



Citizen River

Monitoring Report

July 2026



Friends of Gumstool Brook is a group of local people interested in Cirencester's Gumstool Brook and its associated streams. Visit our website at <https://gumstool.org.uk>

Summary

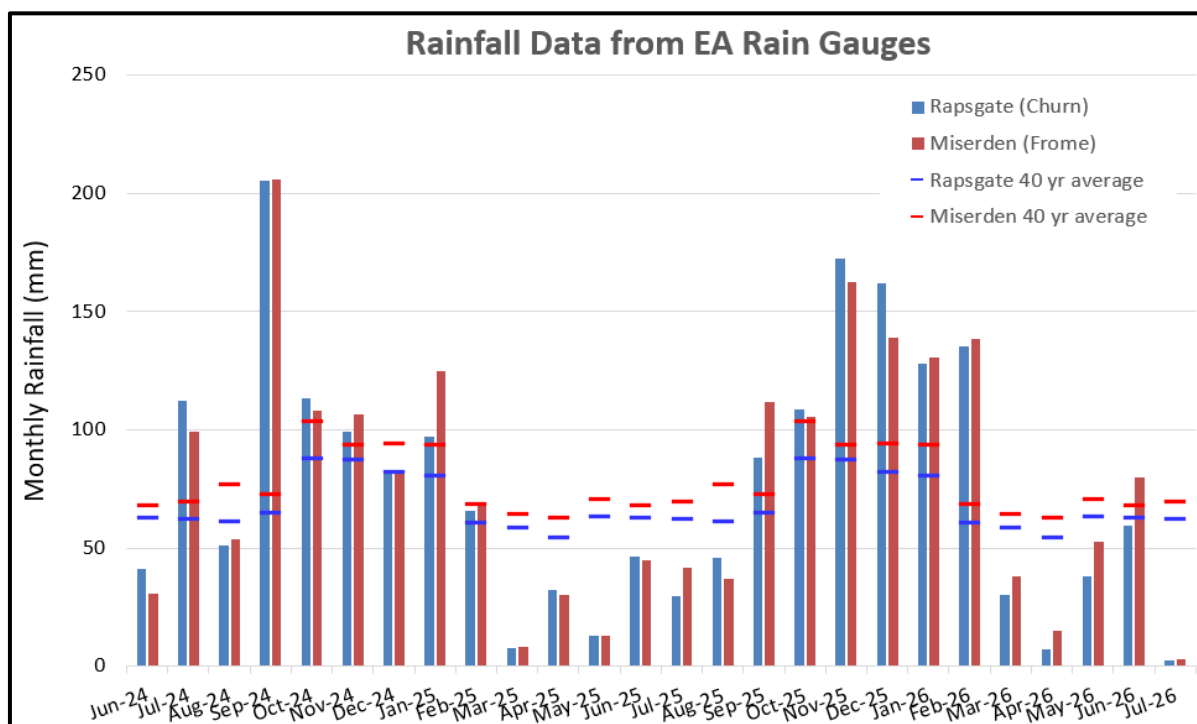
- Following a dry Spring in the Churn and adjacent Frome catchments, June had around average rainfall, but July has been exceptionally dry with only 4% of the monthly average rain falling. This is the driest July of the 45 year long record.
- As a result of the dry July, groundwater levels in the Cotswold limestone aquifers continued to decline and are now below normal for the time of year. A similar declining pattern in groundwater levels is seen in the shallow Gravel aquifer.
- Similarly, flow in the River Churn at the Environment Agency (EA) Cirencester gauging station continued to decrease, falling to just over 5 million litres per day (ML/d), equivalent to 0.06 cubic meters per second (m³/s) at the end of the month. This is notably low for the time of year.
- The large sluice gate at Gloucester Street remains closed as per the MoU document.
- The entrance to the Barton Mill Pound has been cleared of vegetation again to assist flow from the River Churn into the Pound, but the flow remains low.
- The Daglingworth Stream flow ceases upstream in Daglingworth, with no flow from this point downstream to Barton Lane on the northern edge of Cirencester, a distance of almost 4 km
- A new water pipeline is being constructed by Thames Water that crosses the currently dry Daglingworth Stream near Daglingworth Place. The progress of construction is being monitored.
- There continues to be a very low flow in the Gumstool Brook along Riverside Walk and into the Abbey Grounds with significant vegetation growth in parts of this channel. The Gumstool Brook Balancing Stream also has significant vegetation growth but no flow.
- Riverfly monitoring shows the ecological health of the Churn has improved despite the decrease in flow and higher temperatures. The Gumstool Brook was not sampled owing to its low flows.
- Water quality monitoring shows low nitrate and ammonia concentrations in the Churn and Gumstool Brook, but notable increases in phosphate equating to moderate to poor quality. Monitoring for bacteria in the Churn has shown unexpectedly high levels for the time of year.
- Flow in Cirencester's waterways is notably low for the time of year because of the largely dry Spring and Summer, with Daglingworth Stream dry from Daglingworth to Cirencester and very low flow in the Gumstool Brook. The health of the water environment is poorer than in July 2025 with excessive vegetation growth in places. With the chance of continued dry weather, the stress on Cirencester's waterways is likely to increase and be more significant than in 2025.

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4. River Churn Flow
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1. Weather Update & Water Situation Prognosis

Although the dry Spring in the upper Churn and Daglingworth catchments was followed by a wetter June, with the approximately average monthly rainfall falling mostly in the first 10 days of the month, dry weather returned in July. Just over 2 mm of rain fell in the Churn catchment and 3 mm in the Frome, equating to around 3.5% and 4.3% of their monthly averages, respectively, as shown on the graph below. July 2026 was an exceptionally dry month with rain recorded on only two days during the month. The 45 year long rainfall record is short compared with other UK rain gauges, but it shows that July 2026 was the driest July on record.



As a result of the exceptionally dry July weather and the heatwaves experienced, soils across the Churn catchment and the rest of the Cotswolds were extremely dry at the end of July. As a result, even if periods of unsettled weather bring heavy rainfall, no aquifer recharge is expected during the Summer, and it is possible that the normal recovery of groundwater levels and river flows in the autumn/winter will be delayed.

