

## Environment Agency Statement on Water Quality Issues for Surrey Heath Local Plan to further highlight the need for the required upgrades to the Sewage Treatment Works (STW) at Lightwater and Camberley to accommodate the proposed growth in Surrey Heath in the Local Plan 2019-2038 and as a response to

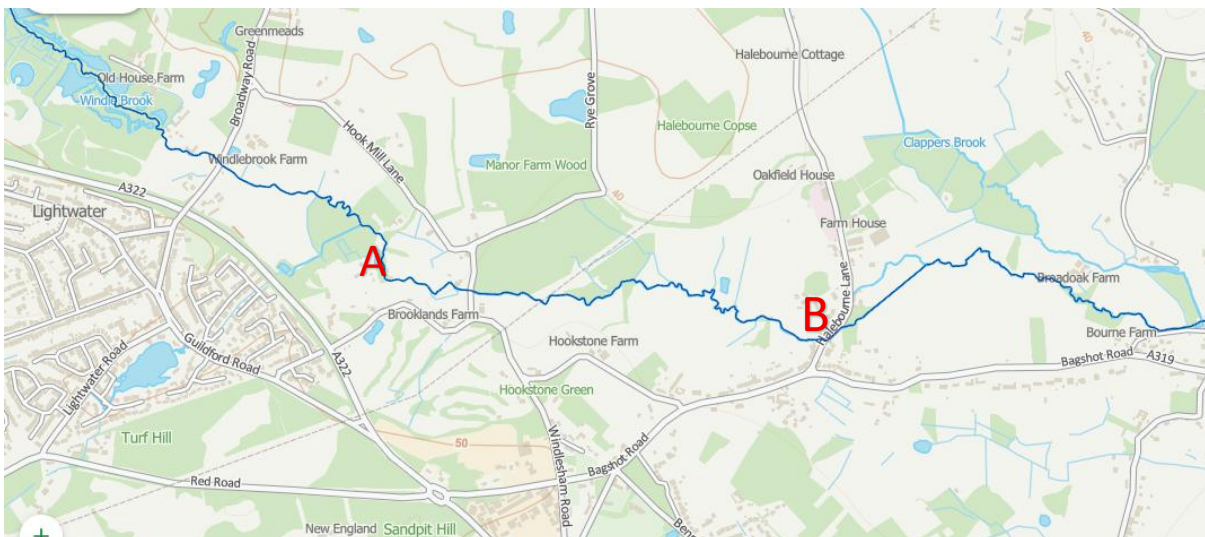
- REP3: Thames Water Wastewater Infrastructure Update
- SHBC 23: Council's response to the Environment Agency Notes (REP1A and REP1B)

Prepared by Dominic Slade. 28<sup>th</sup> November 2025

### Lightwater STW

Lightwater STW (Point A on the map) has a permitted Dry Weather Flow (DWF) of 5200m<sup>3</sup>/d. The emission limits on the permit are 2mg/l (mean) for Phosphorous, 2mg/l (95<sup>th</sup>ile) for Ammonia, and 10mg/l (95<sup>th</sup>ile) for Biochemical oxygen demand (BOD). Lightwater STW discharges into the Hale/Mill Bourne (Bagshot to Addlestone Bourne confluence near Chobham) (GB106039017930).

