

1.1 Description of the Proposals

October 2022



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1. BACKGROUND

1.1 Executive Summary

South West Water is applying for a drought permit under section 79A of the Water Resources Act 1991 ("**WRA 1991**") to make temporary amendments to abstraction licence 15/48/18/S/40 as issued on 8 April 1987 ("**the Licence**") relating to abstraction from the River Fowey at the Restormel Water Treatment Works ("**WTW**"), for the purposes of replenishing the storage levels at Colliford Reservoir.

The actions set out in this permit will offer support across the entire Colliford Water Resource Zone ("**WRZ**") in response to the Exceptional Shortage of Rainfall ("**ESOR**") from November 2021 to the end of September 2022, which presents an anticipated future risk to the security of supply in 2023.

This permit applies for (i) an increase to the annual abstraction volume in the calendar year of 2022 from 28,900 MI to 32,200 MI and (ii) to abstract 3600MI from 1 January 2023 to 31 March 2023 inclusive, which would not count towards the annual abstraction allowance under the Licence in 2023.

In accordance with paragraph 1.3.5 of the Drought Permit Guidance, South West Water is applying for this drought permit to reduce the risk of drought permits or orders being required in Spring/Summer 2023, to assist the recovery of water supply resources which have been excessively depleted as a result of drought and to assist the maintenance of water supply in drought affected areas.

This permit is part of a suite of measures currently in progress to support winter refill of Colliford Reservoir, which is the strategic reservoir in the Colliford WRZ.

1.2 Background

South West Water's Drought Management Plan ("**the Drought Plan**"), which has been approved by Defra, sets out the actions and interventions which will be used to reduce the demand for water and options to increase access to water during times of drought.

The Drought Plan details the actions expected to be taken at various "Drought Levels" based upon benefit, confidence and the need to support the environment (e.g. watercourses, waterbodies, and ecology). Our approach has meant that up until 2022, we have avoided the need to impose demand restrictions for 25 years.

This permit application is required due to exceptionally below average rainfall between November 2021 and the end of September 2022. The amount of rain that has fallen in the Colliford WRZ for this period is the 10th lowest since 1891.

The consequence of this period of ESOR has been significantly reduced recharge and higher than normal environmental releases during 2022. This means we are currently projecting a risk to supply in 2023, as recovery to acceptable storage levels by 1 April 2023 will not be possible without intervention.