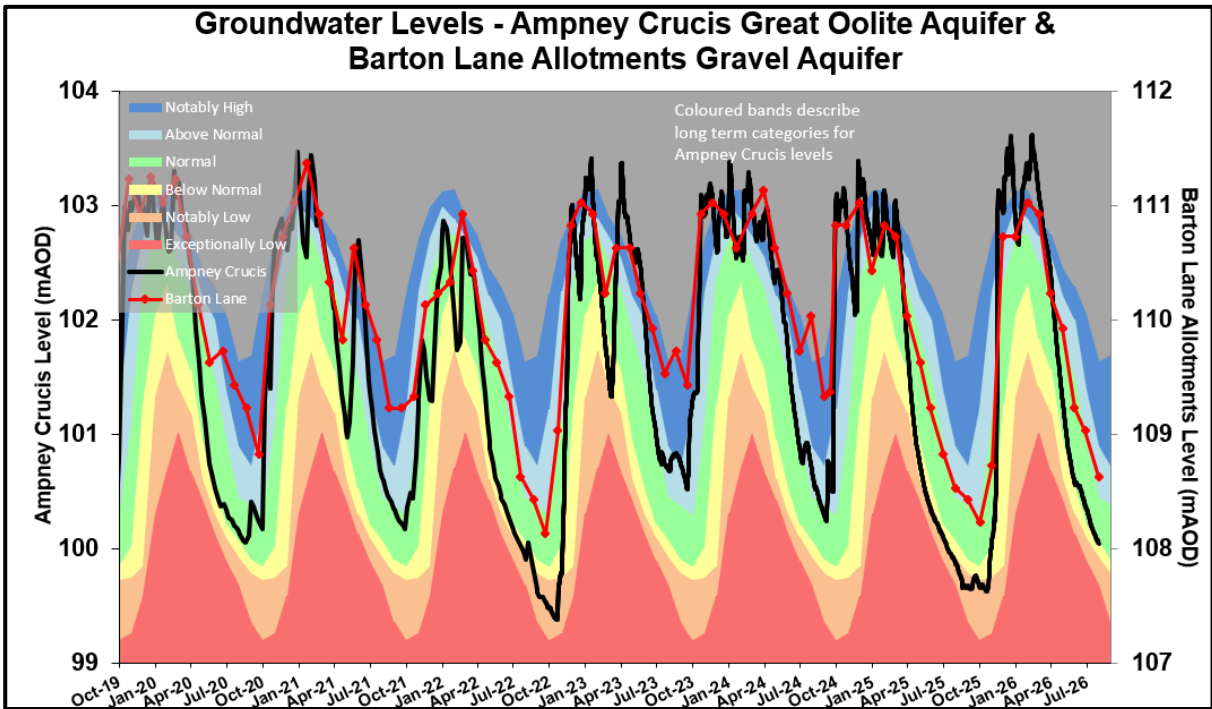
Looking ahead, the Met Office [3 month outlook for August to October 2026](#) for the whole UK indicates the chance of a warm period is higher than normal combined with an increased chance of the overall period being dry, continuing the Summer 2026 trend. Spells of unsettled weather are expected with scattered heavy rain and thunderstorms, while later in the period the chance of wetter than average conditions increases.

With the health of Cirencester's waterways always influenced by the weather, the dry Spring and exceptionally dry July have had a marked impact on the water environment in the upper Churn and Daglingworth catchments. With the increased chance of continued dry weather in the rest of the Summer and into Autumn, the current stress on the health of Cirencester's waterways is likely to increase and be more significant than in 2025.

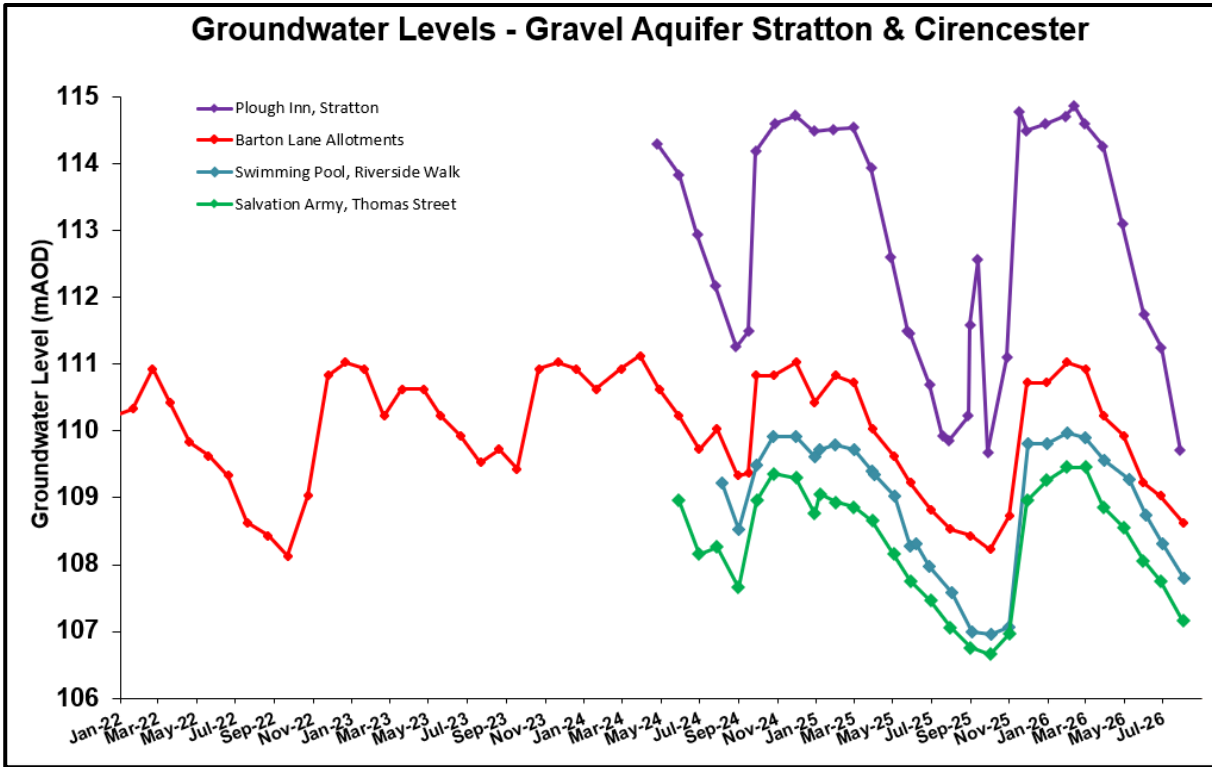
2. Groundwater Situation

Groundwater levels in the Great Oolite limestone aquifer have continued to decline, as would be expected at this time of year. With the exceptionally dry July weather, groundwater at the end of the month is below normal in most parts of the Churn and surrounding catchments, as illustrated on the graph below. Of note, however, is that groundwater in the Great Oolite aquifer in the Daglingworth Stream catchment is notably low for the time of year. Little data exists on groundwater levels in the Inferior Oolite aquifer in the Churn catchment, especially in its headwaters where the Inferior Oolite plays a more important role in influencing river flows. Data from the Churn catchment indicates, however, that Inferior Oolite levels are notably low for the

time of year, while in the adjacent Upper Thames catchment the levels are exceptionally low. These data sets illustrate the variability in groundwater conditions across the Churn catchment. It is apparent, however, that levels in both aquifers at the end of July 2026 are consistently higher than at the end of July 2025.



The graph above includes groundwater levels measured monthly in the shallow Gravel aquifer in the Barton Lane Allotments Well. Although the details are less clear due to the less frequent (monthly) monitoring, it illustrates the consistency in groundwater level patterns between the Gravel aquifer and the Great Oolite limestone aquifer. Gravel groundwater levels fell more rapidly during July, with the end of month level at Barton Lane Allotments being slightly higher (0.1 m) compared with the end of July 2025.



As shown on the graph above, very similar groundwater level trends in the Gravel aquifer continue to be measured in the shallow wells at Barton Lane allotments, the Swimming Pool and the Salvation Army in Cirencester, and the Plough Inn in Stratton. At the end of July 2026,

groundwater levels in the shallow wells in Cirencester are slightly higher (0.1 to 0.2 m) than those recorded at the end of July 2025. This is consistent with the pattern of groundwater levels in both the Great Oolite and Inferior Oolite limestone aquifers, which are approximately 0.2 m and 0.4 m higher at the end of July 2026. Groundwater levels across the Churn catchment have fallen more rapidly in July 2026 compared with July 2025. An extreme example of this is at the Plough Inn well where groundwater is now 0.2 m lower than July 2025, which is consistent with previous observations that its levels fall more rapidly compared with the other shallow wells.

