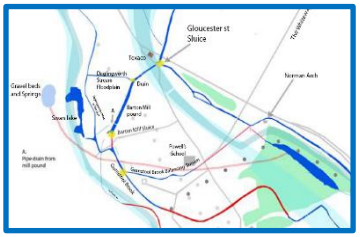
Citizen River Monitoring Report October 2026



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

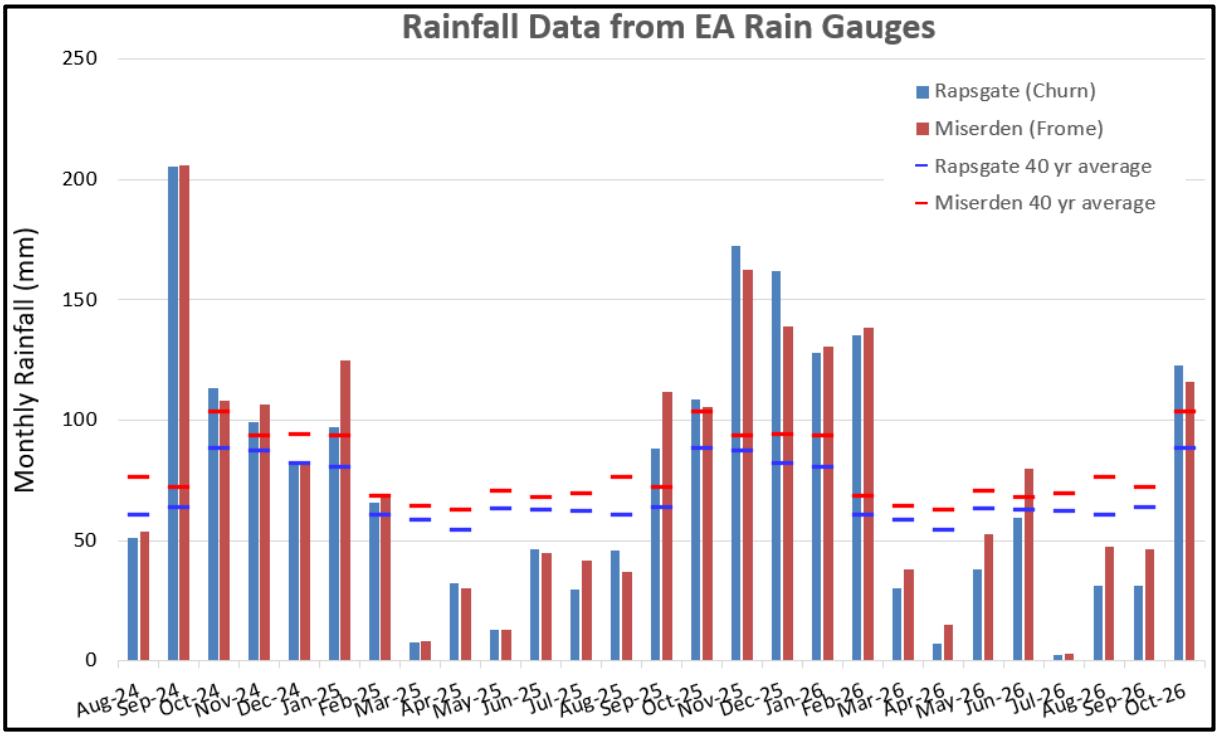
- March to September experienced below average rainfall, including the driest July on record, but periods of wetter weather during October resulted in 136% and 113% of the monthly average in the Churn and adjacent Frome catchments, respectively.
- Groundwater levels in the Cotswold limestone aquifers continued to decline until late October, when levels began to rise. Despite this some levels are exceptionally low for the time of year while others are below normal. A similar range in groundwater level rise has also occurred in the shallow Gravel aquifer.
- River Churn flow at the Environment Agency (EA) Cirencester gauging station increased temporarily due to rain in October, then decreased to an end of month flow of 3.6 million litres per day (Ml/d), equivalent to 0.04 cubic meters per second (m^3/s). Flows are now 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 low.
- Flow in the Daglingworth Stream now ceases upstream of Daglingworth village, with no flow downstream to Barton Lane on the northern edge of Cirencester, a distance of 4.5 to 5 km
- The construction by Thames Water of a new water pipeline across the Daglingworth Stream between Lower End and Stratton is complete. The stream at this location remains dry.
- 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 has significant vegetation growth but no flow.
- Riverfly monitoring shows the ecological health of the Churn has deteriorated during October. The Gumstool Brook was not sampled owing to its very low flows.
- Water quality monitoring shows low phosphate, nitrate and ammonia in the Churn with slightly higher phosphate and ammonia in the Gumstool Brook, but all equate to high quality in both watercourses despite the very low flow in the Gumstool Brook.
- Flow in Cirencester's waterways is well below normal for the time of year, with the Daglingworth Stream drying further upstream, and the health of the water environment has deteriorated. Despite a wet October and chances of a wet Winter, drought impacts continue, with stress on Cirencester's waterways potentially continuing into late Autumn and Winter.

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

During March to September in the upper Churn and Daglingworth catchments, rainfall was significantly below average. Only June experienced around average monthly rainfall while the catchments experienced the driest July on record, similar to large areas of the UK. October experienced above average rainfall, with most rain falling towards the end of the month, resulting in 136% (123mm) and 113% (116mm) of the monthly average rainfall in the Churn and Frome catchments, respectively, as shown on the graph below.



As a result of wetter weather towards the end of October, soils across the Churn catchment and the rest of the Cotswolds began to get wetter but then dried slightly with little rainfall during the last few days of the month. Despite this, the rainfall that occurred has resulted in aquifer recharge and groundwater level rise to begin. Continued recovery of groundwater levels and sustained increases in river flow will depend on Autumn and Winter rainfall.

Looking ahead, the Met Office 3 month outlook for November 2006 to January 2027 for the whole UK indicates there is double the normal chance of a wet period, including periods of heavy rainfall, although the likelihood of dry conditions remains significant. Mild weather is more likely, although cold weather may occur in December/January. Previous outlooks also indicated a wet November, consistent with the current outlook for a higher than normal chance of a wet period until January. This does not mean that the end of the current drought is assured; the EA indicate than 120% of average rainfall is required for the whole period to March 2027 for full recovery from drought. The very strong El Nino event is increasing the chances of wetter, stormier conditions in NW Europe, although there is increasing focus on the polar wind vortex, another significant influence on our weather, and how this may result in drier weather.

