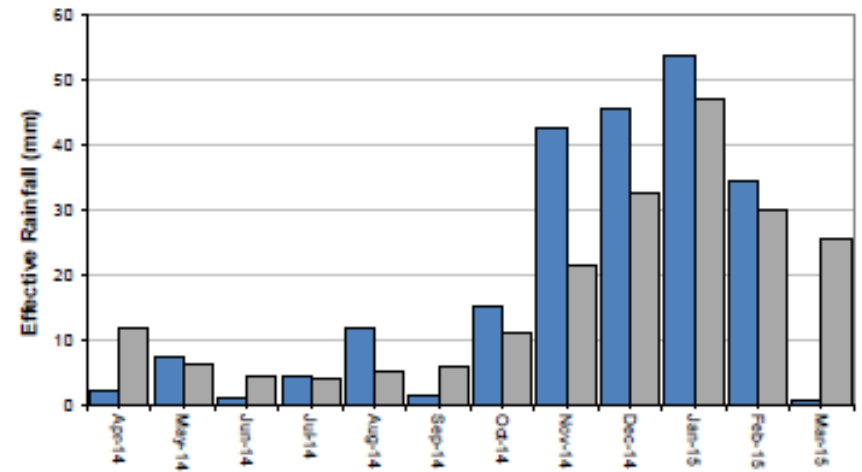
Monthly total rainfall (mm)

Lee - Chalk - Rainfall



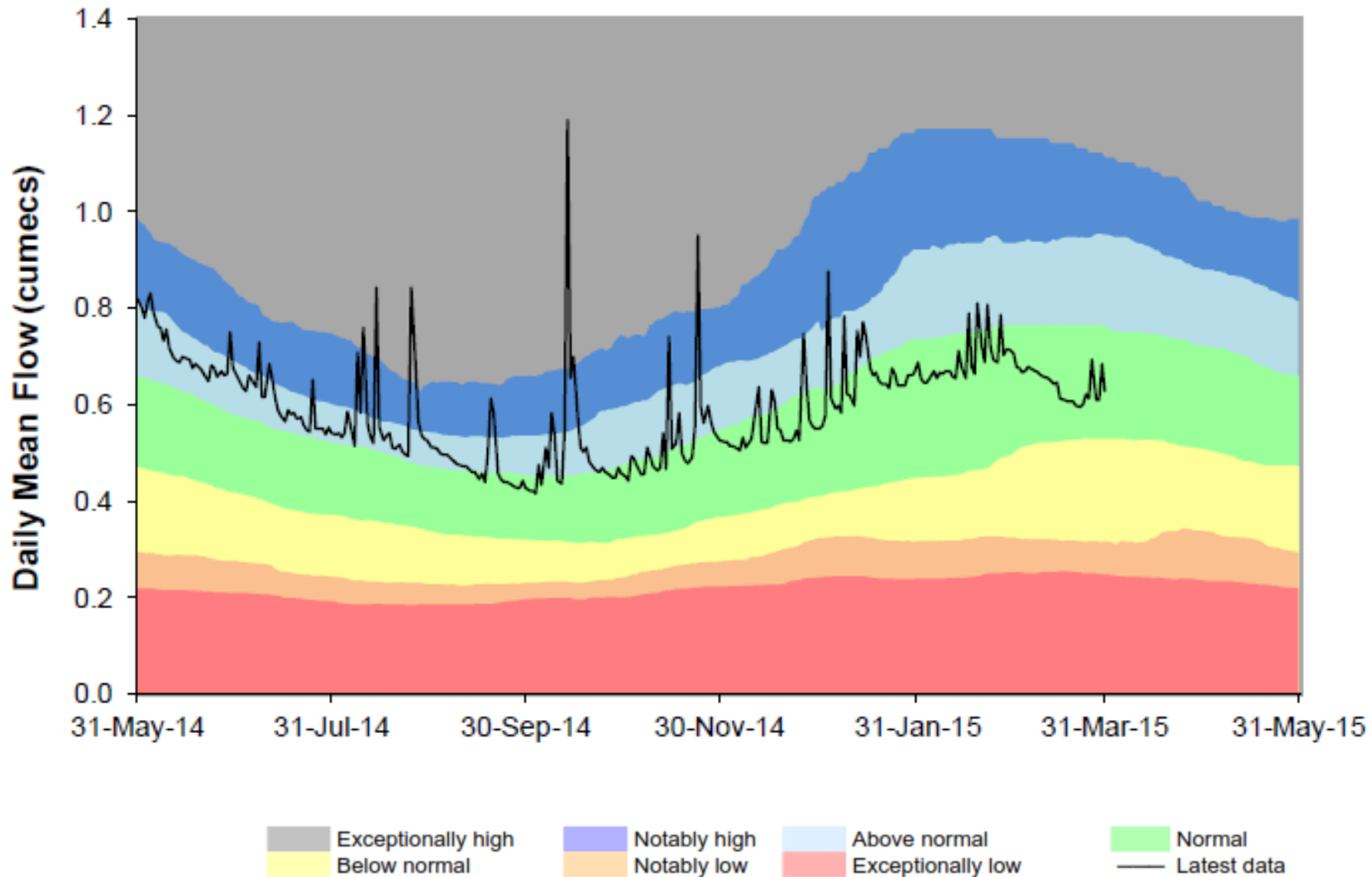
Long term average rainfall (mm)