Restormel WTW Drought Permit Application 2022

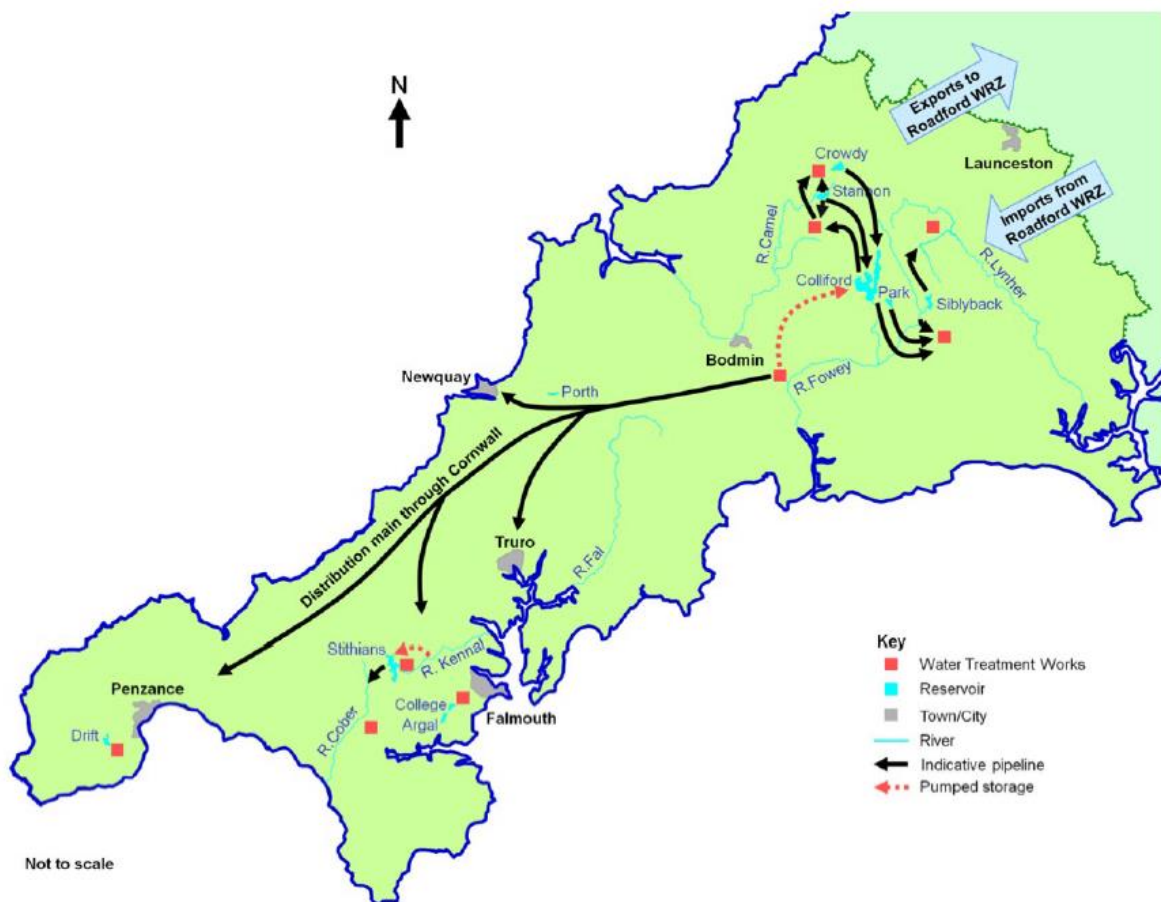
By way of explanation, even if we were to receive 100% long term average ("LTA") winter rainfall, the Colliford Reservoir water level would only recover to around 60% by 1 April 2023. 80% LTA winter rainfall would provide recovery to around 40% and a reasonable worst-case scenario of 66% LTA winter rainfall would provide recovery to only around 25%.

The Colliford WRZ serves a population of c.567,000 people or c.276,000 domestic and commercial properties.

Restormel WTW, within the Colliford WRZ is the largest WTW operated by South West Water, capable of producing a maximum output of 100Mld. The Colliford system is conjunctive and comprises a mixture of sources and assets supported by the large strategic reservoir at Colliford.

Water abstracted from the River Fowey, at Restormel WTW, once treated, supplies the local area, together with transfer along the Cornwall Spine Main, to large parts of Mid and West Cornwall (c.65% of the total population of Cornwall). In periods of high demand, the supply area can be further increased to provide support to smaller WTW. As such the Restormel WTW and Colliford Reservoir act as the central regulators of the Colliford WRZ.

Figure 1 - Map showing the Colliford WRZ



The Restormel abstraction point is used as a pumped winter recharge option for Colliford Reservoir with any volume for this activity included within the daily and annual limits proscribed

by the Licence. Water released from Colliford Reservoir will flow to Restormel WTW allowing it to be abstracted for public water supply.

Routine operational levers to reduce demand on Restormel WTW are dependent on a combination of available raw water resource and production headroom at supporting reservoirs and WTW (Stithians, Wendron, Drift and Delank). During 2022, all reservoirs in the WRZ have experienced reduced levels due to the exceptional shortage of rainfall across the region, a combination of reduced in-year refill and higher than base year demand. As such it has been necessary to draw down Colliford Reservoir by abstracting more at Restormel WTW to support supply to the region.

Colliford Reservoir is a multi-season reservoir, it is designed to provide resources for more than one summer. Whilst the reservoir is resilient to a normal dry summer, the drier than average winter, spring and summer from November 2021 throughout 2022 has resulted in significant draw down of resources. Whilst the reservoir is large (28,540 MI) and is in an area with normally high annual rainfall (Bodmin Moor), it has a small catchment area of only 12.4 km².