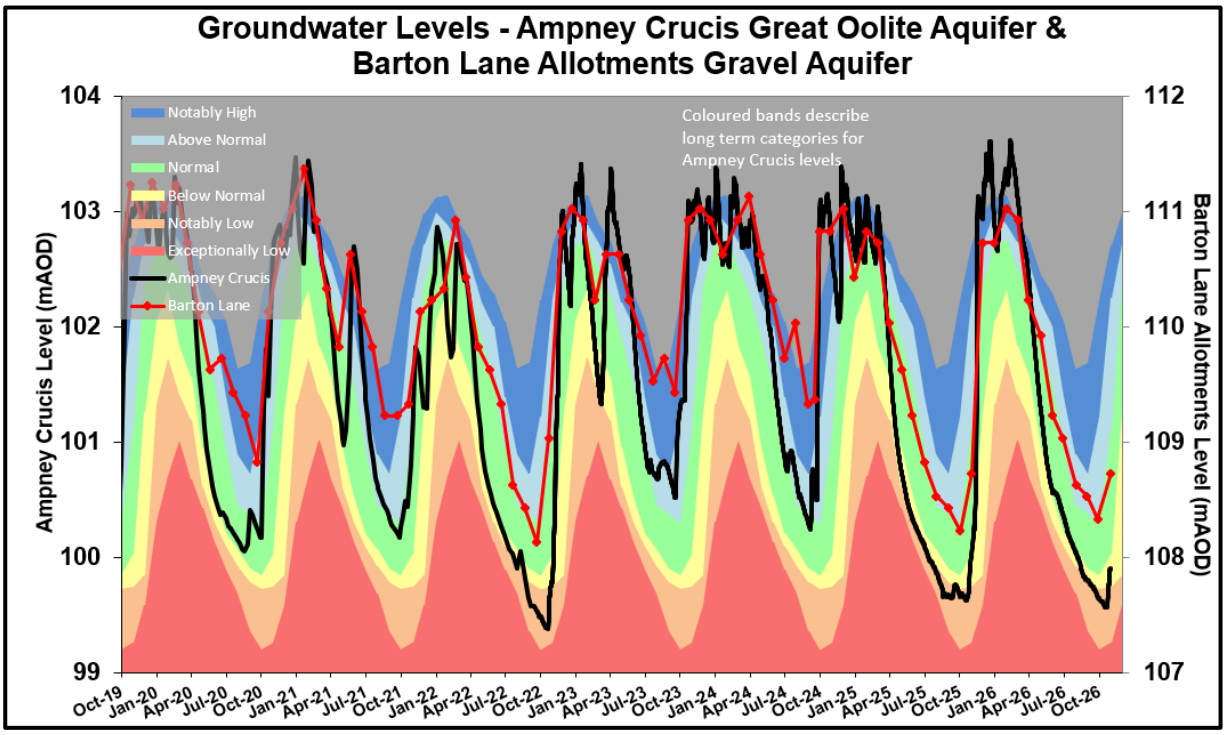
With the health of Cirencester's waterways always influenced by the weather, the focus remains on recovery from the impacts of the ongoing drought in the upper Churn and Daglingworth catchments. There are early signs of recovery and, although the outlook suggests wetter weather is more likely, the recovery is currently slow with the result that stress on the health of Cirencester's waterways could well continue into late Autumn and early Winter.

2. Groundwater Situation

Groundwater levels in the Great Oolite limestone aquifer continued to decline during early October but have started to rise in response to rainfall towards the end of the month. Despite this rise, groundwater levels in the Churn catchment remain notably and exceptionally low for the time of year, particularly in the Daglingworth Stream catchment. In the surrounding catchments,

groundwater levels have risen relatively higher and are now below normal for the time of year, as illustrated on the graph below. With the end of October being dry again, it appears that the rise in Great Oolite groundwater levels in the Churn and Daglingworth catchments has slowed down, whereas elsewhere levels continued to rise. This may reflect differences in rainfall patterns and the nature of the aquifers, but the behaviour in the Churn and Daglingworth catchments is consistent with the known responsiveness of groundwater levels to rainfall and dry weather when aquifers are filling up during Autumn and Winter.

There is little data on groundwater levels in the Inferior Oolite aquifer in the Churn catchment, especially its headwaters where this aquifer has an important influence on river flows. Data from the Churn and adjacent Upper Thames catchments indicates that Inferior Oolite levels have also begun to rise but remain exceptionally low for the time of year.

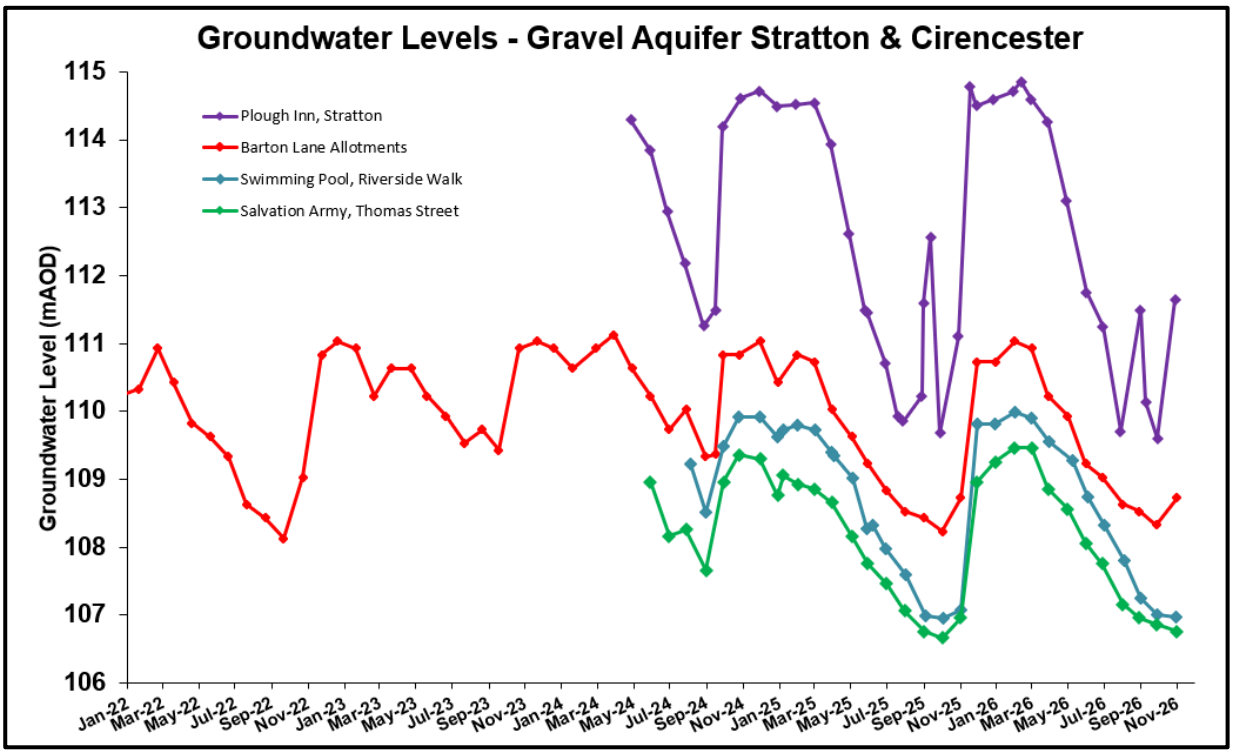


Previously, it was noted that levels in both the Great and Inferior Oolite aquifers at the end of September 2026 were slightly lower than at the end of September 2025. This pattern remains but with end October 2026 groundwater levels being noticeably lower than those in October 2025. This is despite October 2026 experiencing above average rainfall and groundwater level recovery starting and reflects the continued groundwater level decline during the dry start and middle of October.