As groundwater levels have continued to decline during July, the characteristics of the decline in levels in the Great Oolite aquifer are now similar to those of the decline in the Gravel aquifer in Cirencester, and distinctly different from the decline in the Gravel aquifer at the Plough Inn in Stratton. This change in characteristics will be monitored as more groundwater level data is collected during the Summer and Autumn.

3. Daglingworth Stream & Gumstool Brook Flows

Following dry weather and declining groundwater levels in March and April, the Daglingworth Stream ceased to flow just upstream of Daglingworth Place. At the end of July however, the stream has ceased to flow between Church Road and Lower End in Daglingworth, as illustrated on the map below. This means that there was no flow in the Daglingworth Stream from this point downstream to Barton Lane at the northern edge of Cirencester, a distance of 3.7 km. This means that, since the end of June, a further 700 m of the Daglingworth Stream has ceased to flow.



The extent of no flow in the Daglingworth Stream at the end of July differs from the end of July 2025. Last year, the stream ceased to flow upstream of Wellhill Copse with low flows persisting at Lower End in Daglingworth, but at the end July 2026 there was no flow at Lower End with only very low at Church Road further upstream in Daglingworth village. Compared with the end of July 2025, an additional 700 m to 1.2 km of the Daglingworth Stream was dry at the end of July 2026, despite groundwater levels being higher this year. This situation is likely to be influenced by the almost complete absence of rain, significantly higher temperatures, increased evaporation and exceptionally dry soils in July 2026 compared with July 2025. As a result, in July 2026, there was

no benefit to river flow from any rainfall runoff and reduced benefit from groundwater baseflow, potentially because of the exceptionally dry soils.

In its headwaters in Duntisbourne Abbots, the Daglingworth Stream decreased to very low flows by the end of July, with no flow from the village spring. This is very similar to the conditions recorded at the end of July 2025. However, as the stream had ceased to flow in Daglingworth village by the end of July 2026, the total length of flowing stream from its headwaters to Daglingworth is just over 4 km.

During July, it was identified that a new water pipeline is being constructed by Thames Water from their Gloucester Road reservoir into northern Cirencester. Its route crosses the currently dry Daglingworth Stream near Daglingworth Place. Photographic monitoring of the construction method and progress is being carried out, which will extend to cover the reinstatement of the stream and surrounding floodplain. The photographs below show the status of construction on 31st July. The LH photo taken from the Daglingworth Road looking south towards the stream, and the RH near to the stream bed looking north towards the Daglingworth Road. The route of the Daglingworth stream is shown as a blue line on the LH photo.

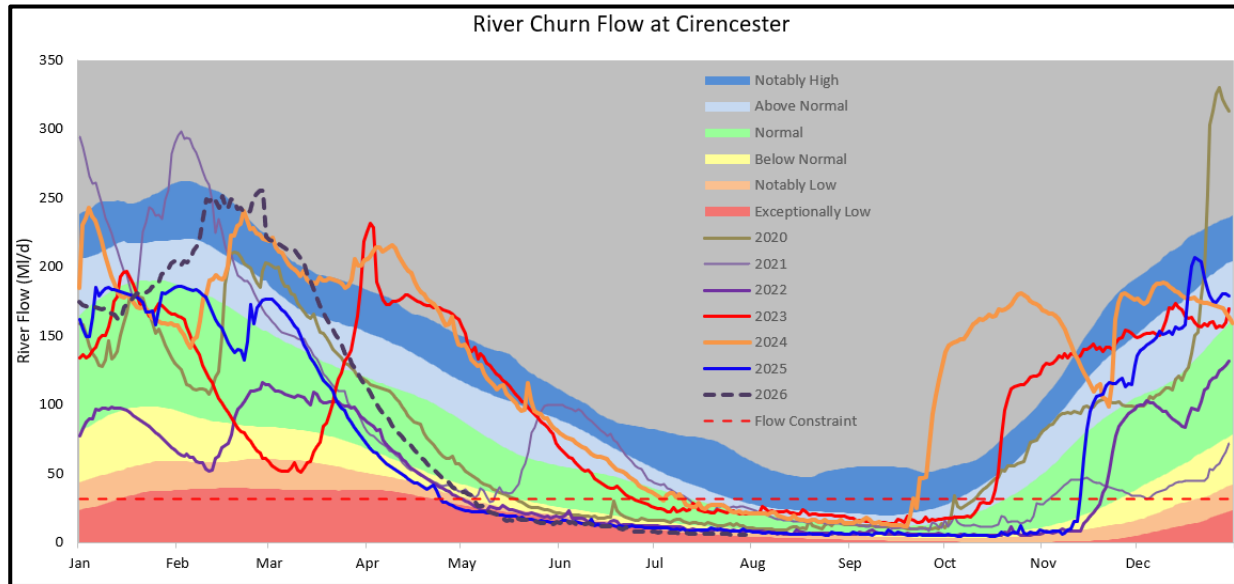


Flows in the waterways in northern Cirencester have continued to decline during July. Water levels in the Barton Mill Pound have decreased slightly because of declining flow from the River Churn at Gloucester Street, although flow into the Pound is being maintained as a result of further vegetation clearance by FoGB. There continues to be no flow from the new Mill Pound overflow into the adjacent field but now there is no visible flow from the Old overflow. There is no flow contribution from the Daglingworth Stream flow into Cirencester, but outflow via the Mill Pound sluices continues to support very low flows in the Gumstool Brook along Riverside Walk; the Balancing Stream remains dry. Both the Gumstool Brook and Balancing Stream have sections that are heavily vegetated. Water level measurements in the Gumstool Brook and groundwater levels in the Swimming Pool well show that the end of July groundwater level in the Gravel aquifer has fallen further to about 1.4 m below the stream bed. This means there is continued potential for the little water that is in the Gumstool Brook to seep downwards into the underlying aquifer, which may lead to further reduction of flows and areas of dry channel being exposed.

Further downstream, the Gumstool Brook in the Abbey Grounds continues to have very low flows, with areas of dry channel exposed and other areas completely filled with vegetation. Very low flows continue downstream to its confluence with the western branch of the River Churn.