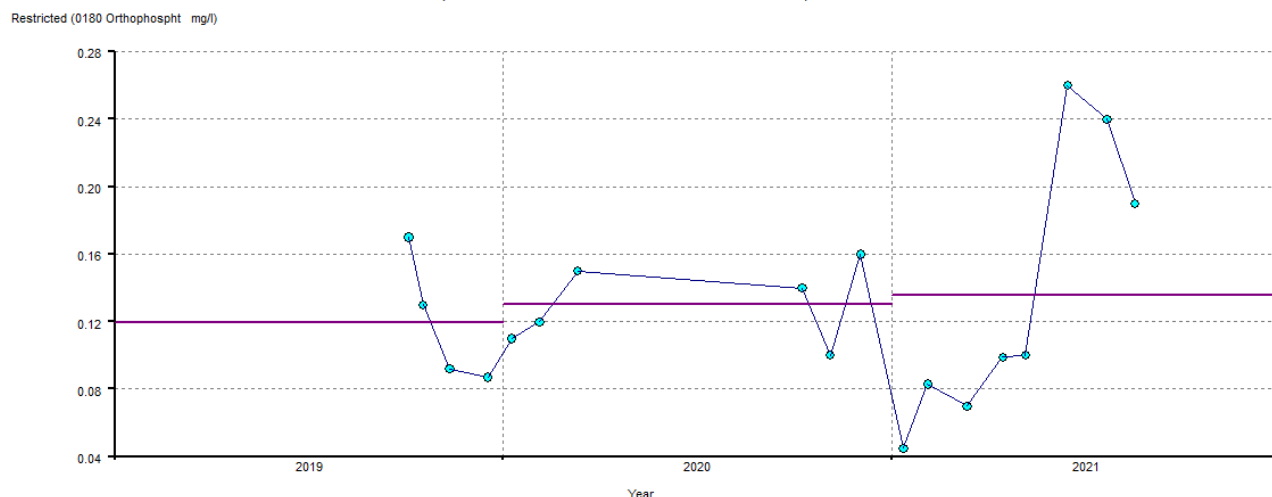
For the 2022 classification, the waterbody was classified at Moderate Ecological Status. The status below Good was driven by the Fish and Phosphate classification, which were both at Moderate Status. The sample point used to classify this waterbody is Hale Bourne at Halebourne Lane, Chobham (PBNR0006) (Point B).



Mean WFD Standard	High/Good	Good/Moderate	Moderate/Poor	Poor/Bad
Phosphate (mg/l)	0.032	0.061	0.158	0.966

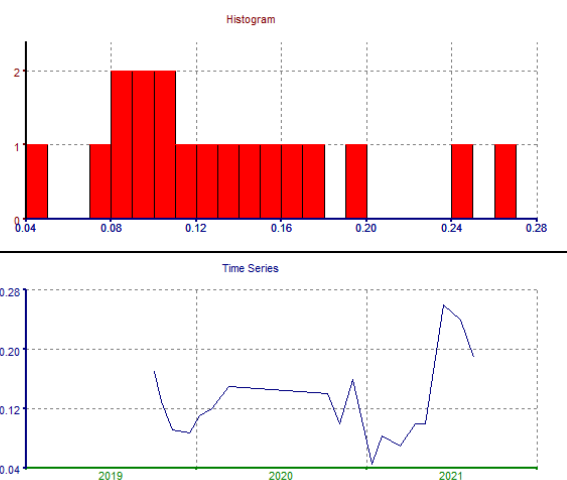
The graph and tables below show that the mean concentration for Phosphate at the Hale Bourne at Halebourne Lane, Chobham sample point for the 2022 classification period (2019-2021) was 0.1303mg/l. This places the classification within the Moderate status boundary.

Time Series Plot - Restricted (0180 Orthophosphat mg/l) 03-10-2019 to 17-08-2021  
**PBNR0006; HALE BOURNE AT HALEBOURNE LANE, CHOBHAM**