The graph above also includes groundwater levels measured monthly in the shallow Gravel aquifer in the Barton Lane Allotments Well, illustrating the consistency in groundwater level patterns between the Gravel aquifer and the Great Oolite limestone aquifer. At the end of September, groundwater levels in the Barton Lane Well were higher than those measured at the end of September 2025, while at the end of October this year the level is the same as 2025, similar to the observations made for the limestone aquifer.

As noted previously, the characteristics of groundwater level fluctuations in the Great Oolite aquifer are similar to those of the Gravel aquifer in Cirencester but different from those in the Gravel aquifer at the Plough Inn in Stratton. 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. These differences are particularly clear from the graph below. The rise in groundwater levels in the Plough Inn well in August was followed by a decrease in September, when the well dried up, and then an increase in October. It is uncertain if the October water level reflects a true groundwater level or whether it has been affected by rainfall-runoff draining into the well, as inferred to be the cause of the rises in September 2026 and August 2025. However, it is also noticeable that groundwater levels in the Gravel aquifer in the Barton Lane Allotments well have

risen by the end of October, but levels in the Swimming Pool and Salvation Army wells have continued to decline, albeit at a slower rate. It is possible that the differences in groundwater level trends between the Plough Inn well and the shallow wells in Cirencester reflect increasingly longer times of response to the late October rainfall from Stratton downstream into Cirencester.

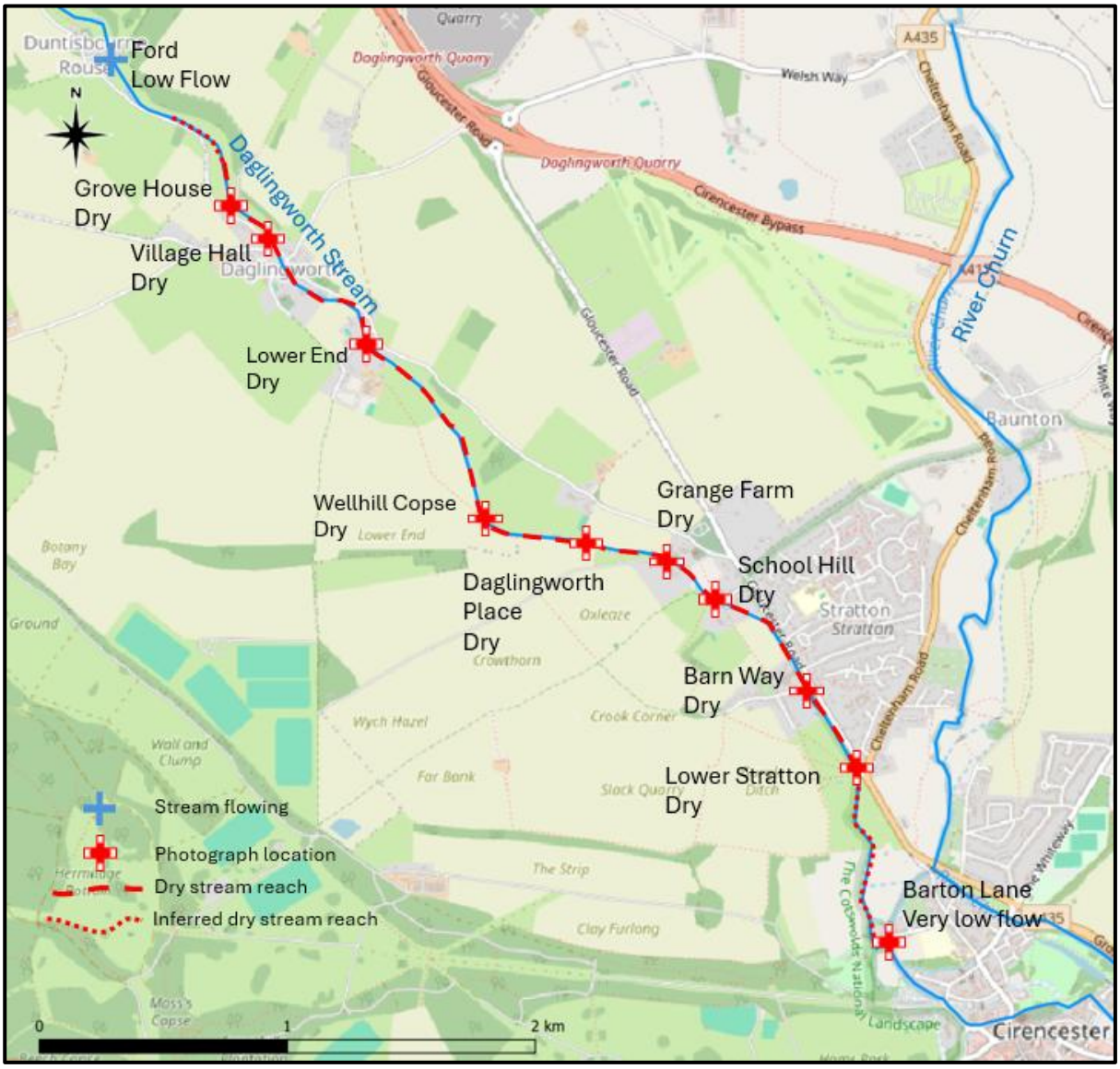


3. Daglingworth Stream & Gumstool Brook Flows

Following dry weather and declining groundwater levels in Spring this year, the Daglingworth Stream ceased to flow just upstream of Daglingworth Place in March. By the end of July, the stream ceased to flow further upstream between Church Road and Lower End in Daglingworth. With continued below average rainfall in August and September, and continued groundwater level decline, the stream ceased to flow at Daglingworth Village Hall. With continued groundwater level decline through the early and mid-October, and despite above average monthly rainfall, the Daglingworth Steam has ceased to flow upstream of Daglingworth village, as illustrated on the map below. This means that, at the end of October, there was no flow in the Daglingworth Stream from this point downstream to Barton Lane at the northern edge of Cirencester, a distance of 4.5 to 5 km. This range is given because the exact location where flow ceases has not been identified, but there is a low flow upstream at Duntisbourne Rouse ford.

A similar extent of no flow in the Daglingworth Stream upstream of Daglingworth village is only known to have been recorded on one previous occasion in late August 2025. Anecdotal evidence suggests that no similar extent of drying up has occurred back to 1996, which is based on information from local residents.

In its headwaters in Duntisbourne Abbots, the Daglingworth Stream decreased to very low flows by the end of July, with ponded water and no flow from the village spring, which continued to be the case at the end of August. At the end of September, however, the Duntisbourne Abbots spring was dry with very low flows occurring downstream into Daglingworth village. The situation at the end of October has improved slightly, potentially as a result of rainfall-runoff, with standing water in the village spring and very low to low flows downstream to Duntisbourne Rouse ford. As noted above, however, flow in the Daglingworth Stream then ceases before Daglingworth village. The total length of flowing stream from its headwaters to Daglingworth at the end of October is estimated as 3.5 km.