Lee - Chalk - Effective Rainfall



RIVER MIMRAM AT PANSHANGER

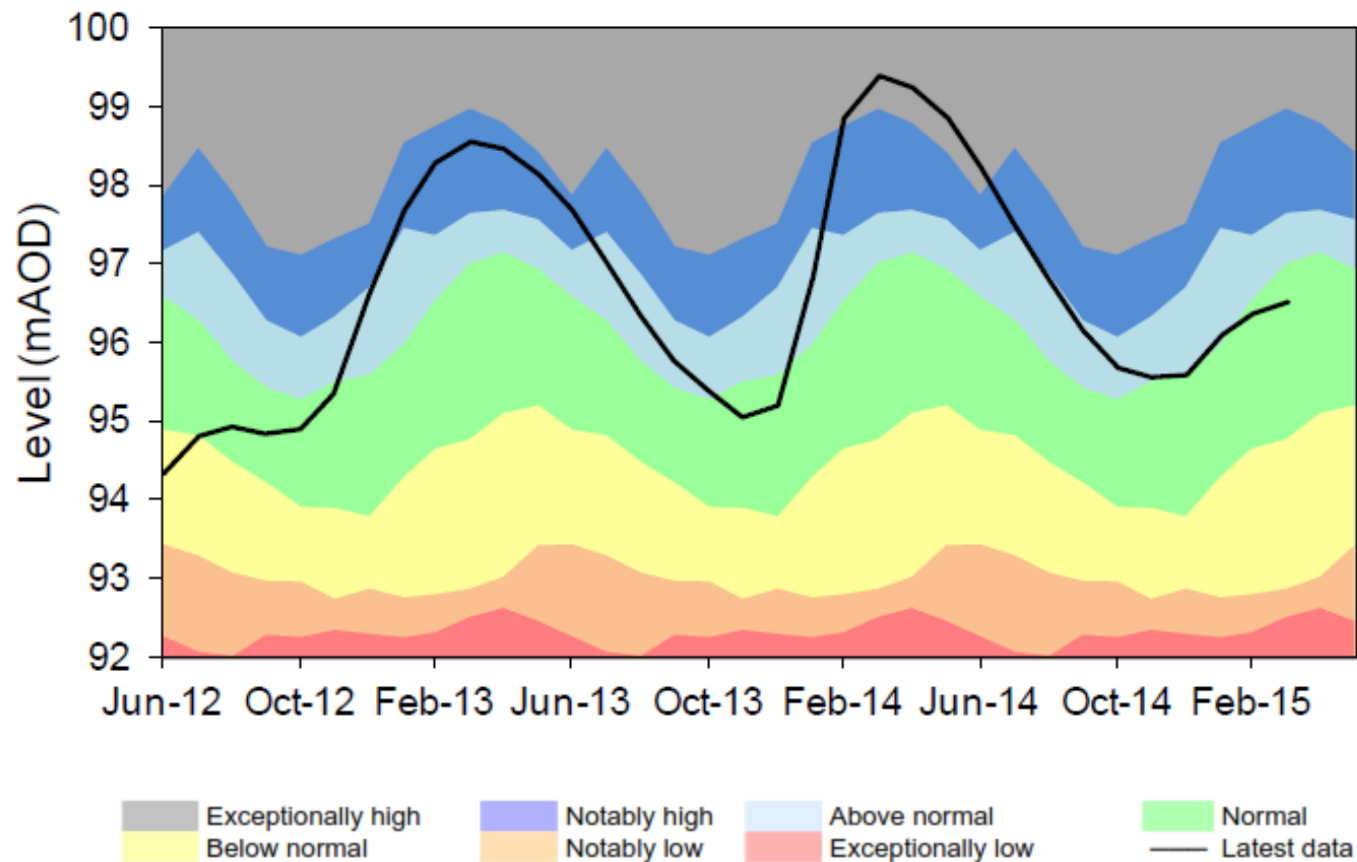
Ranking derived from data for the period 01/12/1952 to 31/12/2012



Upper Lee Groundwater

LILLEY BOTTOM OBH

Ranking derived from data for the period Jul-1979 to Dec-2012



Summary of rainfall, effective rainfall and soil moisture deficit

Rainfall and Effective Rainfall – March 2015

Area	Rainfall (mm)			Effective Rainfall (mm)		
	Total (mm)	LTA (mm)	% of LTA	Total (mm)	LTA (mm)	% of LTA
Chilterns- East - Colne	29	59	50	4	34	13
Lee - Chalk	15	50	29	1	26	3
North London	21	51	42	1	22	5
Lower Lee	18	50	35	0	23	2
Roding Catchment	22	46	48	1	21	5
Hertfordshire and North London Area Average	21	51	41	2	25	6

Rainfall and Effective Rainfall – Winter total for period 1 October 2014 to 31 March 2015

Area	Rainfall (mm)			Effective Rainfall (mm)		
	Total (mm)	LTA (mm)	% of LTA	Total (mm)	LTA (mm)	% of LTA
Chilterns- East - Colne	399	377	106	199	238	84
Lee - Chalk	363	326	112	192	175	110
North London	366	330	111	158	148	106
Lower Lee	366	324	113	170	162	105
Roding Catchment	366	300	122	182	139	130
Hertfordshire and North London Area Average	372	331	112	180	173	104

Glossary

Term	Definition
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/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 1961-1990. However, the period used may vary by parameter being reported on (see figure captions for details).