The Colliford Reservoir is the largest and most significant store of water resources in the region and is fundamental to the operation of the system of reservoirs and pipes which keep our customers supplied.

In July 2022 the Colliford Reservoir crossed Drought Level 1. Using rainfall, storage and demand forecast we notified our customers on the 15 August that a temporary use ban ("**TUB**") was required for Colliford WRZ, as we had forecasted that the Drought Level 2 stage noted in our Drought Plan would be reached. This notification was published ahead of reaching Drought Level 2 to ensure we were doing everything we could to protect the environment. Our notice came into effect on 00:01 on 23 August 2022.

The proposed permit, if granted, will enable us to abstract additional volume from the River Fowey at the Restormel WTW. In accordance with the order of implementation set out within our Drought Plan, this Level 1 action provides the highest yield with the highest confidence during the winter to supplement natural winter refill of Colliford Reservoir.

We crossed the threshold for Drought Level 2 at the end of September 2022. Undertaking the drought measures in the order set out in our Drought Plan will reduce the risk of further drought management actions being necessary for the summer of 2023. However, given how critical Colliford Reservoir is to supply in the Colliford WRZ, South West Water will continue to regularly review the need to apply for further drought management measures in order to ensure uninterrupted supply to customers and to meet demand.

The drought permit application documents

This document is part of a suite of documents which form the application for the drought permit as set out in Table 1. The structure and contents of the documents follows the requirements set out in **Appendix E** of the EA guidance on drought permits and drought orders ("**The Drought Permit Guidance**"), which was issued in 2019 and revised in 2021, with some adjustments to the sequence of documents / sections.

Table 1 Document structure for drought permit application

Documents: Drought Permit Proposals		
1	1.1 1.2 1.3 Appendix 1 Appendix 2	Description of Proposals Draft Permit Drinking Water Services Report 2022 – Operations Supporting Evidence Restormel Abstraction Licence National Security Notice
2	2.1 2.2	Statement of Reasons Case for Exceptional Shortage of Rain (ESoR)
3	3	Restormel Drought Permit Environmental Assessment Report
4	4 Appendix 1 Appendix 2	Evidence the Company has followed its Drought Plan Enhanced Media Campaign Leakage and pressure management
5	5	Actions taken to reduce demand and conserve supplies in line with Drought Plan
6	6 Appendix 1 Appendix 2	Consultation Process Formal Notice Email and letter to Stakeholders

1.3 Objectives of this document

This document provides a description of the proposed drought permit as required in the Drought Permit Guidance.

A draft drought permit is included at **Document 1.2 Draft Permit**.

1.4 Drought Permit Guidance

This set of drought permit application documents have been prepared with reference to the Drought Permit Guidance.

1.5 Application checklist for accompanying information

The Drought Permit application form includes a checklist of accompanying information. The items on the checklist are to be found in the set of documents as set out in Table 2.

Table 2 Application Checklist

Checklist requirement	Application document reference	Section Number (where relevant)
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1	A description of the proposals	Document 1.1	
2	A draft drought permit	Document 1.2	
3	A statement of reasons	Document 2.1	
4	A location map	Document 1.1	
5	Navigation authority permission	N/A	
6	Notices to local councils	Document 6	
7	Notices to protected persons	Document 6	
8	Notices to other water companies	N/A	
9	Notices to navigation authorities	N/A	
10	Notices on internal drainage boards	N/A	
11	Advertisement in local newspapers	Document 6	
12	Advertisement in London Gazette	Document 6	
13	Description of arrangements for public inspection	Document 6	
14	Current abstraction licence	Document 1: Appendix 1	
15	Statutory instrument or local Act of Parliament	N/A	
16	Water Shortage Strategy	Document 4	
17	Environmental Report	Document 3	
18	Consultation comments received	Document 6	
19	Objections received and details of agreements with objectors	Document 6	

2. DESCRIPTION OF THE PROPOSALS

2.1 Overview of catchments

Colliford Reservoir is an important source of water supply in South West Water's Colliford WRZ in the South West of England.

