



Citizen River Monitoring Report August 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

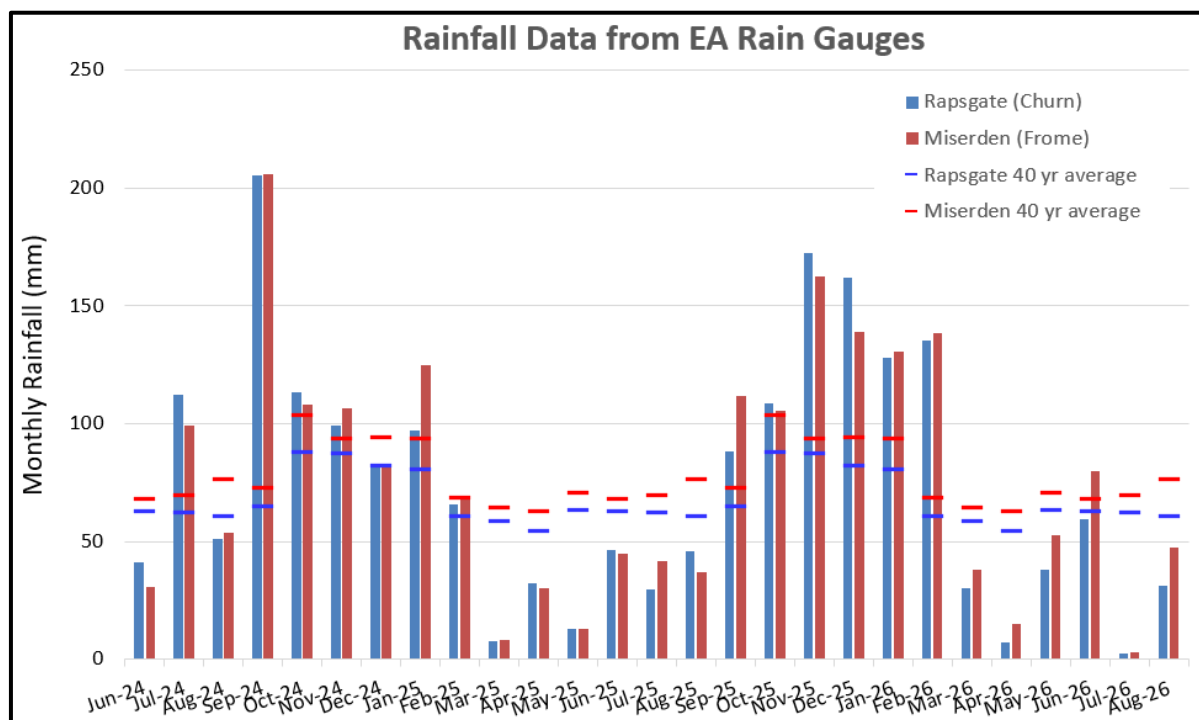
- After a dry Spring, around average rainfall in June was followed by the driest July on record. Much of August was dry, with rain mostly falling in the last week, resulting in only 50% and 66% of the monthly average rain falling in the Churn and adjacent Frome catchments, respectively.
- With dry weather continuing from July into August, groundwater levels in the Cotswold limestone aquifers continued to decline, more slowly at the end of the month, and remain below normal for the time of year. A similar pattern in groundwater levels was seen in the shallow Gravel aquifer.
- Similarly, flow in the River Churn at the Environment Agency (EA) Cirencester gauging station continued to decrease more slowly to 4.5 million litres per day (ML/d), equivalent to 0.05 cubic meters per second (m^3/s), at the end of the month. Flows remain notably low for the time of year.
- The large sluice gate at Gloucester Street remains closed as per the MoU document.
- The flow from the River Churn into the Barton Mill Pound remains at a low flow.
- Flow in the Daglingworth Stream continues to cease in Daglingworth, with no flow from this point downstream to Barton Lane on the northern edge of Cirencester, a distance of almost 4 km
- The construction by Thames Water of a new water pipeline across the Daglingworth Stream is now largely complete. Monitoring will continue to assess the recovery of the stream habitat when flow recommences.
- There continues to be a very low flow in the Gumstool Brook along Riverside Walk and into the Abbey Grounds with flow ceasing shortly after the culvert outlet. The Gumstool Brook Balancing Stream also has significant vegetation growth but no flow.
- Riverfly monitoring shows the ecological health of the Churn deteriorated during August, despite wetter and cooler weather. The Gumstool Brook was not sampled owing to its low flows.
- Water quality monitoring shows a decrease in phosphate, low nitrate but increased ammonia concentrations in the Churn and Gumstool Brook, equating generally to good to high quality except for moderate phosphate in the Churn.
- Flow in Cirencester's waterways remain notably low for the time of year as a result of continuing drought conditions, with Daglingworth Stream dry from Daglingworth to Cirencester and very low flow in the Gumstool Brook. The health of the water environment continues to deteriorate with excessive vegetation growth in places. With recent wetter weather and the potential for Autumn to be wetter than normal, stress on Cirencester's waterways may begin to reduce.