From July through to September, a new water pipeline was constructed by Thames Water from their Gloucester Road reservoir into northern Cirencester, with its route crossing the Daglingworth Stream near Daglingworth Place. Photographic monitoring of the stream crossing and adjacent trenches was carried out during construction enabling progress to be tracked as well as gain an understanding of the underlying geology at the stream crossing. In this specific reach of the Daglingworth Stream, lower permeability Forest Marble Mudstone will prevent any significant interaction between groundwater in the deeper limestone aquifer and the stream. Upstream and downstream of this reach, the limestone aquifer underlies the stream which means that when groundwater levels in the aquifer are high enough, groundwater and stream flow can interact.

Photographic monitoring of the pipeline crossing has continued after completion of the construction works to record how the reinstated stream and floodplain respond as groundwater levels rise and stream flow recommences. The photograph below shows the dry stream bed adjacent to Daglingworth Place on 29th October. Compared with the end September photo, the colour distinction between the darker coloured topsoil is now not apparent. There is, however, an orange-brown finer grained material in the stream channel, which could reflect sediment movement during the heavy rainfall events towards the end of October.

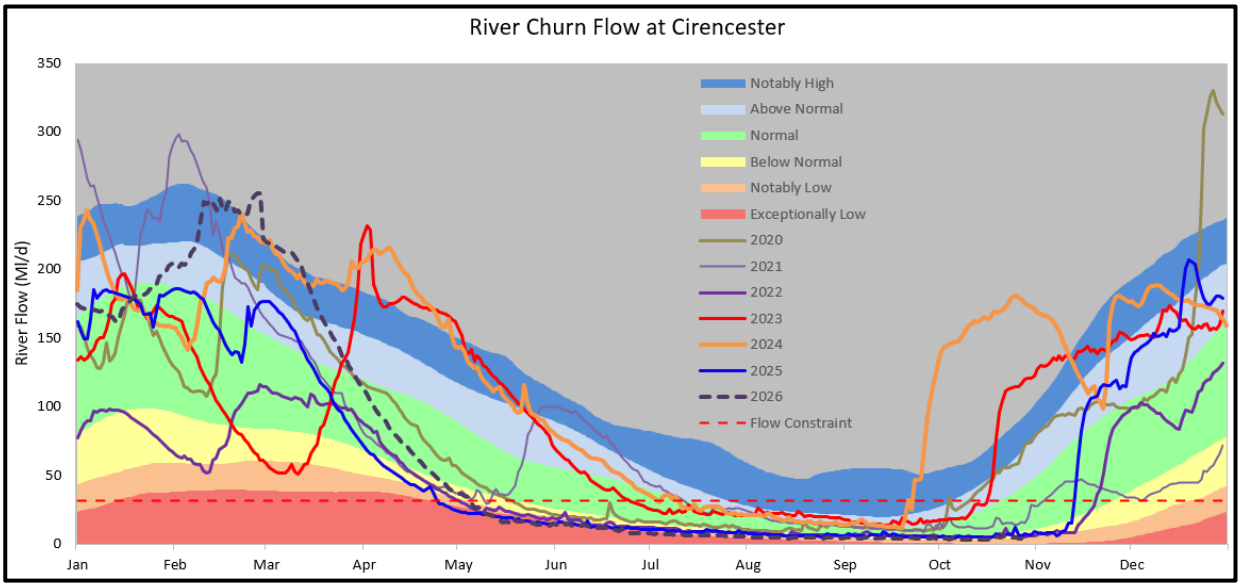


Flows in the waterways in northern Cirencester have continued to be low during September. Water levels in the Barton Mill Pound have not decreased significantly with low flow continuing into the Pound from the River Churn at Gloucester Street. This reflects the flow in the Churn being relatively unchanged and stable since the end of August. Similarly, 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 October groundwater level in the Gravel aquifer has fallen further to 2.3 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 has no flow, with ponded water and areas of dry channel exposed while other reaches of the stream are completely filled with vegetation. There is no flow downstream to the Gumstool Brook confluence with the western branch of the River Churn at the Waterloo car park.

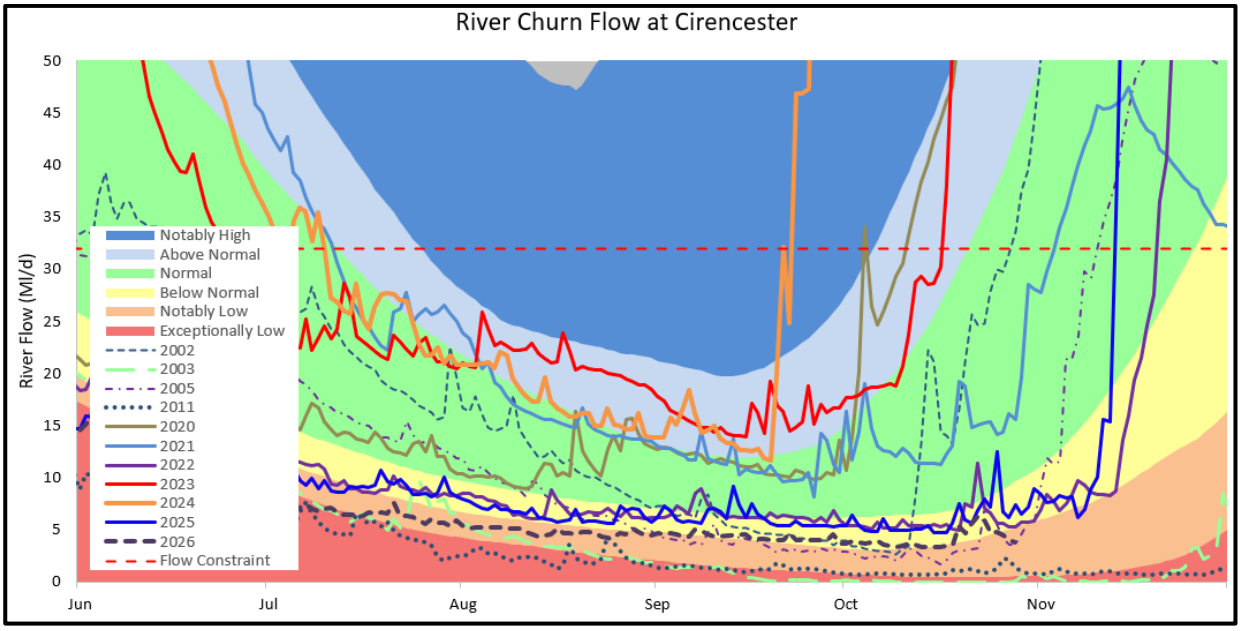
4. River Churn Flow

The trend of declining groundwater levels and river flows in the Churn that started in Spring has continued throughout the Summer as a result of the below average rainfall. At the end of September, data from the EA Cirencester gauging station recorded flow of around 4.6 million litres per day (Ml/d), equivalent to 0.053 cubic metres per second (m^3/s), with the end of October flow being 3.6 Ml/d, equivalent to 0.042 m^3/s, as illustrated on the graphs below. With much of the above average October rainfall falling towards the end of the month, there was a temporary increase in river flow to 6.3 Ml/d, equating to below normal flows. With the subsequent decrease in flow at the end of October, flows had decreased to notably low for the time of year. The previous significant spike in river flow during September has been removed from the record as it is considered to incorrect data.