South West Water currently abstract water from the River Fowey at the Restormel WTW. Abstraction at Restormel WTW is part of a winter storage scheme, supporting natural refill and inflow, whereby water is stored in Colliford Reservoir and Siblyback Reservoir, which can then be released to the River Fowey to support abstraction at Restormel WTW. This release is made via the St Neot River in the case of Colliford Reservoir.

The amount of water available to abstract for pumped storage is constrained by both the river flow and the amount of water needed at Restormel WTW for public water supply. Therefore, operationally this is only undertaken when flows are sufficiently high to support winter refill without releases.

The Water Framework Directive ("**WFD**") river water body of relevance is the Lower River Fowey water body (GB108048001420).

There are no WFD lake bodies of relevance.

Eight additional WFD river water bodies, and four additional WFD lake water bodies are also located within the immediate Fowey catchment:

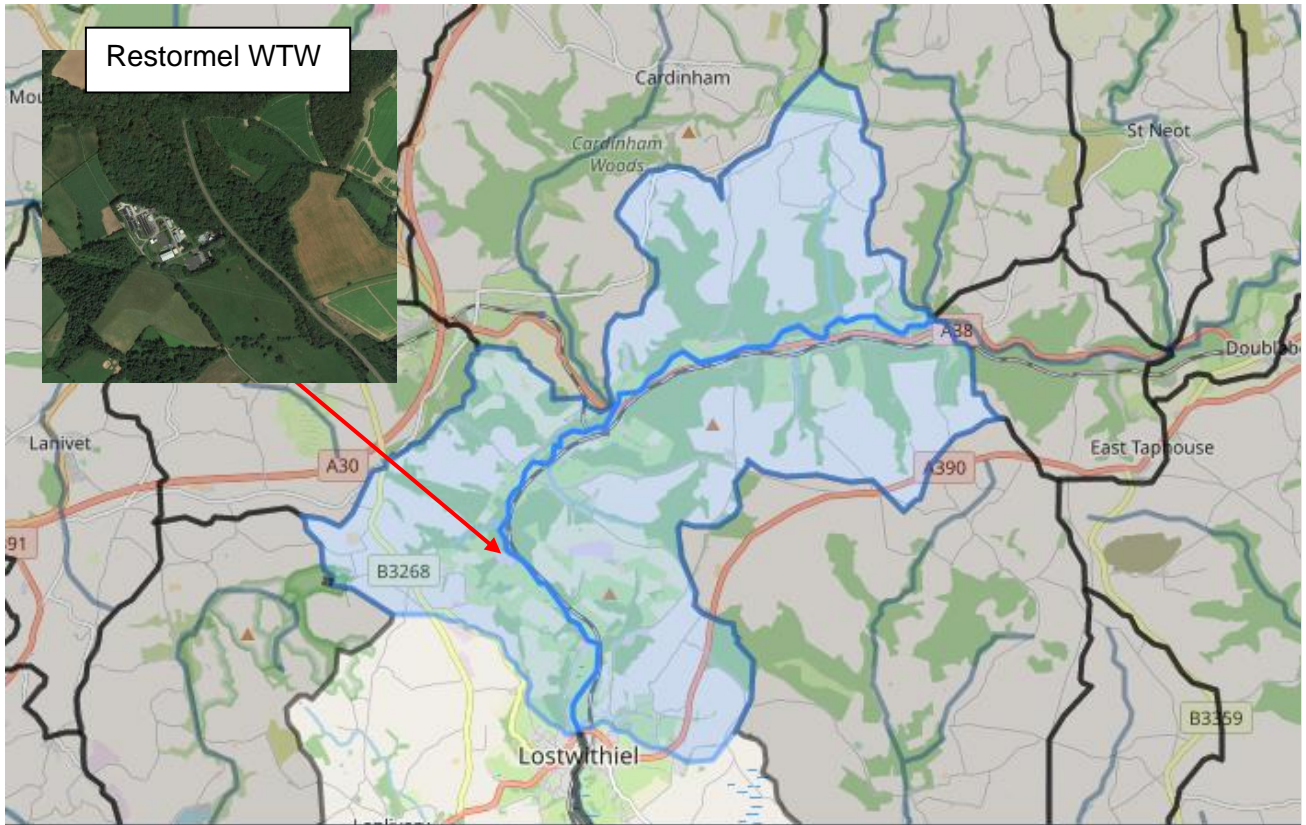
- River Water Bodies
 - a. Cardinham Water (GB108048001450)
 - b. Upper Fowey (GB108048007650)
 - c. Fowey (Warleggan to St Neot) (GB108048001410)
 - d. Lerryn River (GB108048001400)
 - e. Pont Pill (GB108048001340)
 - f. St Neot River (GB108048007640)
 - g. Trebant Water (GB108048001380)
 - h. Warleggan River (GB108048007630)