**PBNR0006; HALE BOURNE AT HALEBOURNE LANE, CHOBHAM**  
**Determinand Summary - Restricted (0180 Orthophosphat mg/l)**

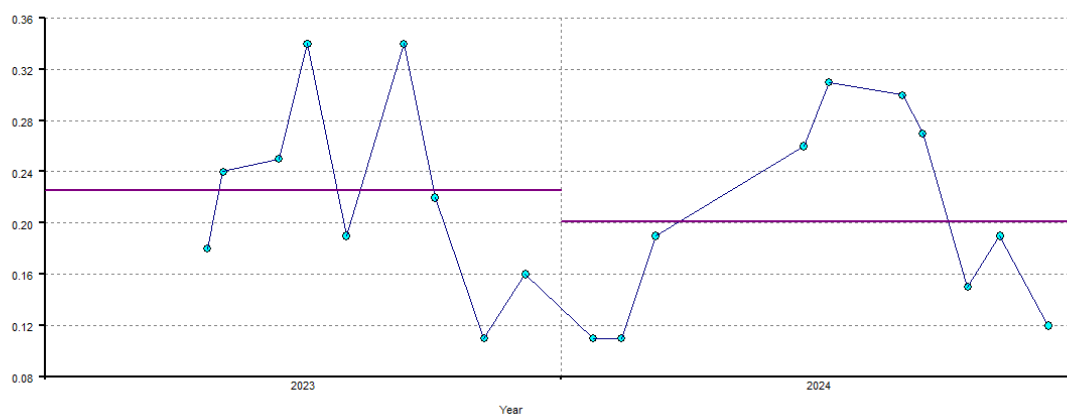
Number of Observations (LT)	18
Date Range	03-10-2019 to 17-08-2021
Minimum	0.0450
Mean	0.1303
Maximum	0.2600
Standard deviation	0.0570
SDD	0.0411
Non-Parametric estimate (Weibull) of:	
5 Percentile	
10 Percentile	0.0675
20 Percentile	0.0862
Median	0.1150
80 Percentile	0.1740
90 Percentile	0.2420
95 Percentile	



The 2025 WFD classifications will be made up of sample data between 2022 and 2024, and the draft is due to be released in early 2026. Although the classification has not been made public, the data that will be used to generate the classification is available. As the graphs and charts below show, the mean concentrations for Phosphate has deteriorated from 0.1303mg/l to 0.2126mg/l. This is a deterioration in quality of 63% and a deterioration in class from Moderate to Poor. Please note that there is no sampling data for 2022, this was due to a lack of resources across the Thames Area for surface water sampling. However, there are enough samples from 2023 and 2024 to generate a classification.

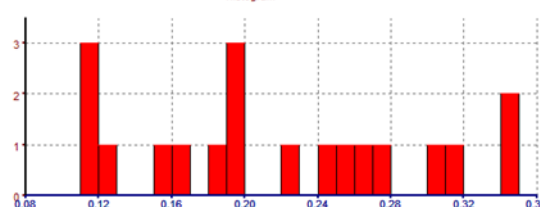
**PBNR0006; HALE BOURNE AT HALEBOURNE LANE, CHOBHAM**

Restricted (0180 Orthophosphat mg/l)

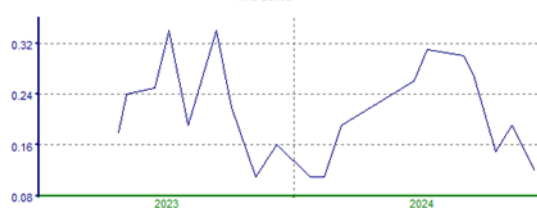
**PBNR0006; HALE BOURNE AT HALEBOURNE LANE, CHOBHAM**  
**Determinand Summary - Restricted (0180 Orthophosphat mg/l)**

Number of Observations (LT)	19
Date Range	24-04-2023 to 11-12-2024
Minimum	0.1100
Mean	0.2126
Maximum	0.3400
Standard deviation	0.0770
SDD	0.0604
Non-Parametric estimate [Weibull] of:	
5 Percentile	0.1100
10 Percentile	0.1100
20 Percentile	0.1200
Median	0.1900
80 Percentile	0.3000
90 Percentile	0.3400
95 Percentile	0.3400