The expanded plot below, focusing on Summer and early Autumn flows since 2020 and significant years earlier in the 21st century, shows that the end October 2026 flow is now notably low for the time of year. Although the Churn flow has remained relatively stable since the end of August, there has continued to be a slow decline at a time of year when normal flows at the end of October could be expected to be at least three times higher at around 10-12 Ml/d.

The plot below also highlights that the end of October flow in the Churn this year is lower than the flow in October 2025; lower flows compared with 2025 have occurred since May this year. As a result of the slow decline in river flow, the end October 2026 flow remains the 4th lowest end October flow in the 21st century, with flow in 2005 being very similar to 2026 flow. Considering the complete flow record for the Churn, which began in 1980, the end October 2026 flow is the 7th lowest on record. It is important to note that the lower river flows that occurred in 1990, 1995, 1996, 2003 and 2005 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.



Although the condition of the water environment and rainfall patterns will be different, it is of interest to note that the end October flow in the River Churn this year is similar to the October 2005 flows; groundwater levels were also similar in both years. It can be seen from the plot above

that the Churn recovered to normal flows during November 2005, indicating that rapid increases in flow can occur from currently low flows provided that there is sufficient rainfall.

Linked to the ongoing 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 October, with the river bed downstream of New Mills now being completely dry. There continues to be 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, but the completely dry river bed downstream of New Mills has not been recorded previously. 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 the previous dry and drought years highlighted above.

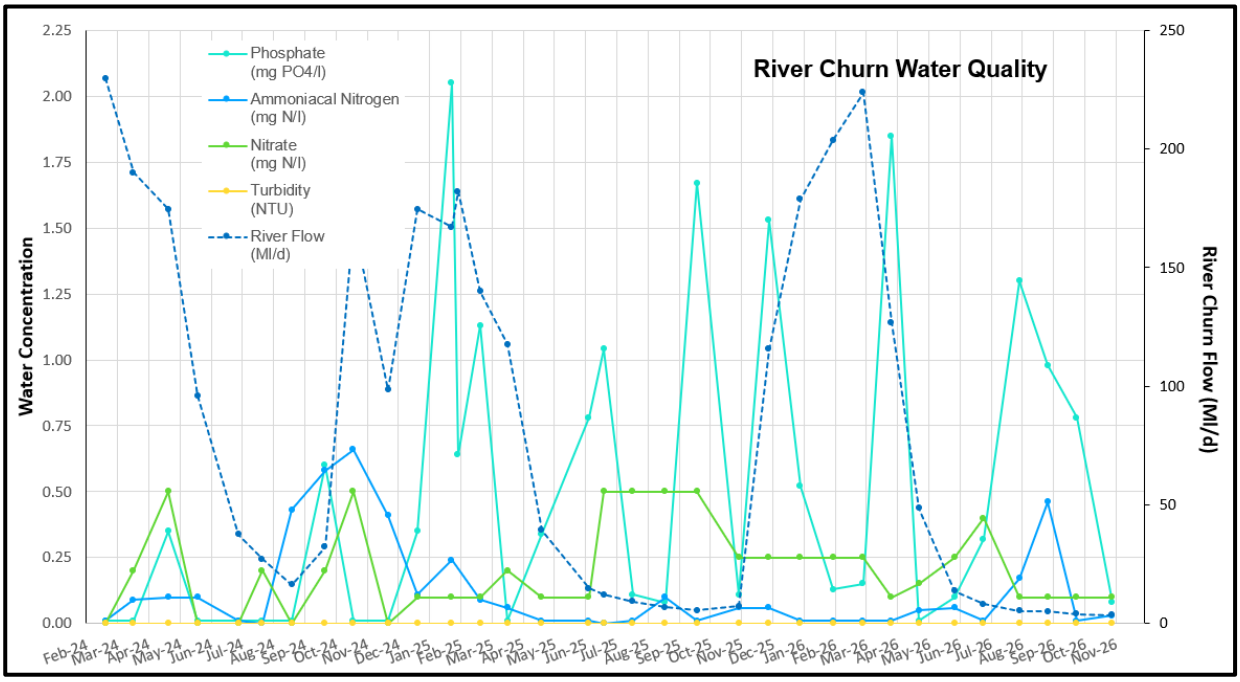
With the end of September flow in the Churn at the EA gauging station at 3.6 Ml/d, this continues to be below the 32 Ml/d flow trigger at which groundwater abstraction by Thames Water at Baunton for public water supply must cease. Thames Water confirmed that Baunton ceased abstracting to supply customers 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 conditions allow monitoring to be carried out safely when flows are high and there is sufficient water depth when flows are low .

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 September, phosphate and ammonia concentrations decreased, while low nitrate concentrations remained unchanged in both the Churn and the Gumstool Brook. In October, phosphate concentrations decreased even further in the Churn but increased slightly in the Gumstool Brook, while low nitrate concentrations again remained unchanged in both watercourses. Ammonia concentrations decreased slightly in the Churn but increased noticeably in the Gumstool Brook, although concentrations remained low. The ongoing data collection illustrates that intermittent concentration spikes can occur in these nutrients and be followed by significant decreases while low river flows remain stable or declining slowly, which has been the situation since the end of August. The significance of low river flows, fluctuating temperatures, sporadic rainfall events, aquatic vegetation growth, as well as the growth and distribution of bacteria in the stream sediments, on water quality continues to be uncertain. It is expected that these factors will influence nutrient concentrations in stream water, but with frequent intermittent concentration spikes occurring, establishing the importance of each of these factors is not straightforward.



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 are 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 generated by laboratory analysis rather than using on site measurements. A planned review of this data is yet to commence, but it should 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 data from the "water years" from October 2024 to September 2025 and October 2025 to September 2026, a comparison with the collated standards is summarised below:

Watercourse	Phosphate		Ammonia		Nitrate	
	2024-25	2025-26	2024-25	2025-26	2024-25	2025-26
River Churn	Good	Good	Good	High	High	Good
Gumstool Brook	Good	Good	High	Moderate	Good	Good

Consideration of these two successive "water years" shows that the qualitative comparison against the collated standards shows little difference between the two years, with the nutrient status of the water bodies mostly being Good to High. The only difference is the Moderate ammonia status for the Gumstool Brook in 2025-26, which is a deterioration from the High status of 2024-25. This deterioration results from the exceptionally high ammonia concentration

measured in May 2026 compounded by the high concentration measured in November 2025, although the causes of these elevated concentrations is uncertain.

