WSX-C15 – Enhancement costs – water investigations

> Response to Ofwat's PR24 draft determination





Representation reference: WSX-C15

Representation title: Enhancement costs – water investigations

CONTENTS

1.	Summary	1		
2.	Ofwat's approach to setting allowances	1		
3.	Required adjustment to cost allowance	1		
4.	Rationale	1		
4.1.	Need for investment	2		
4.2.	Model assessment	2		
4.3.	Best option for customers	3		
4.4.	Cost efficiency	5		
4.5.	PCD	7		
5.	Why the change is in customers' interests	7		
6.	Conclusions / Summary	8		
Annex 1 – WINEP Scoping proforma (costing worksheet)				

1. Summary

This document summarises our response to Ofwat's draft determination assessment for water investigations. Our business plan identified a cost of £19.88m which has been reduced by 48% in the Draft Determination. For the reasons summarised in this document, we request that Ofwat allows a revised allowance of £18.11m (as set out in Table 1 below).

We provide further information on the need for this investment by identifying the legal requirements and underlying legislation driving these investigations. We then set out our views on Ofwat's cost modelling approach identifying where we have significant concerns over the techniques used and the resultant outcomes and would request a further review. The following section provides evidence supporting why we feel the investment is the best option for customers, ensuring that decisions on future investment are made with the best possible scientific evidence and recognising our customers' support for this. Finally, we describe the standardised costings approach we have used for both PR19 and PR24 across the environmental investigations which we hope is useful information to support our request for a further review.

Table 1 – Summary of changes requested

Data table line	Draft Determination allowance	Our requested allowance		
CW3.28-37	£10.406 m	£18.113 m*		

2. Ofwat's approach to setting allowances

Ofwat's chosen model looks at all aggregated WINEP actions and applies a median benchmark both for all WINEP actions within the model and for WINEP groups such as Invasive Non-Native Species (INNS). A mean of the two medians is then used and applied to all WINEP actions within that WINEP group.

3. Required adjustment to cost allowance

We request a further review of our cost allowance for the Water Investigations and an adjustment to £18.113 million. This is an increase of around £7.5 million on Ofwat's provisional assessment. It is very similar to the level that we proposed in our business plan – the minor difference is due to some reprofiling of costs, as well as some small changes to the scope of our investigations programme.

4. Rationale

In this document, we provide detailed evidence to support our view that investment in Water Investigations is needed due to regulatory requirements, represents the best option for customers to ensure that investment in solutions is targeted and proportionate, and is cost efficient by ensuring that investment is only made where required, avoiding abortive costs. In addition, we have significant identified concerns over the approach to benchmarking and have highlighted examples where we believe this leads to unsatisfactory outcomes. We would support a more detailed assessment, to be undertaken by Ofwat, taking into account the scope and scale of investment required to each WINEP Investigation.

4.1. Need for investment

This representation covers Water Investigations driven by a number of key pieces of legislation. These include the 25 Year Environment Plan, Eels (England and Wales) Regulations 2009, the Habitats Directive and the Water Framework Directive amongst others. As such they are a legal requirement for water companies to deliver and are in the process of being agreed, as per WINEP guidance, through consultation with the Environment Agency and Natural England using Action Specification Forms (ASF). Investigations under these drivers are designed to provide a firm basis for decision making, informing our Water Resource Management Plan. They ensure the most cost efficient and effective solutions enabling investment in future AMPs to mitigate and control risks to the environment and that unnecessary action and costs. This approach ensures the best option for customers is taken. Risks controlled through the outputs and recommendations of the investigations include:

- the spread of Invasive Non-Native Species (INNS), where invasives have the potential to outcompete native species or cause significant operational costs if spread
- the protection and improvement of European protected sites such as Special Areas of Conservation (SAC) and Sites of Special Scientific Interest (SSSI). Wessex Water has a significant number of these sites which have more stringent environmental targets than other areas
- the protection of habitats including Chalk Streams from deteriorating WFD status. Many investigations within
 this group are designed to assess if and when WFD Waterbodies are subject to deterioration as defined by
 the Environmental Flow Indicator (EFI), chemical or physico-chemical standards or ecological metrics. The
 recommendations from these investigations will feed into a review of abstractions and potentially limit
 abstraction if required to prevent any further deterioration. In some cases, the recommendations of such
 investigations may have the potential to bring large areas of protected sites back into recovering or
 favourable condition
- understanding the risk of climate change on the availability of water for public water supply. The risks posed by the changing weather patterns and greater extreme weather events requires an increased understanding of the availability of water for public supply under different climate scenarios. It is essential that this work forms a part of future Water Resource Management Plans (WRMP) to ensure that large scale investments such as Strategic Resource Options (SRO) are resilient to climate change pressures.