If you would like to go straight to any of the following detailed topics, just Click on a heading

1. Weather Update & Water Situation Prognosis
2. Groundwater Situation
3. Daglingworth Stream & Gumstool Brook Flows
4. River Churn Flow
5. River Health
6. Stream Monitoring Photographic Record
7. Monitoring location maps
8. Details of the stream monitoring locations

1. Weather Update & Water Situation Prognosis

Although the dry Spring in the upper Churn and Daglingworth catchments was followed by a wetter June with around average monthly rainfall, dry weather returned with the driest July on record with only 2-3 mm of rain falling, around 4% of the monthly averages. Much of August continued to be dry, with most rain occurring in the last week, resulting in 50% and 66% of the monthly average falling in the Churn and Frome catchments, respectively, as shown.



As a result of the weather continuing to be dry and hot into August, soils across the Churn catchment and the rest of the Cotswolds remained extremely dry. This continued to be the case until the wetter weather of the last week of August when soils became slightly less dry and, as expected no aquifer recharge occurred. As a result, a delay in the normal recovery of groundwater levels and river flows in the Autumn and into Winter continues to be likely.

Looking ahead, the Met Office [3 month outlook for September to November 2026](#) for the whole UK indicates the chance of a warm Autumn is higher than normal combined with the weather more likely to be wet than dry. This suggests an end to the Spring/Summer 2026 drought is beginning, although the outlook indicates that the latter part of this period, November, is most likely to be wet. The warmer, wetter weather is made more likely by higher than normal sea-surface temperatures near the UK, with the very strong El Nino event increasing the chances of wetter, stormier conditions in NW Europe during autumn and early winter.

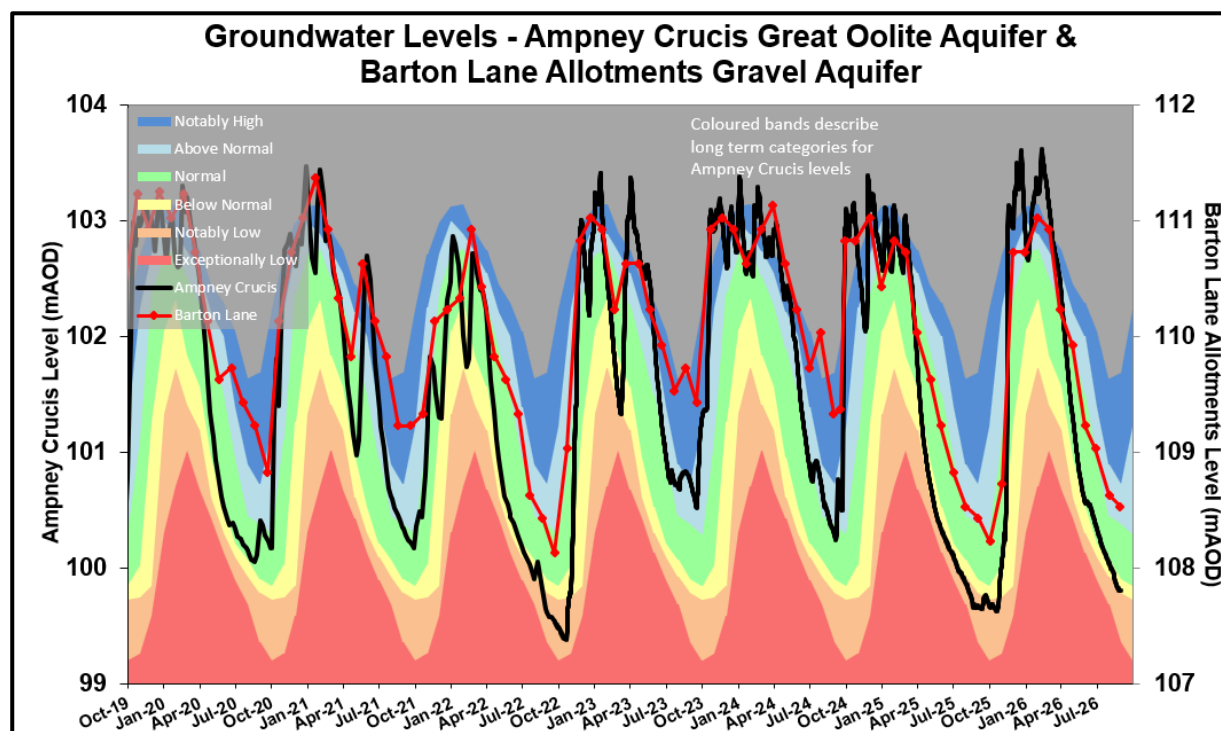
With the health of Cirencester's waterways always influenced by the weather, the focus now is on recovery from the impacts of the dry Spring/Summer on the water environment in the upper Churn and Daglingworth catchments. However, with the outlook suggesting wetter weather is more likely in late Autumn it is likely that recovery will be delayed and that stress on the health of Cirencester's waterways could well increase before it ameliorates.