For October 2026, a snapshot of the water quality health is summarized below. This shows that, considering nutrients, the aquatic health is High in both the Churn and Gumstool Brook. This is despite notably low flow occurring in the Churn and also conditions of very low flow in the Gumstool Brook under which poorer quality water might be expected.

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

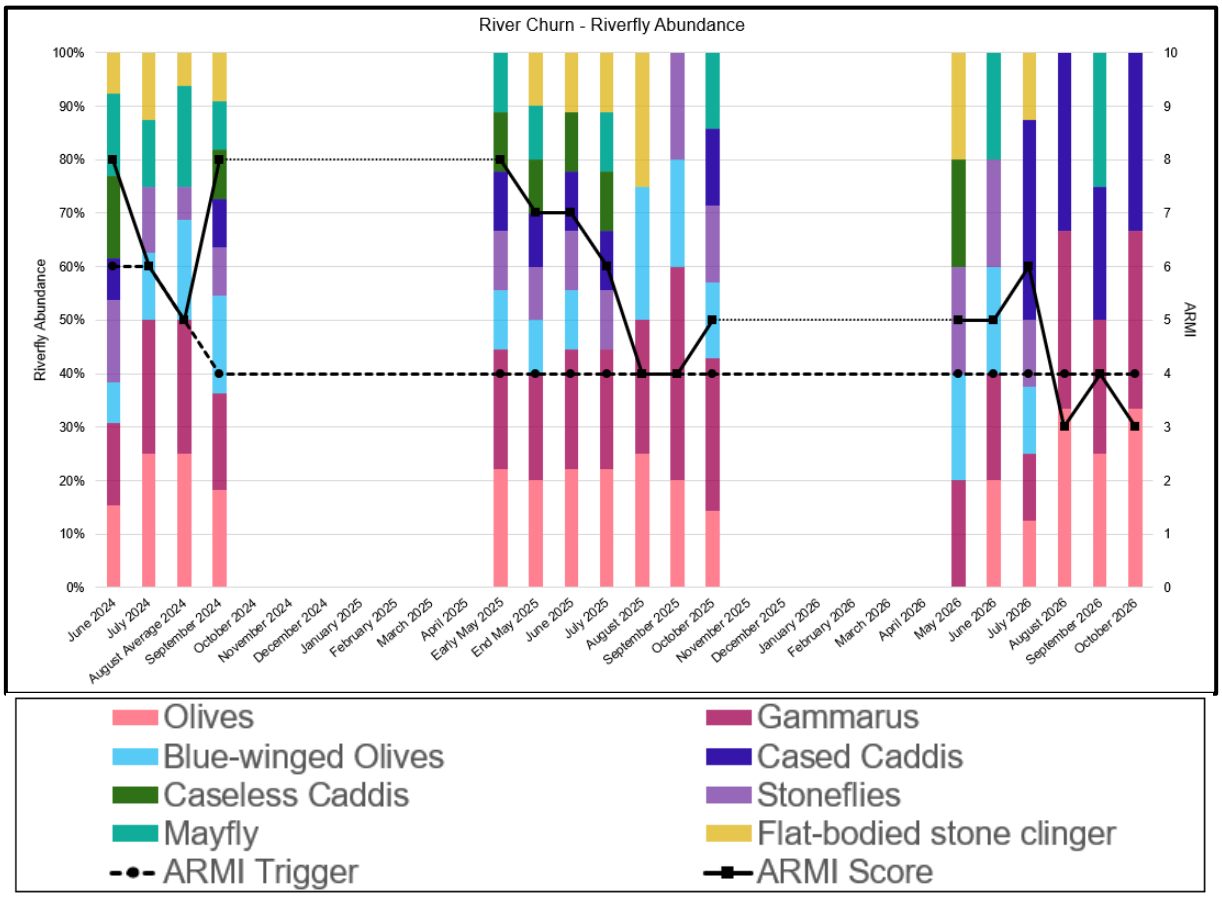
Based on measurements to date, it is not appropriate to make comparisons with water quality standards for faecal coliforms. For example, classification of UK inland bathing water quality reported by the EA is based on a statistical distribution of results gathered over a 4 year period for the May to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

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 samples have been collected from the Gumstool Brook since the end of July 2026, owing to the very low water levels, but the Churn result for the end of October shows the ARMI score (3) has decreased since September and is below the trigger level. Based on the results of riverfly monitoring over Spring, Summer and Autumn 2025, the poorer ecological health in August 2026 and now in October is not unexpected with the continued low and slowly declining river flow. However, with flows showing no significant change in September, the temporary increase in ecological health indicated by the ARMI score (4) was unexpected. There has been no deterioration in the end of month water quality that might explain the deterioration in ecological health, but it is possible that the significant rainfall in towards the end of October,

which temporarily increased river flow may have had an influence. Tracking the changes in aquatic ecological health against river flows and, in turn, rainfall and groundwater levels will continue to be important. 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 continues to be likely if the very low flows decrease further.



c) Environmental observations

Prioritised recommendations set out by CWG and FoGB for environmental enhancement in and around Cirencester's waterways continue to be delivered, focused on Jack Gardners, Hereward Road, the Abbey Grounds and City Bank. These have been delivered with support from volunteers, including 29th Regiment The Royal Logistics Corps and SARA (Severn Area Rescue Association). Environmental enhancements were delivered in October as part of the Cirencester Town Council Green Spaces Strategy, focused on reducing over-shading by trees along the Churn in the Abbey Grounds 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).

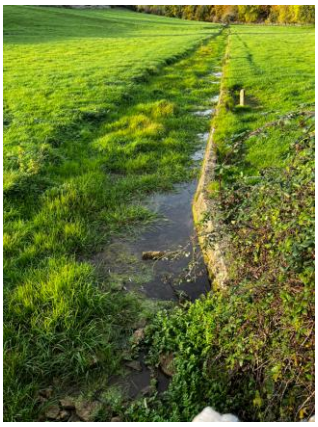
6. Stream Monitoring Photographic Record

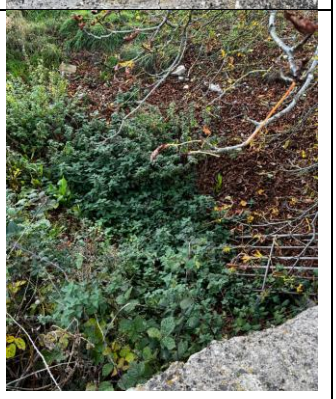
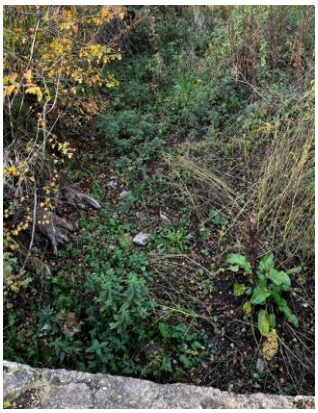
This month the River Churn and Daglingworth Stream photographs were collected on 29th of October 2026.