4. River Churn Flow

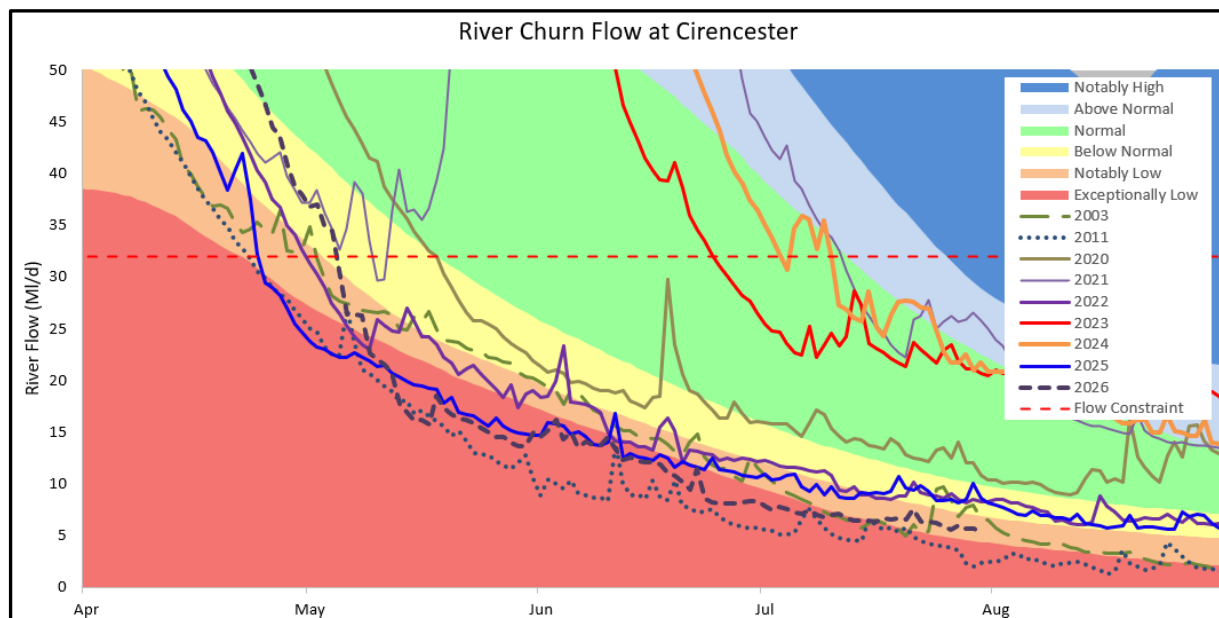
As a result of the dry Spring, both groundwater levels and river flows in the Churn declined significantly, with this trend continuing despite the average rainfall in June. At the end of June, data from the EA Cirencester gauging station showed flow was around 8.4 million litres per day (ML/d), equivalent to 0.097 cubic metres per second (m³/s). Following the exceptionally dry July, flow in the Churn at the end of the month had decreased to around 5.4 ML/d, equivalent to 0.062 m³/s, as illustrated on the graphs below.



The expanded plot below, focusing on low Spring/Summer flows since 2020 and significant years earlier in the 21st century, shows that the end July 2026 flow is now notably low for the time of year. This is a relative improvement in flow compared with the exceptionally low flows recorded at the end of June 2026 and is the result of a slowing down in the decline of river flow rates during July. The overall decline in river flow rate from month to month reflects the decline in groundwater levels and the consequential net decrease in baseflow of groundwater from the limestone aquifers into the River Churn. The slowing down in the decline of river flow rates is linked to groundwater remaining largely at below normal levels during July and not decrease to notably and exceptionally low levels at this time of year.

The extended plot below highlights that the end of July flow in the Churn this year is lower than in July 2025 and also that the end July 2026 flow is the 2nd lowest end July flow since records began in 1980. Only the end July flow of 2011 was lower, when they were exceptionally low.

The expanded plot also highlights that the end of July flow in the Churn this year is lower than in July 2025 and that the end of July 2026 flow is the 2nd lowest end July flow in the 21st century, with the equivalent 2011 flow being exceptionally low. Considering the complete flow record for the Churn, which began in 1980, the end July 2026 flow is the 6th lowest on record. Lower river flows that occurred in 1990, 1995, 1996 and 1997 relate in part to dry weather and drought, combined with groundwater abstraction by Thames Water at Baunton having a potential impact on river flows. Prior to 2008, groundwater abstraction could occur during times of low river flow, but a change in the abstraction conditions set by the EA now requires the cessation of abstraction at times of low flows.



Linked to the current low flows in the Churn, there was no surface flow in its eastern branch upstream and downstream of New Mills at the end of July, with ponded water upstream of New Mills at the Beeches Road bridges. This cessation of flow by the end of July is earlier than last year, when it was recorded at the end of August 2025. In the absence of photographic or anecdotal evidence, it cannot be confirmed that the cessation of flow in the eastern Churn occurred prior to 2025, but it seems likely this would have occurred in previous dry years.

With the end of July flow in the Churn at the EA gauging station at 5.4 ML/d, this continues to be below the 32 ML/d flow trigger at which groundwater abstraction by Thames Water at Baunton for public water supply must cease. Thames Water confirmed that Baunton ceased abstracting to supply customers in the area in early May, with more distant water sources being used in its place. Nevertheless, some pumping of groundwater from Baunton into the River Churn is likely to take place every week to enable water to be supplied to customers in an emergency.

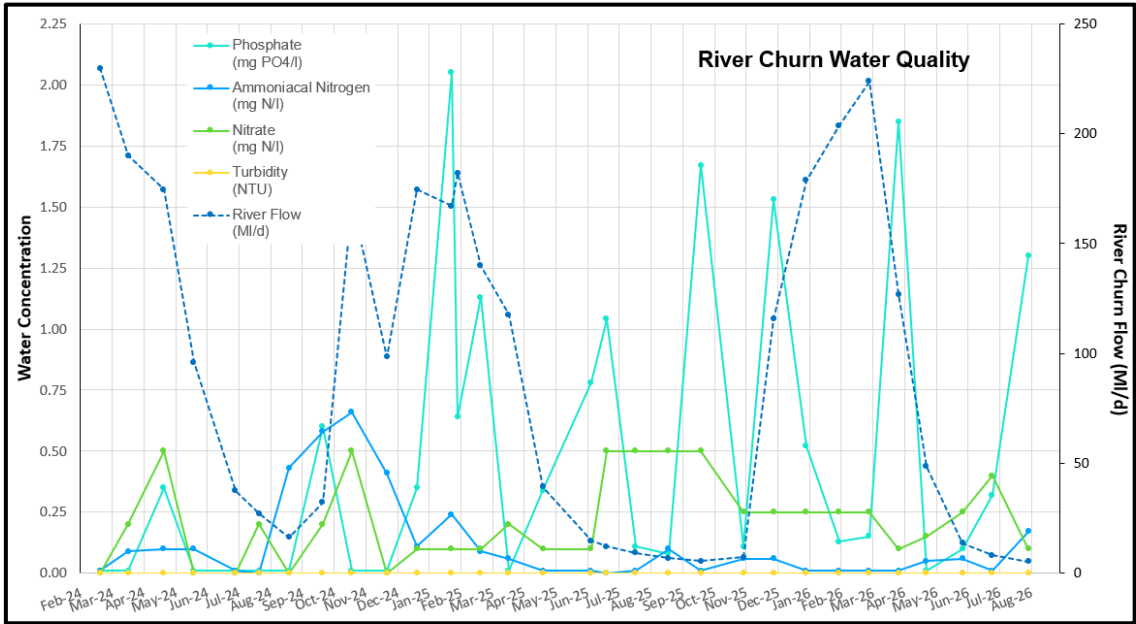
5. River Health

The health of the River Churn and Daglingworth Stream is being monitored via measurement of water quality and riverfly numbers. This is being done on the River Churn at Gooseacre Lane, just downstream of the Gloucester St sluices, and on the Gumstool Brook (Daglingworth Stream) along Riverside Walk. The aim is to carry this out monthly when river flow conditions allow monitoring to be carried out safely.

a) River water quality

Monitoring of river water quality covers the nutrients, ammonia, nitrate and phosphate, and turbidity, a measure of how clear the water is. All measurements to date have shown intermittent spikes, with phosphate (PO_4) concentration spikes being the most obvious and frequent, as shown on the graph for the River Churn below, with similar spikes in the Gumstool Brook. Nitrate (NO_3) measurements tend to be more stable, although concentrations do fluctuate in both the Churn and Gumstool Brook. Ammonia measurements are even more stable and usually at low concentrations, although significant spikes occurred in the Gumstool Brook in November 2025 and in May 2026. Following this last spike in the Gumstool Brook, ammonia concentrations fell to very low concentrations at the end of June but had increased slightly at the end of July in both the Gumstool Brook and the Churn, with a corresponding decrease in nitrate in both watercourses. More significantly, phosphate had increased markedly in the Churn at the end of July, as shown in the graph below, while phosphate in the Gumstool Brook increased to match the previous maximum concentration recorded in June 2025. These water quality spikes and trends have occurred while river flows have continued to decrease progressively but the factors influencing water quality continue to be uncertain. It is expected that low river flows, the impact of

fluctuating high temperatures, aquatic vegetation growth as well as the growth and distribution of bacteria in the stream sediments will influence nutrient interactions with stream water. It remains the case, however, that nutrient concentrations this Summer have fluctuated more significantly in the Gumstool Brook than the River Churn, although the end July phosphate spike occurred in both watercourses.