2. Groundwater Situation

Groundwater levels in the Great Oolite limestone aquifer continued to decline during August, as would be expected at this time of year. With the dry weather continuing, groundwater levels at the end of August remained below normal across the Churn and surrounding catchments, as illustrated on the graph below; an exception is the continued notably low levels in the Daglingworth Stream catchment. Little data exists on groundwater levels in the Inferior Oolite aquifer in the Churn catchment, especially its headwaters where the Inferior Oolite has an important influence on river flows. Data from the Churn catchment indicates, however, that Inferior Oolite levels are now exceptionally low for the time of year, as are those in the adjacent

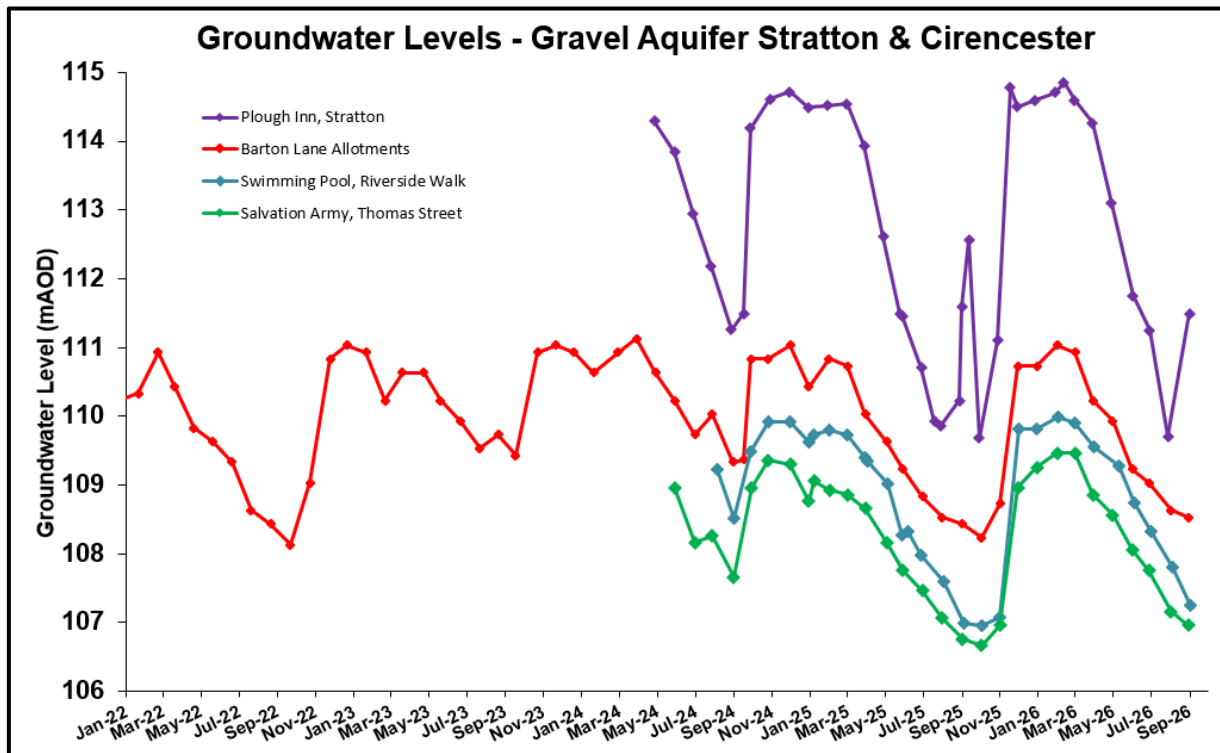
Upper Thames catchment. This highlights the variability in groundwater conditions between and within the aquifers across the Churn catchment. It is apparent, however, that levels in both the Great and Inferior Oolite aquifers at the end of August 2026 are consistently higher than at the end of August 2025. As a result of the wetter weather during the last week of August 2026, it is also noticeable that there has been a slight reduction in the rate of groundwater level decline. Rain infiltrating through soils and the underlying aquifer, via pathways formed by burrows, rootlets and fractures, may have made a very small contribution to groundwater recharge, slowing the continuing decline of the water table. It is also possible that ongoing, very slow drainage of water through the soil and aquifer to the water table may have increased. This can occur as vegetation draws water from wetter shallow soils, allowing drainage from deeper soils to also make a very small contribution to groundwater recharge. Both of these processes could contribute to slowing the decline of the water table.