- The source of the Daglingworth stream continues to have a dry stream bed with ponded water in the village spring, while the confluence of springs is reduced to a very low flow.
- The flow in the Daglingworth Stream from the Duntisbourne Abbots spring downstream towards Daglingworth village remains at a very low to low flow.
- Both of the woody debris leaky dams upstream of Daglingworth look to be in good condition. The stream has static puddled water present.

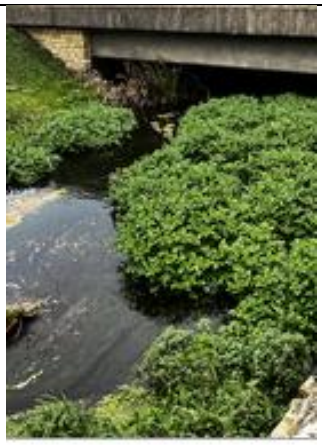
- The flow in the Daglingworth stream now ceases upstream of Grove Lane, Daglingworth near the woody dams. There is no flow in the stream from this point all the way to Barton Lane.
- The measured daily average flow in the River Churn, measured by the EA, was 3.80 Ml/d (0.044 m^3/s) on 29th October when 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.
- Flow from the Churn into the Barton Mill Pound remains low.
- 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 very low flow in the Gumstool Brook along Riverside Walk, but it ceases to flow before its exit from the culvert in the Abbey Grounds. The Gumstool Brook Balancing Stream has significant vegetation growth and a dry stream bed.
- The River Churn through the town has a very low flow along its eastern branch with static ponded water upstream of New Mills and a completely dry bed downstream, with 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.

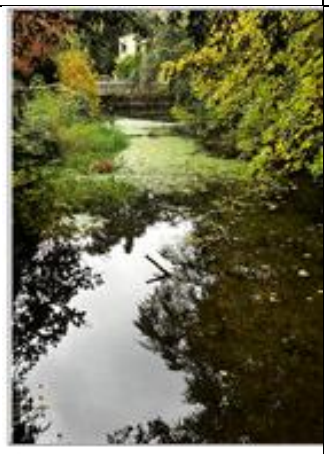
1a. Daglingworth Stream upper source north of Duntisbourne Abbots. The stream bed is dry with some signs of recent flow (potentially road drainage). There is extensive vegetation present.		1b. Duntisbourne Abbots village spring. There is clear static (ponded) water at the rear of the spring.	
2. Duntisbourne Abbots, Daglingworth Stream downstream of inferred confluence of spring sources. There is a 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. The level is higher than normal – perhaps due to vegetation blockage		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. Visually looks like 'a very low flow' or 'no flow' in the stream. Extensive vegetation is present in the riverbed.		6b. Daglingworth Stream Leaky Dam #2, upstream of Grove Hill Lane. The dam is in good condition. There is no flow in the stream just muddy puddles.	
6c. Daglingworth Stream Grove Hill bridge. No flow is observed in the stream. There are static clear puddles of water.		7. Daglingworth Stream, Village Hall The stream is dry. There is damp cracked mud present in the stream bed.	
8. Daglingworth Stream at Lower End road bridge. There is no flow, and the stream bed is damp mud.		9a. Wellhill Copse, Daglingworth Stream in equestrian fields. The stream is dry.	

10. Daglingworth Place ford, Daglingworth Stream. The stream is dry.		11. Grange Farm bridge, Daglingworth Stream. The stream channel is dry. There is a lot of vegetation present.	
12. School Hill bridge, Daglingworth Stream. The stream channel is dry. No signs of any recent flows.		13. Stratton End (private road), Daglingworth Stream. The stream is dry upstream and downstream of the road bridge. There is significant vegetation in the stream bed.	
14. Barn Way bridge, Daglingworth Stream. The stream channel is dry with some vegetation present and indications of recent water flow (potentially road drainage).		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 vegetation present.		17a. Daglingworth stream downstream of Bathurst estate boundary wall Static puddled water present.	

17b. Daglingworth stream downstream of Bathurst Estate boundary wall Very low flow. Lots of leaf and tree debris present.		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, lot of duckweed		20. Gumstool Brook - alongside riverside walk Very low flow, great deal of duckweed	
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 Stream is dry.	
23. Balancing stream at Powell's school towards Salvation Army building Stream is dry with lots of vegetation present.		24. River Churn and Stratton Meadow at Bomford Cottage Low flow in the River Churn. Stratton Meadows is dry	

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 both sluices.	
25c. River Churn at Glos. St bridge measuring gauge Water level just below 0.1m		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 Guage showing just below 0.1m		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, weed and duck weed visible		29c. Gauge by footbridge in Mill Pound High and dry! Numbers not very visible (sun bleached)	
31. River Churn upstream side of Gooseacre lane Low level and flow, riverbed very visible		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 masking water, low flow		33c. River Churn downstream of Spitalgate Lane bridge Low flow	
34a. Hereward Rd trash screen Low water level, some trash, lot of leaves		34b. River Churn upstream of Hereward Rd. trash screen. Low level and flow	
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, lot of vegetation	
35. Stream flowing into Abbey Grounds & lake Low flow		36a. Weir at stream outlet from Abbey lake Low flow out of lake	