4.2. Model assessment

The modelling approach used by Ofwat to assess costs for this group of WINEP requirements makes several key assumptions which we would like to challenge:

- that each WINEP action within a WINEP group requires the same level of scope and scale as other within the group. This is discussed within this document where we illustrate this variance within the European Sites WINEP group, but it is also possible to cite WFD (Flow Investigations) Water with requested scheme costs ranging from £0.083m to £2.567m. This issue can also be observed in other water company's data (Thames Water's Environmental Destination Actions).
- that it is appropriate to aggregate the WINEP sub actions costs. As an example of the distortion this can create, WINEP line 08WW100091 in the WFD (Flow Investigation) Water group has three sub actions and receives the same cost allocation as a WINEP line 08WW100040 with seven sub actions, resulting in the former having more than twice the money allocated per sub action than the latter with no justification of this. In practice, many of the WINEP sub actions are treated as independent investigations and delivered in isolation of others. We are unsure of the rationale for these lines to be considered as sub actions within the WINEP and therefore whether these are uniformly applied across EA areas. In addition, the range of costs for the sub actions can vary significantly (£4.647m to £0.020m) again indicating a difference in scope and scale. The application of sub action aggregation would likely benefit programmes with fewer sub actions and a greater number of independent actions.

- the use of the median WINEP value of all WINEP lines and the median value for each WINEP group
 costs is appropriate for assessing costs for any single WINEP line. This assumes that the scope and scale
 of each Water Investigations is the same for each water company. This is unlikely to be case as, for
 example, water companies with a greater geographical area are likely to require larger scale investigations
 and those with a higher proportion of protected sites (such as Wessex Water) may also require more
 detailed and complex investigations, especially where groundwater modelling is required.
- that some WINEP actions have been under costed and need uplifting, in some cases this approach has allocated an additional £0.449m to WINEP actions where our bottom up costing of the work has not identified the need.

The scope and scale of investigations within this area varies significantly as well as the way they are represented in the WINEP. For example, Wessex Water has two WINEP actions one of which as three sub actions 08WW100048 (a-c). The sub actions range from £0.02m to £4.647m reflecting the significant difference in scale and scope of these. The second WINEP action (08WW100121a) is costed at £0.266m. In these examples the highest cost investigation is 08WW100048c. The aim of this investigation is to identify a location and understand the viability of developing a new source or sources to offset abstraction reductions from sites which have an impact on the Hampshire Avon (SAC). The investigation is looking to identify locations capable of providing approximately 20-30MI/d so that abstraction can be relocated to a more resilient and lower impact location(s). This work is in line with the principles outlined in the CaBA Chalk Stream Restoration Strategy. The final scope of this work is still under discussion, but the investigation will make recommendations informing PR29 and the development of potentially multiple new water supply sources to be delivered in AMP9. To deliver robust conclusions and evidence for future investment decisions, the investigation will necessarily be complex and extensive and is classified as this under the Investment Categories. Significant activities include land access, the drilling of multiple boreholes across a number of land holdings as well as groundwater monitoring and modelling. By way of contrast 08WW100048b will use existing groundwater model data and produce a simple comparison with an area rainfall and recharge model. This investigation involves no fieldwork, the processing of pre-existing data and has been classified as Desk Based.

We are keen to support the initial approach to the three level categorisation of investigations and understand that, as stated in PR24-DD-Expenditure-allowances-Enhancement-cost-modelling-appendix (pg121), the "*approach was found to be unsuitable, potentially due to the misallocation of investigations between categories*" but would welcome a more nuanced method to the modelling than the one which has replaced it. We have outlined a number of concerns with the approach used to revise cost allowances below.

A number of the cost models used in the Draft Determination including the equivalent Waste Water Investigation assessment use a Materiality threshold to consider the significance of the costs against the wider TOTEX Price Control. In the case of Water Investigations this has not been applied. Had the materiality test been applied we believe that a Deep Dive Assessment would have been required for Wessex Water since it may have highlighted the varying scope and scale of investigation under the same WINEP group as discussed above. Note that the Materiality threshold for Water Investigations has been used as justification for Wessex Water to receive a PCD in this area.