The graph below also includes groundwater levels measured monthly in the shallow Gravel aquifer in the Barton Lane Allotments Well. Although the monthly monitoring is less frequent, it illustrates the consistency in groundwater level patterns between the Gravel aquifer and the Great Oolite limestone aquifer. Gravel groundwater levels fell more slowly during August, with the end of month level at Barton Lane Allotments being slightly higher (0.1 m) compared with the end of August 2025. The slower rate of decline during August 2026 is also apparent.



As noted previously, the characteristics of the decline in groundwater levels in the Great Oolite aquifer are similar to those of the decline in the Gravel aquifer in Cirencester but distinctly different from the decline in the Gravel aquifer at the Plough Inn in Stratton. This is particularly clear from the graph below. It shows very similar, declining trends in the Gravel aquifer continuing in the shallow wells at Barton Lane allotments, the Swimming Pool and the Salvation Army in Cirencester but a rise in levels in the Plough Inn in Stratton in August. Previous data shows water levels in the Plough Inn well fall more rapidly compared with the other shallow wells and that they rise more rapidly. The significant rise in water levels in August was very similar to that rise observed in August 2025, with both corresponding to rainfall events. These unexpected rises may result from rainfall-runoff draining into the well, although exactly how is not known.

At the end of August 2026, groundwater levels in the shallow wells in Cirencester were slightly higher (0.1 to 0.2 m) than those recorded at the end of August 2025, as was the case last month. This continues to be 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 August 2026.



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 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 situation remains unchanged at the end of August.



The extent of no flow in the Daglingworth Stream at the end of July was greater than that at the end of July 2025, with an additional 700 m to 1.2 km of the stream dry at the end of July 2026, despite groundwater levels being higher this year. By the end of August 2025, however, the extent of no flow in the Daglingworth Stream had extended further upstream and was very similar to the current situation at the end of August 2026. It is worth noting an additional detail from late August 2025, when residents in Daglingworth reported that the stream had dried up at the northern edge of the village, although there was some flow at the end of August 2025 following rainfall. This drying up at the northern edge of the village had not been noted previously in the period back to 1996 and was not observed by the same residents during August 2026. The differences between July 2025 and 2026 are likely to be influenced by the almost complete absence of rain, much higher temperatures, increased evaporation and exceptionally dry soils in July 2026. 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 greater evapotranspiration and exceptionally dry soils. Conversely, the similarities in the extent of dry stream bed at the end of August 2025 and 2026 is likely to reflect the effects of rainfall that occurred at the end of both months.

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, and continues to be the case at the end of August, with low flows occurring downstream into Daglingworth village. As a result, the total length of flowing stream from its headwaters to Daglingworth at the end of August is just over 4 km, as was the case in July.

During July, it was identified that a new water pipeline is being constructed by Thames Water from their Gloucester Road reservoir into northern Cirencester, with its route crossing the Daglingworth Stream near Daglingworth Place. Photographic monitoring during construction of this crossing has been carried out, recording that the works in this area are now largely completed with the Daglingworth Stream having been reinstated. Monitoring will continue to record how the reinstated stream and floodplain respond as flow recommences during recovery from this year's drought. The photograph on the left below shows the pipeline during construction and, on the right, following completion on 30th August, with the topsoil reinstated over the pipeline route in this area. Both photographs are looking North across the Daglingworth Stream, with its approximate alignment shown by the blue line.