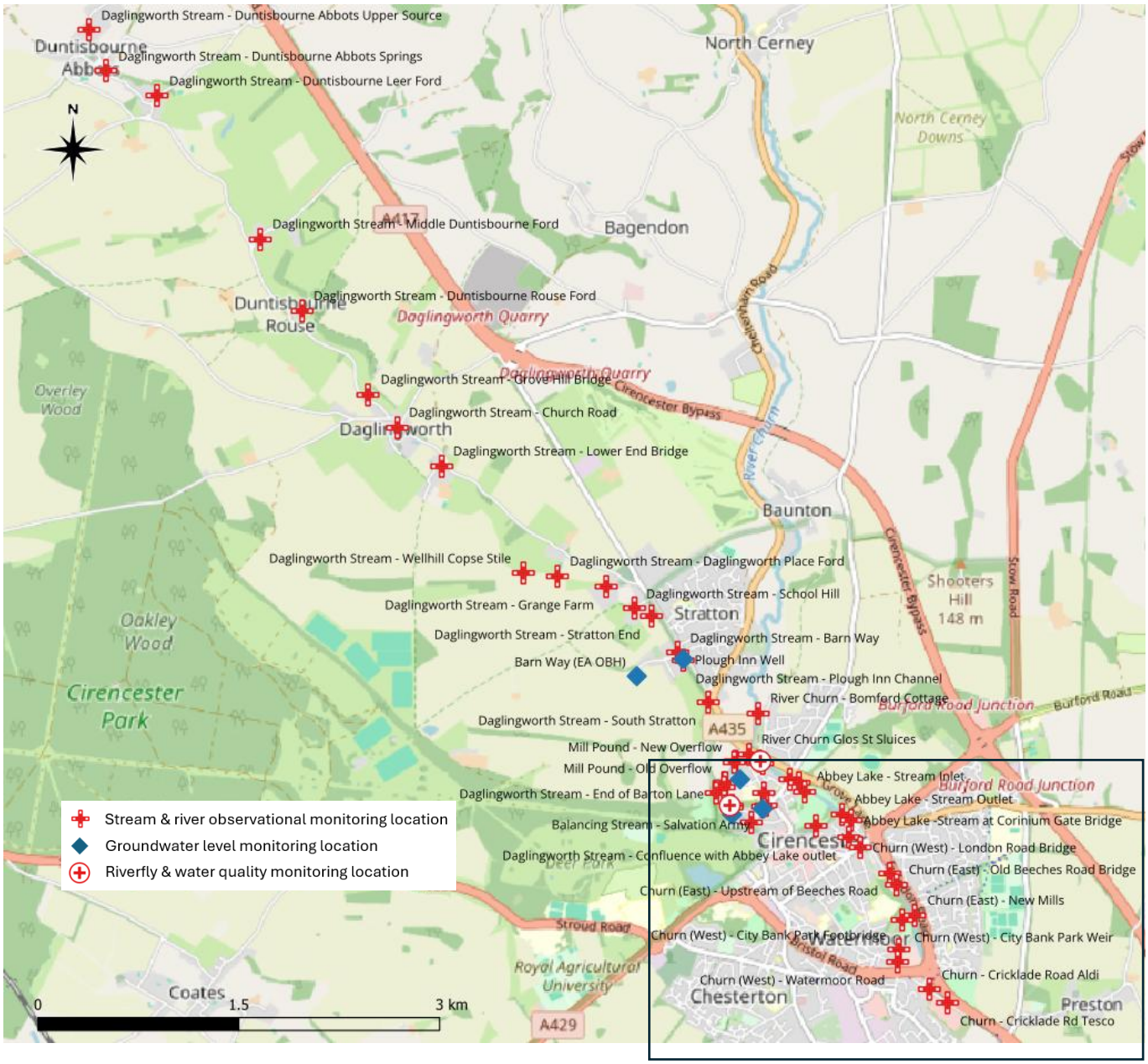
36b. Footbridge at stream outlet from Abbey Lake Low flow		37. Abbey lake outlet stream at Corinium Gate bridge Low flow	
38a. Gumstool culvert outlet in Abbey Grounds No flow, static water, (dry in many places further downstream)		38. Gumstool Brook in Abbey Ground towards Waterloo Dry areas, with a pool of water	
39a. Gumstool Brook alongside Waterloo flats looking upstream No stream visible, much vegetation		39b. Gumstool Brook confluence with Abbey Lake outlet (Waterloo car park) 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, rubbish visible		41b. River Churn downstream of old Beeches Road bridge Mostly dry with odd puddles with no obvious flow, rubbish visible	
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 *(Looked thru hole in fence, lake in New Mills site is dry in area near sluice)*		43c. River Churn - New Mills downstream Dry river bed	
45. River Churn at City Bank Park footbridge Low flow, some vegetation		46.River Churn at Watermoor Point car park Low flow, duckweed and other vegetation	

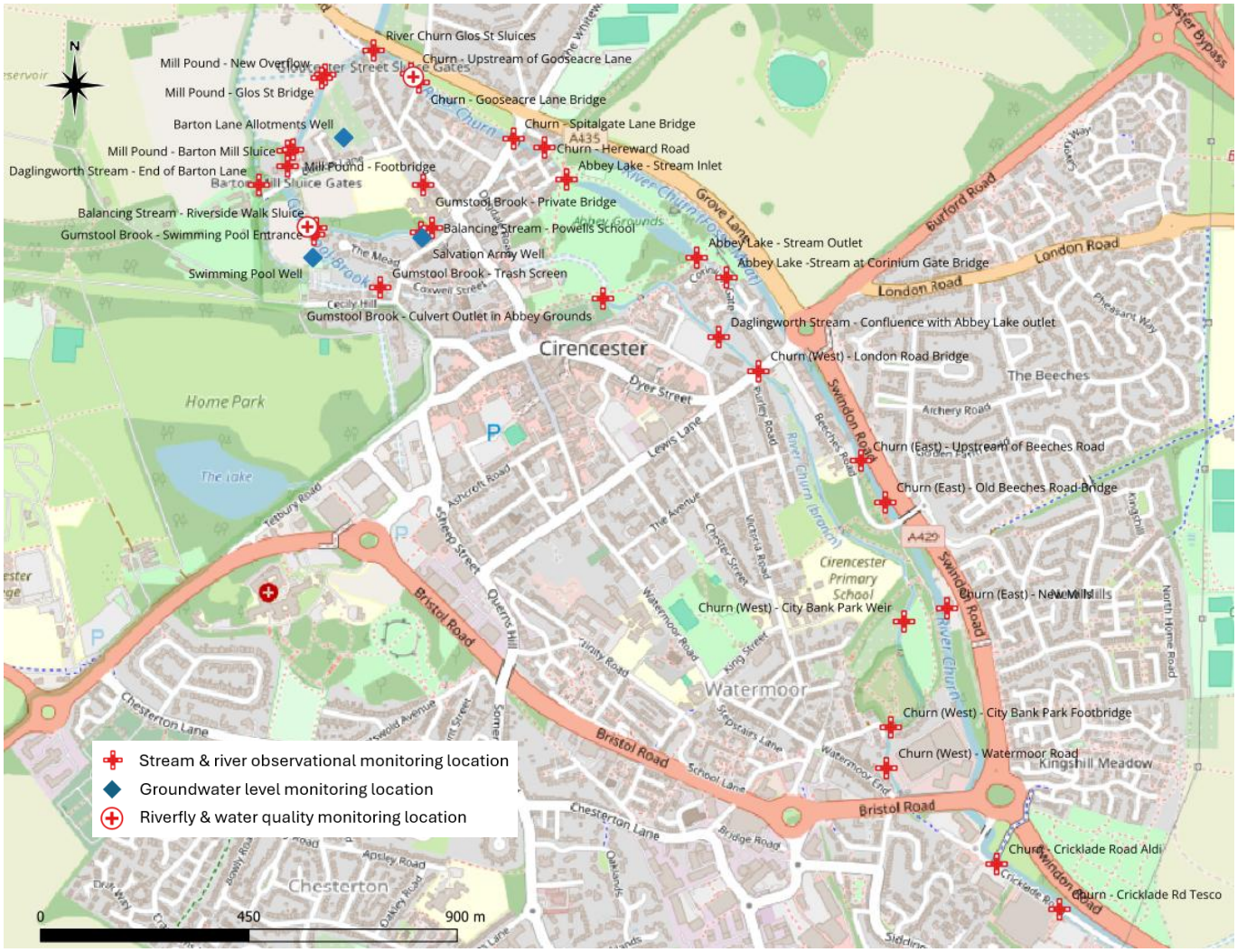
47. River Churn at Cricklade road opposite Aldi River more visible due to clearing work much vegetation, slow flow		48. River Churn at Cricklade road opposite Tesco, slow flow	

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