4.3. Best option for customers

Over the past 25 years we have worked with the Environment Agency and others to investigate where there are concerns that the operation of our assets may have an impact on the water environment. Our investigations typically follow the process summarised in Figure 1. They are instigated when our regulators identify an environmental risk that our operations may affect achievement of environmental targets or are prompted by a regulatory change or new designation. Environmental risks identified through this process are included in the WINEP for investigation in the next AMP.

In our October submission we presented information about our investigations in the following documents

- WSX16 Wastewater networks plus strategy and investment. Section 7.7. Water Quality Investigations
- WSX12 Water resources strategy and investment. Section 3.2 Water resources investigation WINEP actions
- WSX25 Improving Biodiversity Section 3. Restoring & enhancing biodiversity on our landholding and Section 4 Working in partnership to improve and restore biodiversity

Figure 1 – The investigation process, showing how an investigation is used to inform subsequent implementation actions



Our approach is to use investigations based on sound science and robust evidence to inform future investment decisions. We strongly believe that undertaking investigations is in the best interest of customers and the environment. Investigations have two potential outcomes:

- Our operations are found to have a negative impact on the environment, leading to evidence-based investment in a subsequent AMP. The environment is improved, and the expenditure of customer money is justified.
- Our operations are found not to impact on the environment. Customers are protected from unnecessary expenditure.

Both outcomes protect customers by ensuring investment is justified or by ensuring unnecessary expenditure is avoided. By way of an example, one AMP7 investigation is assessing the impact of groundwater abstraction on Water Framework Directive targets from four sources on tributaries of the Middle Bristol Avon. Prior to commencing the investigation, the Environment Agency's Water Resources GIS tool indicated that abstraction was having a detrimental effect, implying that either significant abstraction reductions and replacement water sources or stream support (augmentation) boreholes may be required at a cost of many millions of pounds. This investigation has required extensive geological investigation and ecological monitoring at a cost of almost £2m over five years and although not complete, is indicating no impact from the northernmost of these sources and the potential requirement to supplement or relocate a stream support borehole. Thus, the cost of two to three stream support boreholes (indicative of £7.5m-£10m) has been avoided and the best option for customers has been selected.

There has been strong customer support for further understanding of water resources in light of climate change:

- Drought resilience customers were aware of the future water supply challenges in the South West, although had limited understanding about the impacts of extreme drought.
- Only 63% of people in 2022 were confident that their water supply would be available in the longer term without restriction, down from 71% in 2021, showing an increasing concern about future water resources.
- Participants strongly support investment in regional water resources being progressed in order to reduce the risk of water restrictions.

The Water Investigations are required to address these customer concerns and inform our longer term water resource availability and security by providing sound data and evidence upon which to base future decisions.

4.4. Cost efficiency

The scope and scale of the Water Investigations included in the WINEP can vary widely. Where appropriate, we use consistent unit costs to cost our WINEP actions, with costs estimated using the number of units multiplied by the unit rate. The scale of the work required to deliver the investigation is informed by discussions with the environmental regulators over their expectations concerning the WINEP output and our own professional judgement and experience in delivering similar investigations in previous AMP cycles. This is the same approach that we used for costing our AMP7 programme. All of our AMP8 WINEP investigations and where applicable, our AMP8 WINEP implementation actions, have been costed bottom up using a standard template proforma, screen shots of which are provided in Annex 1. This is to ensure that we have an auditable and consistent approach to costing our WINEP actions.

This approach uses consistent unit costs for 'routine' elements of projects such as:

- Staff costs, using internal hourly cost recovery rates.
- Water quality analysis costs, based on internal costs from the Wessex Water Scientific Centre¹.
- Hydrological and ecological monitoring, based on rates being charged by our suppliers in the delivery of our AMP7 WINEP actions (river flow gauging, macroinvertebrate sample analysis etc).
- Monitoring equipment such as autosamplers, sondes and other water quality monitoring equipment, based on fees charged by our suppliers in the delivery of our AMP7 WINEP actions.
- Specific monitoring actions such as capturing spills from storm overflows. We used the cost incurred using contractors on an AMP7 investigation to develop unit rates (see Annex 1)
- Drilling observation boreholes, using unit cost rates in £/metre incurred during the delivery of our AMP7 WINEP actions and estimates of numbers of boreholes and their depth for AMP8 WINEP actions.