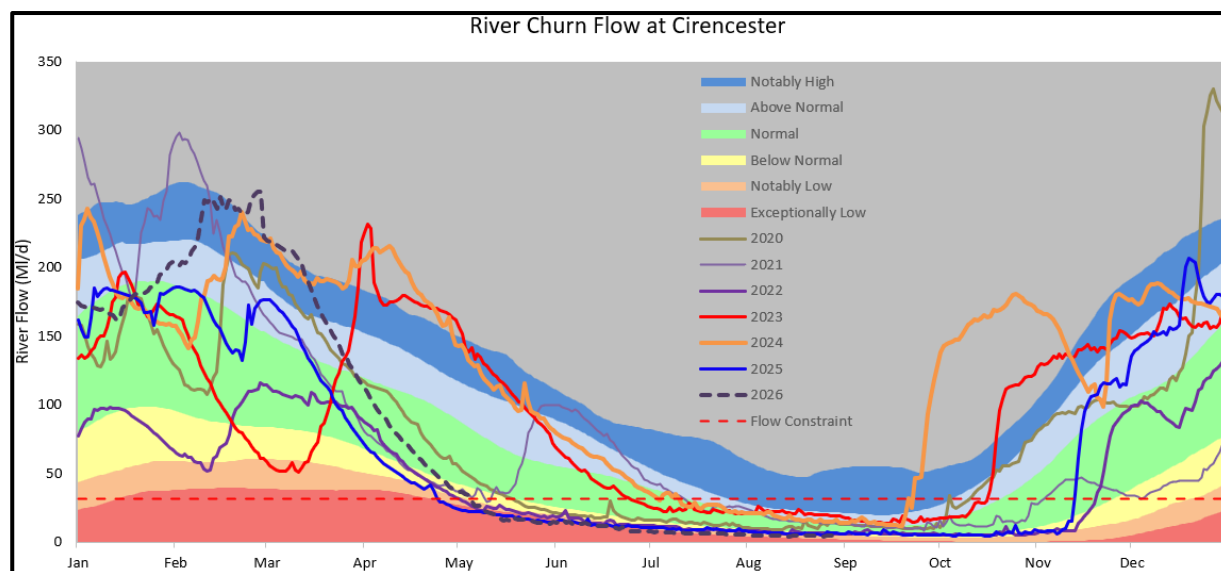
Flows in the waterways in northern Cirencester have continued to be low during August. Water levels in the Barton Mill Pound have not decreased significantly with low flow continuing into the Pound from the River Churn at Gloucester Street. The limited changes observed may relate in part to the significant rainfall that occurred during the last week of August. However, there continues to be no flow from the new Mill Pound overflow into the adjacent field and 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 August groundwater level in the Gravel aquifer has fallen further to almost 2 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 at the Waterloo car park.

4. River Churn Flow

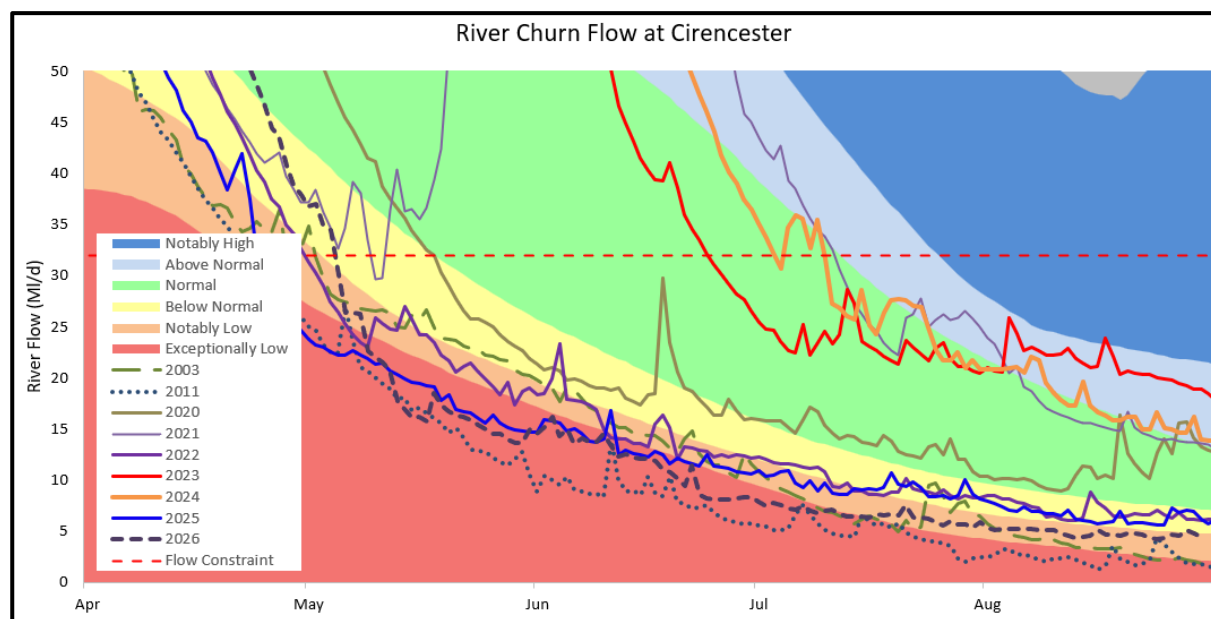
The trend of declining groundwater levels and river flows in the Churn has continued from Spring into Summer as a result of the below average rainfall. There was no respite from the above average rainfall in June, nor from the wet weather at the end of August. At the end of the exceptionally dry July, data from the EA Cirencester gauging station recorded flow of around 5.4 million litres per day (ML/d), equivalent to 0.062 cubic metres per second (m³/s), with the end of August flow decreasing, albeit more slowly, to around 4.5 ML/d, equivalent to 0.052 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 August 2026 flow remains notably low for the time of year, but is approaching below normal. This is a further relative improvement in flow compared with the exceptionally low flows recorded at the end of June 2026 and notably low flows at the end of July. This is the result of a slowing down in the decline of river flow rates during July and more noticeably in August, similar to the behaviour of groundwater levels, as described above, and the consequential net decrease in baseflow of groundwater from the limestone aquifers into the River Churn.