Histogram



Time Series

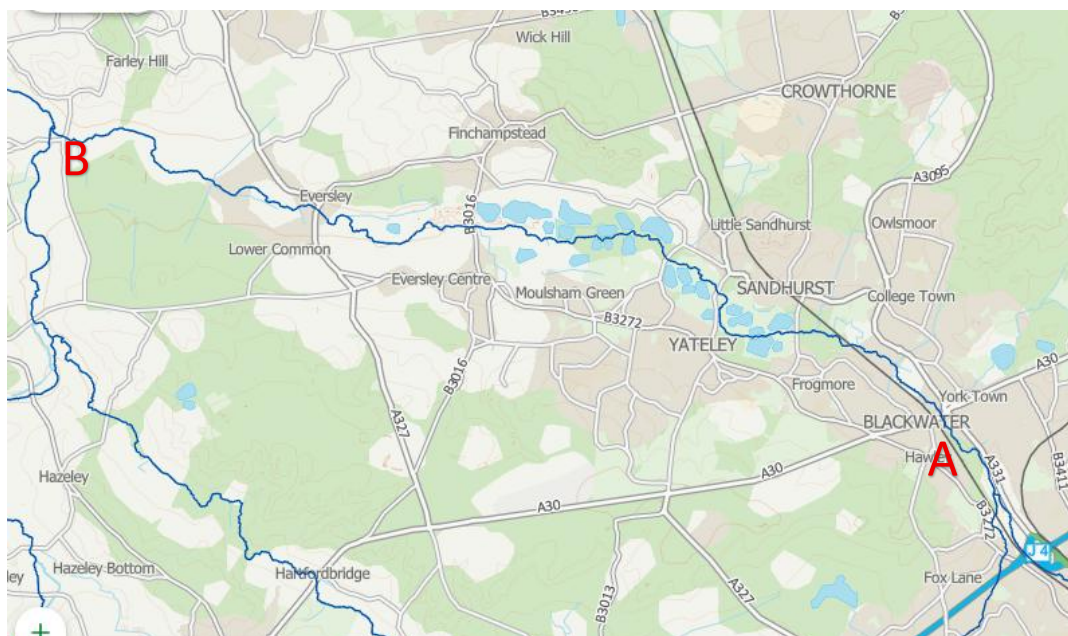


Lightwater STW has exceeded the Q80 and Q90 limits on its DWF for 4 out of the last 5 years. It did not exceed the limits in 2022, however this was a drought year. An Environmental Permit is set with conditions to protect the receiving waterbody up to the maximum permitted dry weather flow. When a permit is exceeded, these conditions may no longer be protective and there is a risk of deterioration to the receiving waterbody. The sampling that will be used for the 2025 classification shows a significant deterioration in the Phosphate status. The long-term permit exceedance at Lightwater STW is very likely to be the major contributor to this deterioration.

## Camberley STW

Camberley STW (Point A) has a permitted Dry Weather Flow of 29,600m<sup>3</sup>/d. The emission limits on the permit are 0.5mg/l (mean) for Phosphorous, 3mg/l (95%ile) for Ammonia, and 10mg/l (95<sup>th</sup>ile) for BOD. Camberley STW discharges into the Blackwater (Hawley to Whitewater confluence at Bramshill) (GB106039017290).

For the 2022 classification, the waterbody was classified at Moderate Ecological Status. The status below Good was driven by the Macrophytes and Phosphate classification, which were both at Moderate Status. The sample point used to classify this waterbody in 2022 was Blackwater Above Whitewater (PLDR0007) (Point B).