Using information from the UK Technical Advisory Group (UKTAG) on the Water Framework Directive (WFD), Defra/EA reporting metrics and guidance from FreshWater Watch, a set of water quality standards for nutrients has been collated. These standards enable the monitoring data to assess the water quality health of the Churn and Gumstool Brook with greater consistency. From an initial review of water quality standards, it is apparent, however, that there is some variation between information sources. This results, for example, in some standards indicating moderate phosphate water quality while others indicate poor quality. Together with differences in measurement units used to record concentrations and define standards, plus the use of different measurement methods, establishing a consistent framework to assess water quality is not straightforward. It is also apparent that the EA have been undertaking water quality monitoring on the River Churn in Cirencester and on the Daglingworth Stream in Stratton and are considering further monitoring in the Churn upstream of Cirencester. A wider range of parameters has been monitored by the EA with most results being generated by laboratory analysis rather than measurements being made on site. As a result, a review is planned to help confirm a consistent framework, which may result in changes in the reporting of water quality health.

Using the current framework shows that water quality in the Churn and Gumstool Brook ranges qualitatively from high to poor when considering phosphate, high to good for nitrate and high to moderate for ammonia, although poor ammonia water quality has been measured in the Gumstool Brook. There are different approaches for setting these standards with phosphate focused on averages, typically annual averages, and ammonia focused on contamination events using the 90th percentile of data sets. With a complete calendar year of data from 2025, plus a “water year” from October 2024 to September 2025, a comparison with the collated standards is summarised below:

Watercourse	Phosphate		Ammonia		Nitrate	
	2024-25	2025	2024-25	2025	2024-25	2025
River Churn	Good	Good	Good	High	High	Good
Gumstool Brook	Good	Good	High	Good	Good	Good

For July 2026, a snapshot of the water quality health is summarized below. This shows that, considering nutrients, the aquatic health is High, except for phosphate which is Moderate and Poor in the Churn and Gumstool Brook, respectively.

Watercourse	Phosphate	Ammonia	Nitrate
River Churn	Moderate	High	High
Gumstool Brook	Poor	High	High

Measurement of bacteria concentrations in the Churn at Gooseacre Lane began in September 2025 as part of the water quality monitoring and, with the increased flow in the Gumstool Brook along Riverside Walk, measurements began in November. Specifically, the number of faecal coliform *E. coli* (*Escherichia coli*) is being measured, which can be derived from human and animal waste, but most measurement methods cannot distinguish between the sources.

In September 2025, a concentration of 6,900 cfu/100 ml (colony forming units per 100 millilitre) was measured in the Churn, decreasing to 1,200 cfu/100 ml at the end of October 2025 and 200 cfu/100 ml at the end of November. No faecal coliforms were detected in the November 2025 sample from the Gumstool Brook. No further *E.coli* measurements were taken until the Churn was sampled at the end of July 2026, when a concentration of 9,000 cfu/100 ml was measured. This is the highest *E.coli* concentration measured to date, although there are only four measurements from the Churn against which the July 2026 data can be compared. Nevertheless, during the exceptionally dry weather of July 2026, the *E.coli* concentration was unexpectedly high, as runoff from agricultural land and foul sewer surcharging would not be expected. It is also pertinent to note that the two highest *E.coli* concentrations coincide with significant spike in phosphate concentrations that could also derive from agricultural and/or sewage sources.

Based on measurements to date, it is not appropriate to make comparisons with water quality standards. For example, classification of UK inland bathing water quality reported by the EA is based on a statistical distribution of results gathered over a 4 year period for the May to September bathing season. For context only, the two results for the Churn from within this period are significantly higher than the 1,000 cfu/100 ml “Good” standard defined in the Bathing Water Regulations 2013. Further *E. coli* sampling may be carried out during the Summer but also if there are suspected river pollution issues associated with intense rainfall events.

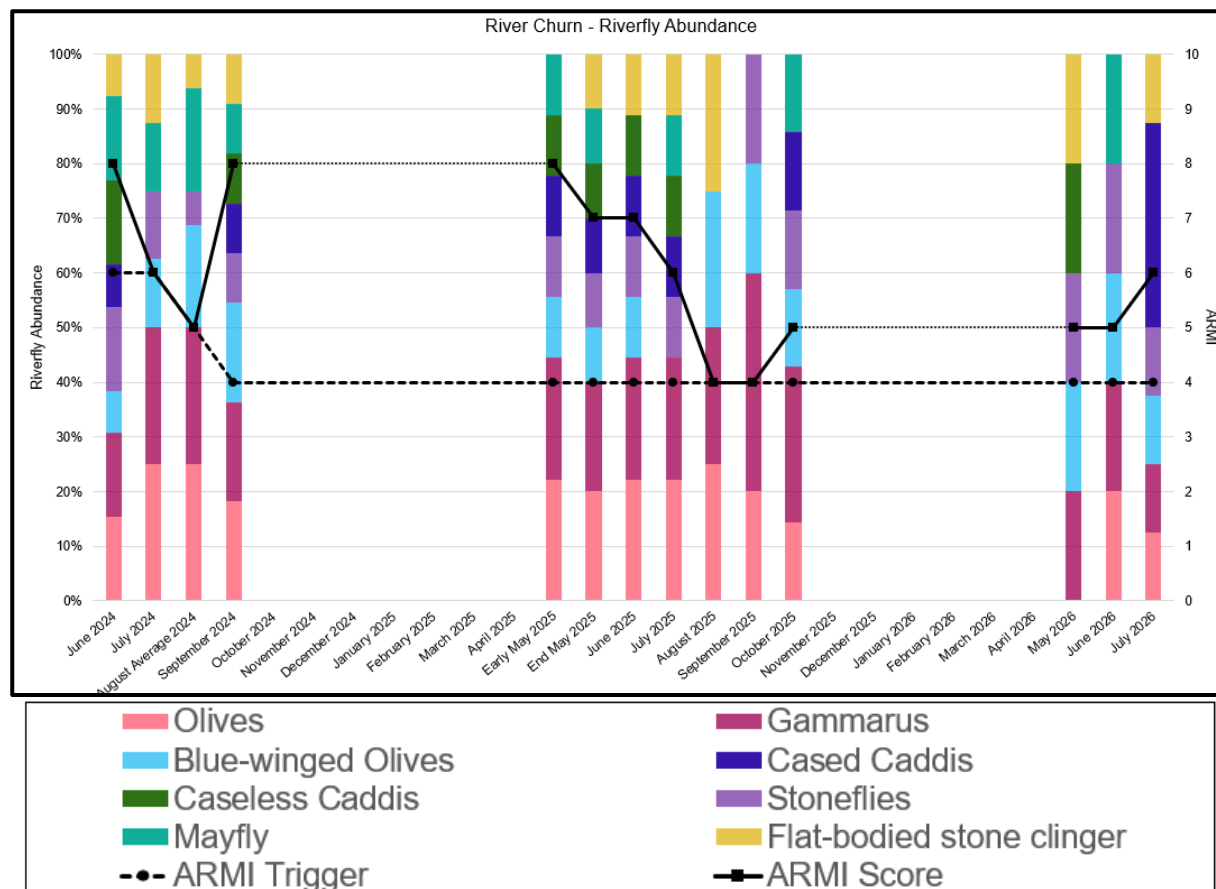
b) Riverfly health

Monitoring of riverflies collected from the riverbed, via kick sampling within the Churn and Gumstool Brook, focuses on stoneflies, caddisflies, mayflies and other species as good indicators of water quality. Following a pause in monitoring starting in November 2025, during flow conditions unsuitable for safe sampling, riverfly sampling re-commenced in May 2026.