The expanded plot also highlights that the end of August flow Churn this year is lower than in August 2025 and that the end August 2026 flow is the 3rd lowest end August flow in the 21st century, with the equivalent 2003 and 2011 flows being exceptionally low. Considering the complete flow record for the Churn, which began in 1980, the end August 2026 flows are the 6th lowest on record. Lower river flows that occurred in 1990, 1995, 1996 and 2003 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 continues to be no surface flow in its eastern branch upstream and downstream of New Mills at the end of August, with ponded water upstream of New Mills at the Beeches Road bridges. The cessation of flow at the end of July was 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 August flow in the Churn at the EA gauging station at 4.5 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.

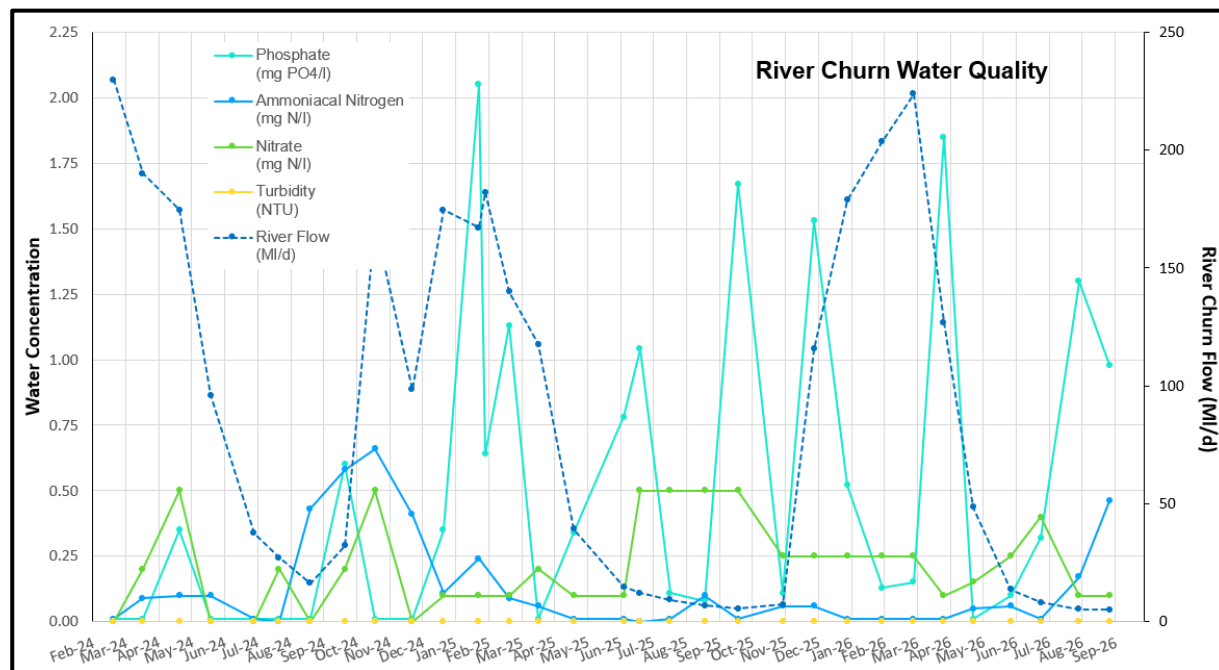
5. River Health

The health of the River Churn and Daglingworth Stream is being monitored through its water quality and riverfly population. This is being done on the River Churn at Gooseacre Lane, 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 also tend to be stable and usually at low concentrations, although significant spikes have occurred in the Gumstool Brook. In August, small but significant increases in ammonia were measured in the Gumstool Brook and especially in the Churn, as shown in the graph below. This contrasts with the significant decreases in phosphate concentrations