Not all activities required to deliver WINEP actions are suitable to the application of unit rates. For example, where modelling or monitoring is bespoke to a WINEP action and/or where we have not previously used an approach in delivering a WINEP Action. In these circumstances we have approached suppliers to obtain quotations or have used supplier quotes from delivering similar work in previous WINEP actions and scaling these up or down using professional judgement.

Below are two examples of costings for AMP8 Water Investigations which help to illustrate this. The first representing those requiring multiple surveys and/or monitoring, and/or complex modelling and the second representing those that are desk-based.

4.4.1. Cotswold limestone Partnership - multiple surveys and/or monitoring, and/or complex modelling

This a large investigation with a delivery date of March 2030. The investigation covers several waterbodies (surface and groundwater), two aquifers, two (possibly three) water companies, two (possibly three) Environment Agency (EA) areas and two uses for the abstracted water: public water supply (PWS) and stream support.

The historical ecological condition of the potentially impacted watercourses needs to be established within an ecological data review and collation stage. Following which, a programme of ecological monitoring to define the ecological health of the watercourses can be designed to fill any data gaps and undertaken to assess the impact of the current level of abstraction. Concurrently, a comprehensive conceptual model describing recharge mechanisms, aquifer properties, flow directions, boundary conditions, aquifer interactions etc. will be prepared. This will involve a

¹ The Wessex Water Scientific Centre is a commercial analytical laboratory for external customers such as other water companies and Local Authorities, so sample analysis costs have been market tested.

hydrological and hydrogeological data collation and review stage such that multiple lines of evidence support the development of the conceptual model and any data/information gaps are identified. The conceptual model will be used to construct a 3D dual aquifer time variant model. It is expected that the model software will be MODFLOW6. The conceptual model work may identify the need to collect field data to refine understanding, this could involve drilling observation boreholes, spot flow gauging and bespoke pumping trials.

Element	Description	Unit/scale	Basis
Staff time	Project management, stakeholder liaison, sample collection, delivery and analysis, reporting	1200 person days	Costed using internal charge rates for different levels of staff (44% Principal, 21% Senior, 53% Env Scientist)
Consultant support	Ecological sample analysis (Invertebrates, Diatoms and Macrophytes)	240 samples	Costed using quotes for AMP7 Investigations
Consultant support	Flow gauging	120 days	Costed using quotes for AMP7 Investigations
Laboratory analysis	Processing samples	720 samples	Assumes 12 sites monthly for five years and analysed at Wessex Water Saltford Scientific Centre with market tested charging rates
Specialist contractors	Borehole drilling	4	Assumes 100m deep with drilling rates per meter based on AMP7 quotes
Specialist Groundwater modelling consultants	Refinement of model geometries, recalibration of model with new hydrology, groundwater heads, stochastic 4R recharge sequence.		Based on modelling rates for Wessex Basin Groundwater model conversion to Modflow6 including time, licence fees etc.
Monitoring hardware	Groundwater monitoring equipment for existing and new boreholes	5 locations	Based on quotes from AMP7 Investigations
Land Access	Access to and permissions to; drill boreholes, monitor flow and collect ecological samples on private land	4 Borehole locations and flow gauging sites	Based on AMP7 land access costs

4.4.2. Hampshire Avon alternative abstraction approach investigation – Desk Based

The Hampshire Avon alternative abstraction approach investigation will apply a methodology used in the Chalk Stream Restoration Strategy (CSRS) (main report Section 4.6.2) to assess abstraction pressures. The methodology identifies, for individual catchments, abstraction pressures (annual abstraction) within each catchment as a percentage of the long-term annual recharge i.e. groundwater abstraction as a % of the amount of 'effective' rainfall that sinks down into the ground to drive base-flows in the river. The CSRS report notes this 'is a simple and easily comprehensible way to assess the level of groundwater abstraction in a given catchment'. This investigation has a delivery date of April 2027.