The available results for the Churn are presented in the graphic below, comparing the ARMI (Anglers Riverfly Monitoring Initiative) score, calculated from the riverflies identified and counted in the sample, with an ARMI trigger. ARMI scores below the trigger are considered to reflect poor aquatic health. No sample was collected from the Gumstool Brook at the end of July 2026, owing to the very low water levels, but the Churn result shows the ARMI score (6) has increased compared with June and is above the trigger level. This increase is despite lower flows and the elevated phosphate concentration being recorded in the Churn. The aquatic health of the Churn, based on riverfly sampling, in July 2026 is, in fact, the same as recorded in July 2025. In contrast, the Churn ARMI score (5) derived from the end of June 2026 riverfly sampling.

Based on the results of riverfly monitoring over Spring, Summer and into early Autumn 2025, a deterioration in the ecological health of the Churn might be expected in 2026 as river flows tend to decrease naturally into Autumn. Data from 2025 shows that the river experienced its poorest

health during the time of lowest minimum flows in August and September, but improving health in October as river flows began to increase. The increase in ARMI score between June and July 2026 appears to contradict this expected trend, but it is a positive situation that may act as a buffer against further expected deterioration of the ecological health of the Churn into late Summer and Autumn. In contrast, with the ARMI score for the Gumstool Brook being at the trigger level in June 2026 and no sample possible in July, a continued deterioration in its ecological health appears more likely.



c) Environmental observations

Recommendations were set out by CWG for environmental enhancement in and around Cirencester's waterways, then expanded and prioritized jointly by CWG and FoGB. This has led to ongoing delivery of a number of these enhancements in Jack Gardners, Hereward Road, the Abbey Grounds and City Bank with support from volunteers, including 29th Regiment The Royal Logistics Corps and SARA (Severn Area Rescue Association). Other environmental enhancements will be included in the implementation of the Cirencester Town Council Green Spaces Strategy, linking into a catchment action plan for the wider Churn catchment in development by the Cirencester & Churn Waterways & Environment Partnership (CCWEP).

6. Stream Monitoring Photographic Record

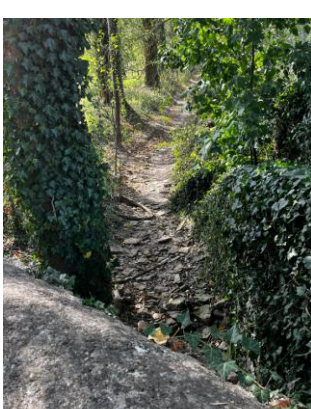
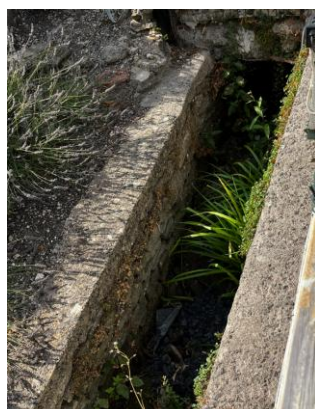
This month the Churn photographs were collected on 31st of July and the Daglingworth Stream photographs collected also on the 31st of July.

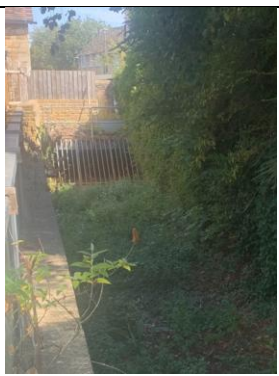
- The source of the Daglingworth stream continues to have a dry streambed, with the confluence of springs reduced to a very low flow.
- The flow in the Daglingworth Stream from the Duntisbourne Abbots spring downstream to Daglingworth village remains at a low flow.

- Both of the woody debris leaky dams upstream of Daglingworth look to be in good condition. The stream has a low flow with the dams not restricting the flow.
- The flow in the Daglingworth stream ceases near the Church in Daglingworth. There is no flow in the stream from this point all the way to Barton Lane.
- The measured daily average flow in the River Churn, measured by the EA, was 5.36 ML/d (0.062 m³/s) on 31st July when the Churn photographs were taken.
- The large sluice gate at the Gloucester Street sluices remains closed as per the MoU document. The Churn flow therefore passes through the two small sluice gates.
- The entrance to the Barton Mill Pound has again been cleared of vegetation to assist flow but remains at a low level.
- There is ponded water at the Old overflow from the Mill Pound and no flow from the New overflow.
- There is a low flow in the Gumstool Brook along Riverside Walk and through to the Abbey Grounds. The Gumstool Brook Balancing Stream has significant vegetation growth and a dry stream bed. The Gumstool Brook stops flowing near the exit of the culvert in Abbey Grounds.
- The River Churn through the town has a low flow along the eastern branch with low water level downstream of New Mills.
- There appears to be a moderate flow of water in the western branch of the River Churn through the Abbey Lake, but with slow flow occurring within City Bank.

1a. Daglingworth Stream upper source north of Duntisbourne Abbots. The stream bed is dry on both sides of the road.		1b. Duntisbourne Abbots village spring. The spring has some brown water present but there is no flow from the spring.	
2. Duntisbourne Abbots, Daglingworth Stream downstream of inferred confluence of spring sources. There is a very low flow of clear water from the spring and in the channel.		3. Duntisbourne Leer ford, Daglingworth Stream. There is a low flow across the ford that extends to ~9 cobbles on northeast side.	

4. Middle Duntisbourne ford, Daglingworth Stream. A low flow is observed that extends to 12 bricks of the cobbled area of the south-west channel edge.		5. Duntisbourne Rouse ford, Daglingworth Stream. There is a low flow across the ford, which is well inside the SW boundary cobbles.	
6a. Daglingworth Stream – Leaky Dam #1, upstream of Grove Hill Lane. The dam is in good condition. There is a low flow in the stream. There are signs of cattle grazing the field.		6b. Daglingworth Stream Leaky Dam #2, upstream of Grove Hill Lane. There are cattle grazing in the field so photos were taken from the field edge. The dam appears to be in good condition.	
6c. Daglingworth Stream Grove Hill bridge. A low flow is observed that fills a small section of the channel in the field upstream of the Grove Hill bridge.		7. Daglingworth Stream, Church Road The stream has a very low flow in the culvert.	
8. Daglingworth Stream at Lower End road bridge. There is no flow, and the stream bed has damp cracked mud.		9a. Wellhill Copse, Daglingworth Stream in equestrian fields.	No Picture

9b. Wellhill Copse, Daglingworth Stream near path stile. The stream bed is dry.		10. Daglingworth Place ford, Daglingworth Stream. The stream bed through the ford is very dry and dusty.	
11. Grange Farm bridge, Daglingworth Stream. The stream channel is dry. There is little vegetation present.		12. School Hill bridge, Daglingworth Stream. The stream channel is dry.	
13. Stratton End (private road), Daglingworth Stream. The stream is dry upstream and downstream of the road bridge. There is significant vegetation present in the stream bed.		14. Barn Way bridge, Daglingworth Stream. The stream channel is dry. There is lots of vegetation present.	
15. Daglingworth Stream, Plough Inn channel The channel is dry, and there is some vegetation present.		16. Footpath at Lower Stratton. The stream bed is dry. There is lots of vegetation present.	