- Lake Water Bodies
 - i. Colliford Lake (GB30846225)
 - j. Dozmary Pool (GB30846232)
 - k. Red Moor Pond (GB30846317)
 - l. Siblyback Lake (GB30846262)

It is considered that these 12 additional water bodies will not be affected hydrologically by the proposed drought permit and that the downstream limit of potential impacts of the drought permit is approximately 2km downstream, at the tidal limit in Lostwithiel.

The overall classification of the Lower River Fowey (GB108048001420) was Good in 2019.

Figure 2 - Map of the Lower River Fowey (GB108048001420) water body, including location of Restormel WTW



The Lower River Fowey catchment is essentially rural in character, being mostly grassland, woodland or arable land.

2.2 Abstraction from the River Fowey at Restormel

2.2.1 Restormel WTW Licence

South West Water’s abstraction licence at Restormel WTW (licence reference 15/48/18/S/40) was issued on 8 April 1987. The Licence permits South West Water to abstract up to 110 MI per day ("Mid"), with a maximum abstraction allowance of 28,900 MI per calendar year. This abstraction is used for a combination of public water supply, and pumped storage at Colliford Reservoir (insofar as river flows allow).

The River Fowey at Restormel has a large catchment; it is not just reliant on water released from Colliford Reservoir.

2.3 The intended drought permit

2.3.1 Context

In accordance with option C1 of the Drought Plan this drought permit is necessary to improve winter storage thereby securing water for public supply in 2023. Alongside other supply side and demand side interventions it represents the highest benefit and highest confidence Level 1 option, whilst minimising the potential impact to the environment.

This application seeks to increase the annual abstraction volume from 28,900 MI to 32,200 MI until 31 December 2022, and to abstract 3600MI from 1 January 2023 to 31 March 2023 inclusive, which would not count towards the annual abstraction allowance in 2023.

An Environmental Assessment Report (**Document Ref: 3**) has been prepared to support the drought permit application.

The water levels in Colliford Reservoir are at the lowest recorded since impoundment in the mid-1980's: 17.4% as at 08:00 on 12 October 2022. The exceptionally dry weather from November 2021 to date resulted in reduced 2021/22 winter recharge and increased draw-down of the reservoir storage throughout spring/summer 2022 with minimal inflow.

The forecast for a dry autumn/winter in 2022 combined with the current reservoir low level, represent a risk to public water supply in 2023. Given the ESOR seen throughout 2022, even if we were to experience the same conditions as seen in the wettest winter on record, we would only achieve a net gain in storage between November and April of 43%, Colliford Reservoir is presently (as at 12 October 2022) at 17.4%.

This permit application would provide up to an additional 24% of net capacity by April 2023. Whilst this application does not allow us to achieve our target storage, it provides the major contribution, and we are simultaneously progressing additional supply and demand side activities for 2023, as well as other Drought Actions outlined within the Drought Plan.

The proposed application would not require any additional infrastructure.

2.3.2 Start and end dates

We would like the permit to increase abstraction to commence on the 1 November 2022, however the proposed start date is the date of determination by the Environment Agency.

The proposed end date would be six months after the date that the permit starts, or a date mutually agreed with the EA. This is suggested to be when Colliford Reservoir has returned to 80% (maintained for 5 days) or 1 April 2023 whichever is the sooner.