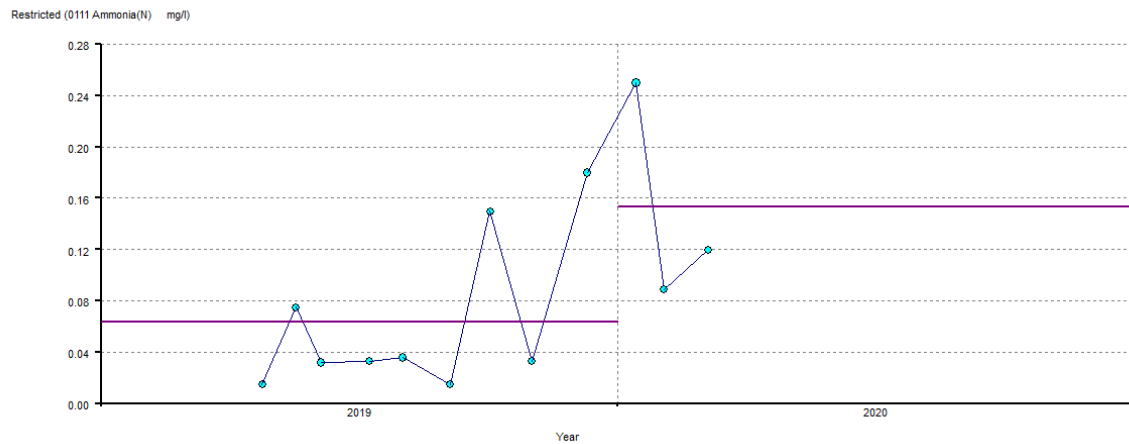
For the 2022 classification, Ammonia was classified at High status in the Blackwater (Hawley to Whitewater confluence at Bramshill). The 2025 WFD classifications will be made up of sample data between 2022 and 2024, and the draft is due to be released in early 2026. Although the classification has not been made public, the data that will be used to generate the classification is available. As the graphs and charts below show, the 90<sup>th</sup>ile concentrations for Ammonia has deteriorated from 0.169mg/l to 0.310mg/l. This is a deterioration in quality of 83% and a deterioration in class from High to Good. Please note that there is a gap in sampling data between March 2020 and May 2023. This was due to the impacts of Covid lockdowns and a lack of resources across the Thames Area for surface water sampling. However, there are enough samples from to generate a classification for 2022 and 2025.

90 <sup>th</sup> ile WFD Standard	High/Good	Good/Moderate	Moderate/Poor	Poor/Bad
Ammonia (mg/l)	0.3	0.6	1.1	2.5

Time Series Plot - Restricted (0111 Ammonia(N) mg/l)

PLDR0007; BLACKWATER ABOVE WHITEWATER

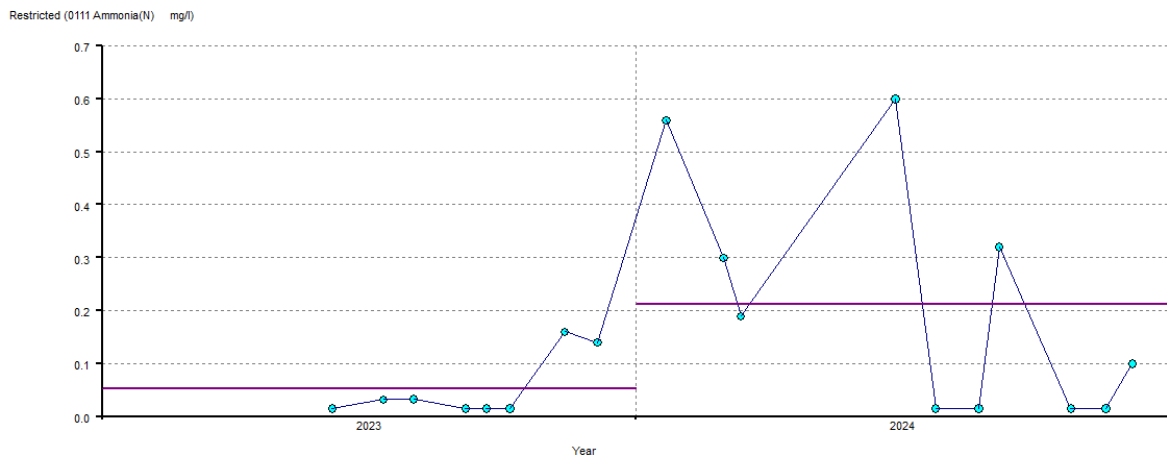
23-04-2019 to 04-03-2020



Time Series Plot - Restricted (0111 Ammonia(N) mg/l)