		17a. Daglingworth stream downstream of Bathurst estate boundary wall Dry in places, no flow	
17b. Daglingworth stream downstream of Bathurst Estate boundary wall Dry in places, very low flow		18. Gumstool Brook Balancing Stream The stream is dry apart from a small puddle by entrance from sluice.	
19. Gumstool Brook - gauge alongside swimming pool Reading 0.18m		20. Gumstool Brook - alongside riverside walk Very low flow, great deal of vegetation	
21. Gumstool brook at culvert trash screen Very low flow		22a. Balancing stream at Powell's School - at trash screen	
23. Balancing stream at Powell's School towards Salvation Army building Dry stream bed with vegetation covering the channel		25a. River Churn at Gloucester St. bridge upstream of sluices Low flow, lots of weed present	

25b. Glos St bridge sluices Most flow entering into left hand sluice.		25c. River Churn at Glos St bridge measuring gauge Water level is below gauge.	
25d. River churn downstream of Glos St sluices Low flow		25e. Glos St bridge towards Mill Pound Lots of vegetation present at entrance to the Barton Mill Pound.	
26. Barton Mill Pound downstream from Glos St bridge Stream has low flow and lots of vegetation present.		27a. Gauge in Mill Pound Gauge showing below 0.4m	
27b. Mill Pound overflow (new) Completely dry		28. Mill Pound overflow (old) No visible water	
29a. Mill Pound upstream of footbridge Very shallow and a lot of vegetation present.		29b. Mill Pound downstream of footbridge Very low flow	

29c. Gauge by footbridge in Mill Pound High and dry!		31. River Churn upstream side of Gooseacre lane Low flow	
32a. River Churn gauge upstream side of Gooseacre lane Gauge showing 0.8m		32b. River Churn downstream side of Gooseacre lane Low flow	
33a. River Churn upstream of Spitalgate Lane bridge Low flow		33b. River Churn looking downstream towards Spitalgate lane bridge Much vegetation, low flow	
33c. River Churn downstream of Spitalgate Lane bridge Low flow		34a. Hereward Rd trash screen Low water level, some trash	

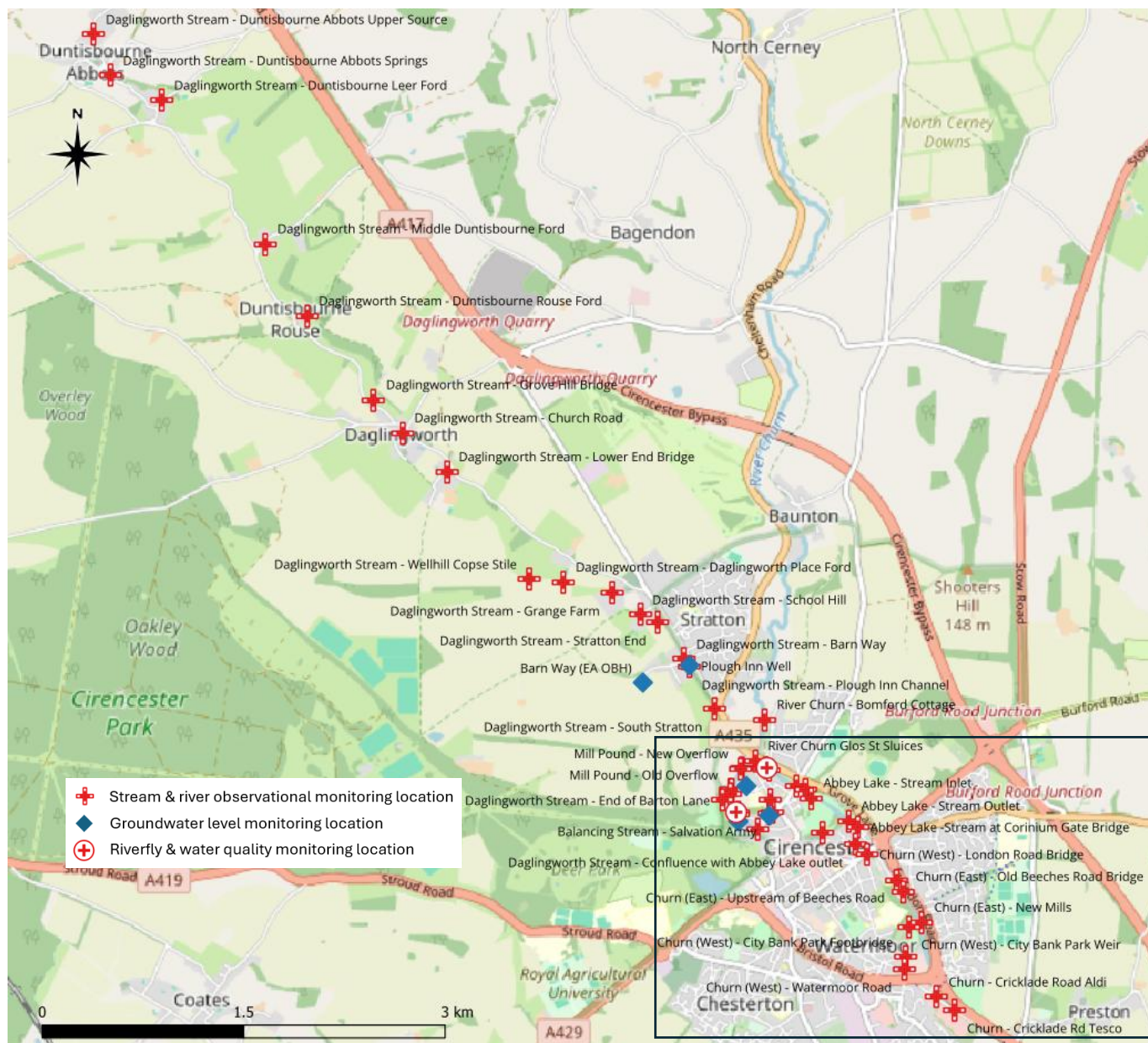
34b. River Churn upstream of Hereward Rd. trash screen		34c. River Churn - bridge downstream of Hereward rd. Trash screen	
34d. River Churn on other side of Hereward Road bridge Low water level, low flow		35. Stream flowing into Abbey Grounds & lake Low flow	
36a. Weir at stream outlet from Abbey lake Low flow with a lot of algae in lake and smelling bad!		36b. Footbridge at stream outlet from Abbey Lake Low flow	
37. Abbey lake outlet stream at Corinium Gate bridge Low flow		38a. Gumstool culvert outlet in Abbey Grounds No flow, static water, but very low flow visible further downstream	