2.3.3 Proposed drought permit

The proposed drought permit will involve the following amendments to the abstraction licence:

- a) Increase the maximum annual abstraction allowance to a total of 32,200 MI until 31 December 2022
- b) Abstract 3600MI from 1 January 2023 to 31 March 2023 inclusive, which would not count towards the annual abstraction allowance under the Licence in 2023.

The existing safeguards are:

Restormel WTW Drought Permit Application 2022

- 1 No abstraction can take place when the flow in the river is less than 104.28 Mld unless additional water is released from Colliford and/or Siblyback Reservoirs to compensate.
- 2 When the flow in the river is above 104.28 Mld then no more than half the additional flow may be abstracted unless additional water is released from Colliford and/or Siblyback Reservoirs to compensate.

The existing safeguards will remain in place, and the daily abstraction limit of 110MI will not be varied.

The following safeguards are also proposed:

- 3 Provision to release additional flows from Colliford Reservoir (or potentially a reduction in the drought permit abstraction rate) in the unlikely event of a pollution incident, if there is evidence of ecological distress, and/or if reduced flows are considered to be having detrimental environmental consequences on downstream waterbodies.
- 4 Provision to undertake controlled release(s) of additional flows from Colliford Reservoir during the salmonid spawning season if the pre-implementation walkover survey identifies the presence of salmonid redds downstream of Restormel potentially at risk of exposure.
- 5 Provision to mobilise a fish rescue team should significant numbers of migratory fish become trapped/stranded in between obstacles downstream of Restormel during periods of low flow. It is likely that a fish rescue would only be required should these fish be considered at high risk of mortality as a result of stranding during periods of low flow (e.g. due to elevated risk of predation) with no rainfall or river flow increase forecast.
- 6 South West Water will maintain a high level of operational and environmental reporting to the Environment Agency

In summary, condition 1 of the draft permit (set out at section 4.3.3(a)) will allow us to maximise daily abstraction from Restormel from 1 November 2022 until 31 December 2022 at 110Mld. Condition 2 of the draft permit (set out at section 4.3.3(b)) would permit abstraction of 40Mld from 1 January 2023 until 31 March 2023, based upon the engineering limits of the installed pumps, outside of the annual abstraction limit. This will help to maintain water in Colliford Reservoir for the benefit of the environment and public water supply.

2.4 Further conditions of the permit

South West Water's monitoring and mitigation plan for the proposed permit is included with the Environmental Assessment Report (**Document 3 Colliford Reservoir Drought Permit Environmental Assessment Report**). South West Water encourage the Environment Agency to consider this before concluding what conditions may be necessary for this permit.

South West Water anticipate that further to this application, discussions with the Environment Agency will be held to review the need for further conditions attached to this permit.

2.5 Summary of impacts

The drought permit is predicted to have Moderate impacts on the Lower River Fowey water body (GB108048001420) for upstream fish passage for Atlantic salmon, brown trout, adult eels and for habitat availability for ammocoete life stage of lamprey in comparison with the baseline scenario.

The effect of the drought permit is predicted to be minor on all other receptors in comparison with the baseline.

An environmental statement setting out a summary of the environmental assessments which have been undertaken for this drought permit is included as **Document 3 Colliford Reservoir Drought Permit Environmental Assessment Report**.

The key documents with the environmental assessments and monitoring plans are:

3. Drinking Water Services Report 2022 – Operations Supporting Evidence (**Document Ref: 1.3**)
4. Colliford Reservoir Drought Permit Environmental Assessment Report (**Document Ref: 3**)

3 COPY OF ABSTRACTION LICENCE

A copy of the abstraction licence is included as Appendix 1.

4 REFERENCES

Environment Agency, 2021, Drought permits and drought orders – Supplementary Guidance from the Environment Agency and Department of Environment, Food and Rural Affairs.

South West Water, 2022, Drought Plan, September 2022

5 FIGURES

Figure 1 Map showing the Colliford supply area

Figure 2 Map of the Lower River Fowey (GB108048001420) water body, including location of Restormel WTW

6 TABLES

Table 1 Document structure for drought permit application

Table 2 Application Checklist