at the end of August, especially in the Gumstool Brook, and low stable nitrate concentrations. These water quality changes have occurred while river flows continued to decrease progressively but after a wet last week of August. Although the significance of these factors on water quality behaviour continues 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 that nutrient concentrations this Summer have fluctuated more significantly in the Gumstool Brook than the River Churn, although the increased ammonia concentration at the end of August in the Churn is of note.



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. A review of water quality standards showed, 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 August 2026, a snapshot of the water quality health is summarized below. This shows that, considering nutrients, the aquatic health is High to Good, except for phosphate which is Moderate in the Churn.

Watercourse	Phosphate	Ammonia	Nitrate
River Churn	Moderate	Good	High
Gumstool Brook	High	Good	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. No *E.coli* measurements were carried out in August 2026.

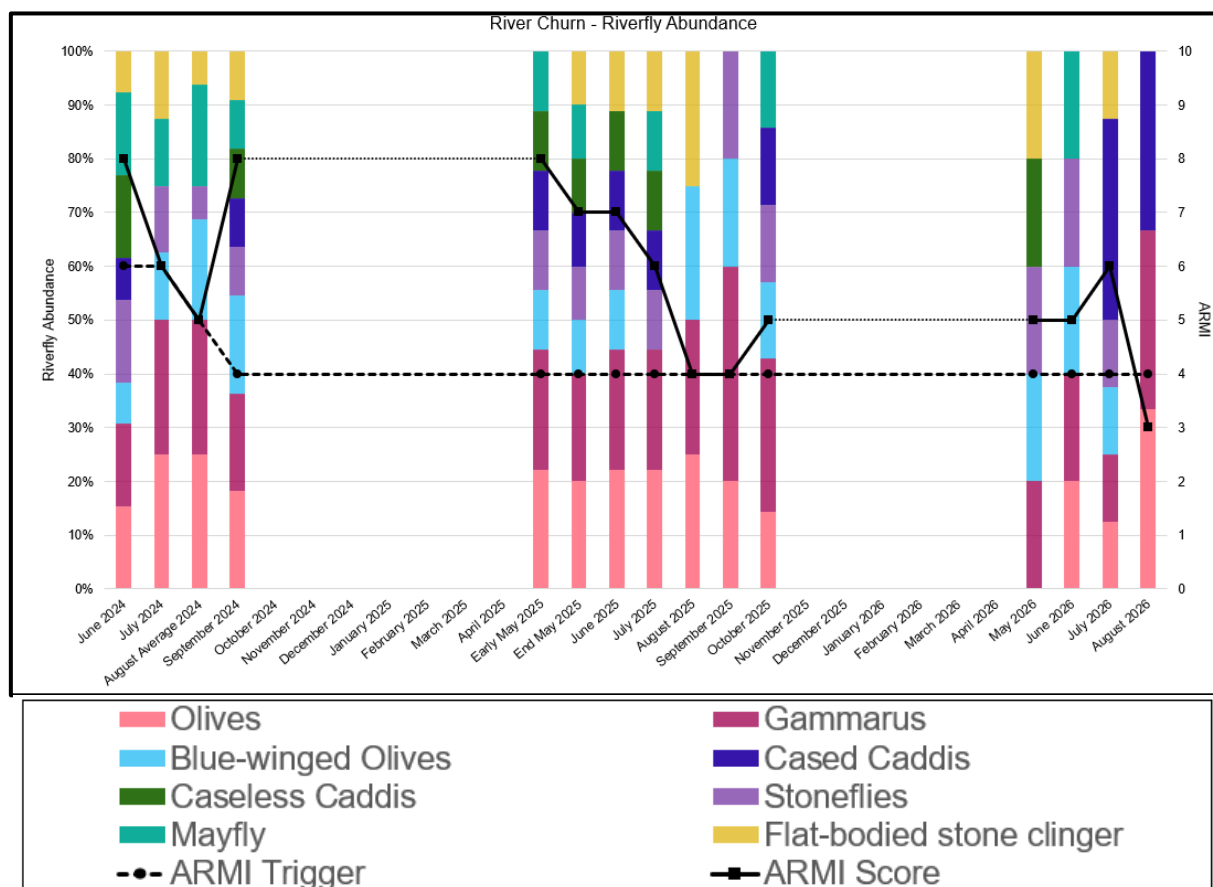
Based on measurements to date, it is not appropriate to make comparisons with water quality standards for faecal coliforms. For example, classification of UK inland bathing water quality reported by the EA is based on a statistical distribution of results gathered over a 4 year period for the May to 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.