38. Gumstool Brook in Abbey Ground towards Waterloo Dry areas, with pools of water		39a. Gumstool Brook alongside Waterloo flats looking upstream No stream visible, much vegetation	
39b. Gumstool Brook confluence with Abbey lake outlet (Waterloo carpark) Very low flow		40a. River Churn East on downstream side of London Rd bridge Stream only just visible, much vegetation	
40b. River Churn on downstream side of London Rd bridge Low level, much vegetation		41a. River Churn upstream of old Beeches road bridge Very dry in places, pools of water, no obvious flow	
41b. River Churn downstream of old Beeches road bridge Dry areas with no obvious flow		44. Weir at City Bank glade Weir not really visible, slow flow	

43a. River Churn – Furness hole Totally dry		43b. River Churn - new Mills overflow No flow from overflow	
43c. River Churn - New Mills downstream Mostly dry river bed with ponded water immediately downstream of the sluices		45. River Churn at City Bank park footbridge Low flow, vegetation	
46. River Churn at Watermoor Point car park Low flow, duckweed and other vegetation		47. River Churn at Cricklade road opposite Aldi River is not really visible, much vegetation	
48. River Churn at Cricklade road opposite Tesco Not much visibility of river owing to extensive vegetation			

7. Monitoring location maps

Map 1: All monitoring locations, showing area covered in more detail by Map 2



Map 2: Detail of monitoring locations in Cirencester



8. Details of the stream monitoring locations

No.	Location Name	Grid Reference	What3Words Link
1	Daglingworth Stream - Duntisbourne Abbots Upper Source	SO 97036 08089	https://w3w.co/winners.lamenting.energetic
2	Daglingworth Stream - Duntisbourne Abbots Springs	SO 97163 07783	https://w3w.co/league.teaching.adhesive
3	Daglingworth Stream - Duntisbourne Leer Ford	SO 97544 07599	https://w3w.co/thatched.northward.enclosing
4	Daglingworth Stream - Middle Duntisbourne Ford	SO 98134 06527	https://w3w.co/reporters.slower.axed
5	Daglingworth stream - Duntisbourne Rouse Ford	SO 98621 05995	https://w3w.co/flamenco.spines.openings
6	Daglingworth Stream - Grove Hill Bridge	SO 99117 05367	https://w3w.co/processes.swipes.grouping
7	Daglingworth Stream - Church Road	SO 99332 05121	https://what3words.com/obstinate.tummy.panel
8	Daglingworth stream - Lower End Bridge	SO 99662 04835	https://w3w.co/objective.verbs.shoving
9	Daglingworth stream - Wellhill Copse Stile	SP 00277 04034	https://w3w.co/automate.servicing.objecting
10	Daglingworth stream - Daglingworth Place Ford	SP 00529 04013	https://w3w.co/posed.emerald.bandstand
11	Daglingworth Stream - Grange Farm	SP 00890 03931	https://w3w.co/episodes.champions.keyboards
12	Daglingworth Stream - School Hill	SP 01102 03770	https://w3w.co/undercuts.winks.retiring
13	Daglingworth Stream - Stratton End	SP 01236 03714	https://w3w.co/nursery.jacuzzi.unearthly
14	Daglingworth Stream - Barn Way	SP 01427 03440	https://w3w.co/requiring.handfuls.powers
15	Daglingworth stream - Plough Inn Channel	SP 01468 03385	https://w3w.co/flap.grafted.cuts
16	Daglingworth Stream - South Stratton	SP 01657 03072	https://w3w.co/commutes.boom.narrates
17	Daglingworth Stream - End of Barton Lane	SP 01712 02392	https://w3w.co/hydrant.paces.underway
18	Balancing Stream - Riverside Walk Sluice	SP 01835 02300	https://w3w.co/oasis.eclipses.pythons
19	Gumstool Brook - Swimming Pool Entrance	SP 01832 02287	https://w3w.co/monks.factored.blazers
20	Gumstool Brook - Private Bridge	SP 02067 02394	https://w3w.co/catapult.prepared.watching
21	Gumstool Brook - Trash Screen	SP 01975 02171	https://w3w.co/unicorns.carbonate.ruling
22	Balancing Stream - Powells School	SP 02085 02301	https://w3w.co/marshes.batches.spectacle
23	Balancing Stream - Salvation Army	SP 02061 02290	https://w3w.co/conquests.cried.fewest
24	River Churn - Bomford Cottage	SP 02030 02987	https://w3w.co/grinning.link.watchdogs
25	River Churn - Glos St Sluices	SP 01960 02684	https://w3w.co/stooping.height.palms
26	Mill Pound - Glos St Bridge	SP 01856 02630	https://w3w.co/unguarded.thousands.gifted
27	Mill Pound - New Overflow	SP 01847 02625	https://w3w.co/arrives.headings.crisis
28	Mill Pound - Old Overflow	SP 01775 02466	https://w3w.co/sample.fuzzy.composts
29	Mill Pound - Footbridge	SP 01785 02470	https://w3w.co/sharpness.heightens.assembles
30	Mill Pound - Barton Mill Sluice	SP 01773 02433	https://w3w.co/yummy.rail.swan
31	Churn - Upstream of Gooseacre Lane	SP 02040 02633	https://w3w.co/idea.compacts.smashes
32	Churn - Gooseacre Lane Bridge	SP 02058 02615	https://w3w.co/moving.snaps.dentures
33	Churn - Spitalgate Lane Bridge	SP 02261 02493	https://w3w.co/vibrates.treetop.quirky
34	Churn - Hereward Road	SP 02329 02473	https://w3w.co/subject.enjoys.shackles
35	Abbey Lake - Stream Inlet	SP 02377 02404	https://w3w.co/silly.hairstyle.streak
36	Abbey Lake - Stream Outlet	SP 02658 02237	https://w3w.co/boater.rankings.scribble
37	Abbey Lake - Stream at Corinium Gate Bridge	SP 02721 02194	https://w3w.co/essay.goes.waltzed
38	Gumstool Brook - Culvert Outlet in Abbey Grounds	SP 02456 02147	https://w3w.co/agency.mascots.warping
39	Daglingworth Stream - Confluence with Abbey Lake outlet (Waterloo carpark)	SP 02706 02064	https://w3w.co/trinkets.inviting.dinosaur
40	Churn (West branch) - London Road bridge	SP 02792 01991	https://w3w.co/ranks.uncouth.perfected
41	Churn (East) - Upstream of Beeches Road	SP 03012 01797	https://w3w.co/blank.sheep.springing
42	Churn (East) - Old Beeches Road Bridge	SP 03064 01707	https://w3w.co/that.rephrase.necks
43	Churn (East) - New Mills	SP 03198 01478	https://w3w.co/stolen.recovery.sensible
44	Churn (West branch) - City Bank Park Weir	SP 03116 01480	https://w3w.co/roadblock.cloth.blaze
45	Churn (West branch) - City Bank Park Footbridge	SP 03077 01222	https://w3w.co/feelers.corrects.lucky
46	Churn (West branch) - Watermoor Road	SP 03068 01134	https://w3w.co/tabs.wing.scout
47	Churn - Cricklade Road Aldi	SP 03305 00926	https://w3w.co/bucked.duck.mailboxes
48	Churn - Cricklade Rd Tesco	SP 03442 00829	https://w3w.co/drag.aimed.look
101	Well - Barton Lane Allotments	SP 01896 02515	https://w3w.co/toasters.resettle.factoring
102	Well - The Plough Inn	SP 01469 03394	https://w3w.co/dote.teams.twitchy
103	Well - Salvation Army	SP 02070 02268	https://w3w.co/fine.unwraps.cowboys
104	Well - Open Air Swimming Pool	SP 01827 02237	https://w3w.co/veered.expansion.goad