Element Description	Unit Basis	
---------------------	------------	--

Staff time	Project management, stakeholder liaison, sample collection, delivery and analysis, reporting	20 person days	Costed using internal charge rates for different levels of staff (69% Principal, 31% Env Scientist)
Specialist Groundwater modelling consultants	Post processing of existing model runs used in other WINEP investigations		Based on modelling rates for post processing Wessex Basin Groundwater model runs for AMP7 investigations

4.5. PCD

The PCD for Water Investigations is discussed in a separate document (WSX-O02 – Price Control Deliverables)

5. Why the change is in customers' interests

In light of this greater detail on our costing, the purpose of these investigations and reflecting the co-development with our environmental regulators we suggest that adjusting our cost allowance back to the level proposed in our business plan is in the interest of our customers. Our investigation programme has ensured that the best options for customers are implemented and has avoided unnecessary expenditure where our investigations have determined improving our assets would not realise the intended benefits.

Conclusions from many of these investigations will affect the supply demand balance of water resources across the whole Wessex region as well as interaction with other regional water suppliers. Outputs will inform the WRMP and future investment decisions in the development of new sources and the long-term viability of others. Taking this into consideration, we believe that a reduction below our submitted cost would significantly increase the risk of abortive water resources investment both in AMP9 and for long term regional water resources planning including Strategic Resource Options and drought resilience. A recent change in approach by Defra and the EA is seeking to remove and cap abstraction licences. These investigations are critical to ensuring that these changes are based on sound science providing best value for our customers and protecting the environment. On balance, a 48% cut in investment would lead to significant risk of delivery both in terms of WINEP outputs completed and certainty of results.

To date, there has been strong customer support for further understanding of water resources in light of climate change. It is our view that these investigations will enable greater scientific understanding of the environmental risks posed by our operation in a changing climate, enable better decision making on future investment and information sharing with our customer base. Key themes for our customer research are highlighted below:

- Drought resilience customers were aware of the future water supply challenges in the South West, although had limited understanding about the impacts of extreme drought.
- Only 63% of people in 2022 were confident that their water supply would be available in the longer term without restriction, down from 71% in 2021, showing an increasing concern about future water resources.
- Participants strongly support investment in regional water resources being progressed in order to reduce the risk of water restrictions.

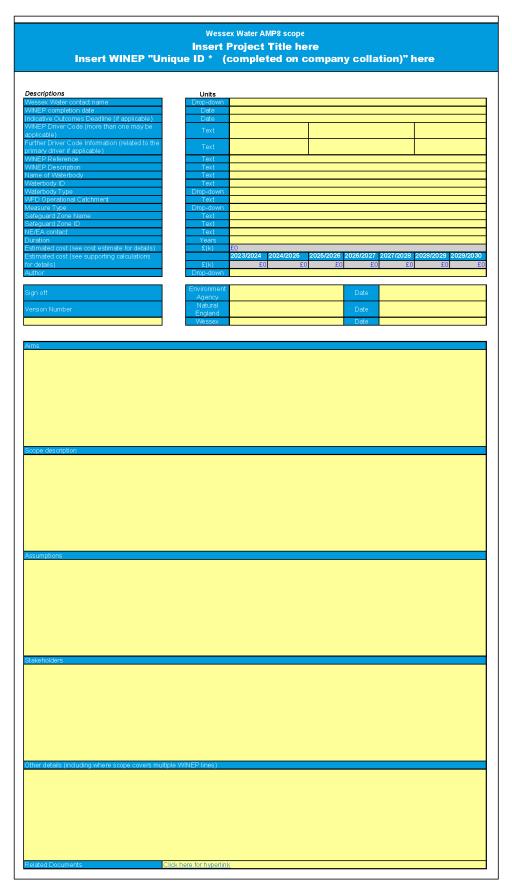
A number of these investigations are also critical to the protection of our assets from invasive non-native species. A number of species can cause significant operational issues such as blocking pumps and raw water transfer networks. This can lead to increased OPEX costs, outages and reduced resilience under drought or emergency conditions.

6. Conclusions / Summary

We welcome Ofwat's assessment of the costs submitted in our Business Plan with respect to the Water Investigations identified by our environmental regulators and included within the WINEP. However, we feel that in this instance the modelling methodology used in the assessment does not truly reflect the different types and scale of investigations proposed, resulting in an inappropriate cost allowance identified, which we ask is reviewed.

As a company we want to ensure that future investment is based on sound science and evidence to ensure the best outcomes for customers and the environment. Our environmental investigation approach has demonstrated this in the past, where good evidence has avoided abortive investment, and directed expenditure where improvements are required. Our customer research has highlighted an increased awareness and concern around long term water resources, especially in light of a changing climate, these investigations are integral to our longer term water resource planning ensuring resilience and security of supply both within the Wessex region but also, more widely, across the South West.