PLDR0007; BLACKWATER ABOVE WHITEWATER

06-06-2023 to 06-12-2024



2022 Classifications		2025 Classifications	
High		Good	
Physico-Chemical Tool Cycle 3 v1		River Physchem WFD Classification Tool v2 C3	
Sample count	12	Sample count	18
Start year	2019	Start year	2023
End year	2020	End year	2024
High/Good Boundary - mg/l ( mg/l )	0.3	High/Good Boundary - mg/l ( mg/l )	0.3
Good/Moderate Boundary - mg/l ( mg/...	0.6	Good/Moderate Boundary - mg/l ( mg/...	0.6
Moderate/Poor Boundary - mg/l ( mg/...	1.1	Moderate/Poor Boundary - mg/l ( mg/...	1.1
Poor/Bad Boundary - mg/l ( mg/l )	2.5	Poor/Bad Boundary - mg/l ( mg/l )	2.5
Alkalinity - WIMS ( mg/l CaCO <sub>3</sub> ,...	122	Alkalinity - WIMS ( mg/l CaCO <sub>3</sub> ,...	122
Altitude ( m )	44	Altitude ( m )	44
Ammonia (PhysChem) ( mg/l )	0.16961	Ammonia (PhysChem) ( mg/l )	0.31059
Ammonia type code	2	Ammonia type code	2
Mean ( mg/l )	0.085667	Mean ( mg/l )	0.141944444 ...
Number of years	2	Number of years	2
Standard deviation ( mg/l )	0.075214	Standard deviation ( mg/l )	0.1876393512 ...
WIMS Sample Point Type	FRESHWATER - ...	WIMS Sample Point Type	FRESHWATER - ...

The impact of Camberley STW on this deterioration is uncertain due to various factors. The sample point is around 15km downstream of the STW, and there are a number of other effluent inputs into the waterbody between Camberley STW and the sample points. These include the Thames Water assets of Eversley STW and Sandhurst STW. During the Water Cycle Study (WCS) review, we provided the comment below:

Camberley WwTW is located within a waterbody with other WwTWs (such as Eversley and Sandhurst) upstream, which all have the potential to be accommodating growth going forward and therefore influencing the upstream water quality. Has this been accounted for within the assessment, and any AMP7/8 schemes at these WwTW taken account of?

Please note that Eversley STW and Sandhurst STW are downstream of Camberley, not upstream. That was a typing error on our part when responding to the WCS.

We received the following response:

Other WwTWs in the catchment not serving growth from Surrey Heath have not been updated as the WCS's scope is to assess the impact of growth at infrastructure serving Surrey Heath.

It is important, and standard practice that the cumulative impact of other STWs in a catchment are taken into consideration when assessing water quality. In light of the deterioration in the Blackwater (Hawley to Whitewater confluence at Bramshill), we consider that more work is needed to understand the impact the permit exceedance on the observed deterioration of the Ammonia status.

Camberley STW has exceeded the Q80 and Q90 limits on its DWF for 4 out of the last 5 years. It did not exceed the limits in 2022, however this was a drought year. An Environmental Permit is set with conditions to protect the receiving waterbody up to the maximum permitted dry weather flow. When a permit is exceeded, these conditions may no longer be protective and there is a risk of deterioration to the receiving waterbody. The sampling that will be used for the 2025 classification shows a notable deterioration in the Ammonia status. The long-term permit exceedance at Camberley STW is possibly a contributing factor to this deterioration, but further work is needed to understand how much of an influence the permit exceedances at Camberley STW has had on this deterioration.

## **Summary**

- There has been an observed deterioration in the Phosphate status from Moderate to Poor in the Hale/Mill Bourne (Bagshot to Addlestone Bourne confluence near Chobham). The sample point is about 2km downstream of Lightwater STW's discharge, and there are no other permitted discharges in this reach.

- It is very likely that the deterioration in status is highly influenced by the effluent being discharged from Lightwater STW.
- Lightwater STW has long term exceedances of the Q80 limit on its discharge permit, which is likely to be a major contributing factor to the deterioration of the waterbody status
- There has been an observed deterioration in the Ammonia status from High to Good in the Blackwater (Hawley to Whitewater confluence at Bramshill). The sample point for is around 15km downstream of the Camberley STW's discharge and there are various other inputs in this reach
- It is uncertain how much of an impact the discharge from Camberley STW has had on the observed deterioration.
- Further work is required to understand how much of the long term Q80 permit exceedance has contributed to the deterioration of the Ammonia status.