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 and have continued in the Churn to August.

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 or August 2026, owing to the very low water levels, but the Churn result for the end of August shows the ARMI score (3) has decreased and fallen below the trigger level for the first time since monitoring started in June 2024. As the ARMI score had fallen below the trigger level, a repeat sample was collected which confirmed the failure. The EA have been informed, via the Cotswolds Rivers Trust, and they will track the results of future riverfly sampling. Based on the results of riverfly

monitoring over Spring, Summer and early Autumn 2025, this deterioration in the ecological health in August 2026 is not unexpected with the continued decrease in river flow, which may well continue into Autumn with the poor health persisting until the river flows potentially begin to increase in late Autumn. With the ARMI score for the Gumstool Brook being at the trigger level in June 2026 and no subsequent sample possible due to very low flows, a continued deterioration in its ecological health appears 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 are now to be delivered as part of the implementation of the Cirencester Town Council Green Spaces Strategy, including reducing over-shading by trees along the Churn to improve aquatic health of the river. This work connects with the catchment action plan for the wider Churn catchment in development by the Cirencester & Churn Waterways & Environment Partnership (CCWEP).

6. Stream Monitoring Photographic Record

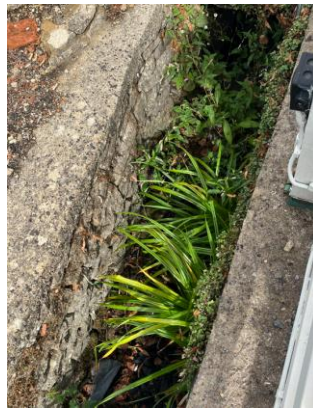
This month the Churn photographs were collected on 30th of August with the Daglingworth Stream photographs also collected on the 30th of August.

- 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 4.75 ML/d (0.055 m³/s) on 30th August 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 flow into the entrance of the Barton Mill Pound remains at a low level.
- There is no visible water at the Old overflow from the Mill Pound and there continues to be 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 a short distance downstream of its exit from the culvert in Abbey Grounds.
- The River Churn through the town has a very low flow along the eastern branch with static ponded water upstream and downstream of New Mills, and no continuous surface water flow.
- There appears to be a moderate flow of water in the western branch of the River Churn through the Abbey Lake, but with low 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, with indication of recent flow – probably from road drains.		1b. Duntisbourne Abbots village spring. There is some clear water present in the spring but no visible 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 9 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. The dam is in good condition. There is a low flow in the stream. Cattle grazing in the field have disturbed the stream banks.	
6c. Daglingworth Stream Grove Hill bridge. A low flow is observed that fills a 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 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, but with signs of recent flow (probably from surface water run off)	
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 just below 0.2m		20. Gumstool Brook - alongside riverside walk Very low flow, great deal of vegetation and duck weed	
21. Gumstool brook at culvert trash screen Very low flow and a lot of vegetation		22a. Balancing stream at Powell's school - at trash screen	No Picture
23. Balancing stream at Powell's school towards Salvation Army building	No Picture	25a. River Churn at Gloucester St. bridge upstream of sluices Low flow, lots of weed present	

25b. Glos St bridge sluices Flow passing through both sluices.		25c. River Churn at Glos St bridge measuring gauge Water level is below gauge but obscured by weeds	
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, much weed and duck weed	
29c. Gauge by footbridge in Mill Pound High and dry! Numbers not very visible, potentially sun bleached		31. River Churn upstream side of Gooseacre lane Low flow	
32a. River Churn gauge upstream side of Gooseacre lane Gauge showing 0.09m		32b. River Churn downstream side of Gooseacre lane Low flow, small weir now visible	
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 but surface algae not now in evidence		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 Almost 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			
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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