Annex 1 – WINEP Scoping proforma (costing worksheet)



	Work items	Unit	Rate	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029	2029/2030	Total	Justification/comment
	Staff time Senior Scientist	Davs /vr									0	
		£/day		0	0	0	0	0	0	0	0.00	
		£/day		0	0	0	0	0	0	0	0.00	
	WECS Environmental Scientist	Days/yr £/day		0	0	0	0	0	0	0	0.00	
NAMEN	Sampler	Days/yr 6/day		0	0	0	0	0	0	0	0.00	
NAMEN	Other	Days/yr		0	0	0	0	0		0	0	
NAME NAME <th< td=""><td>Other</td><td>Days/yr</td><td></td><td>U U</td><td>Ū</td><td>Ŭ</td><td>0</td><td>U U</td><td></td><td>U</td><td>0</td><td></td></th<>	Other	Days/yr		U U	Ū	Ŭ	0	U U		U	0	
BAD BAD </td <td>Other</td> <td>Days/yr</td> <td></td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td></td> <td>0</td> <td>0</td> <td></td>	Other	Days/yr		0	0	0	0	0		0	0	
	Other			0	0	0	0	0	0	0	0.00	
Math Math </td <td></td> <td>£/day</td> <td></td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0.00</td> <td></td>		£/day		0	0	0	0	0	0	0	0.00	
Mathematical constrained constrained constrained constrained constrained constrained constrained constrained constrained 		£/day		0	0		0	0	0	0	0.00	
Participant	TOTAL (days) TOTAL (£)						0.00			0.00	0.00	
Manu constraint of the second secon												
Image Image <th< td=""><td>Modelling</td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	Modelling	-										
Additional Additio	Ecological monitoring (terrestrial)	£/day									0.00	
Processor Processor <t< td=""><td></td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.00</td><td></td></t<>		-									0.00	
Number	Other										0.00	
Marka Marka <t< td=""><td>Other</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.00</td><td></td></t<>	Other										0.00	
image image <t< td=""><td></td><td></td><td></td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td></td><td></td></t<>				0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Second												
Image: series Image: s	Gauging stations											
Number ConstructionNumber ConstructionNumber ConstructionNumber 	Boreholes Test pumping											
Image Image <t< td=""><td>Pilot/Trial</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.00</td><td></td></t<>	Pilot/Trial										0.00	
matrix matrix matrix matrix matrix matrix Second	Other										0.00	
rowrow <td>Other Other</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.00</td> <td></td>	Other Other										0.00	
manual sectormain of any sectormain of a	Other			0.00	0.00	0.00	0.00		0.00	0.00	0.00	
Add Advance				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
And Constrained and Constrained and Constrained and Constrained and Constrained and Constrained and 	Water quality analysis Water quality analysis (river suite)	number of samples									0	
Math Bar and Bar and Bar and 		£/per sample		0	0	0	0	0	0	0	0.00	
Marting Barriely Surfice and surfice and		£/per sample		0	0	0	0	0	0	0	0.00	
SolutionSolutio		£/per sample		0	0	0	0	0	0	0	0 0.00	
OND UNALT CAPUNE UNALT CAPUNE UNALT CAPUNE 	Other	number of samples		0	0	0	0	0	0	0	0	
Other Other Other Other Other Other Other Other Other Bill Control Control <td< td=""><td>Other</td><td>number of samples</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0</td><td></td></td<>	Other	number of samples									0	
Number of array ON JONE I <td>Other</td> <td>number of samples</td> <td></td> <td>U</td> <td>0</td> <td></td> <td>0</td> <td>U</td> <td></td> <td>0</td> <td>0</td> <td></td>	Other	number of samples		U	0		0	U		0	0	
Image: set of the set of th	Other	£/per sample number of samples		0	0	0	0	0	0	0	0.00	
Order is of the seriesOR 00OR 00OR 00OR 00OR 00OR 00OR 00Marchard at (conv.)Marchard at (co		£/per sample		0	0	0	0	0	0	0	0.00	
whead and angle whead angle and angle whead angle and angle a	TOTAL (£)						0.00			0.00	0.00	
whead and angle whead angle and angle whead angle and angle a	Ecological monitoring (aquatic)											
wnthef of anyleswnthef of anyleswnth	Invertebrates (family)			0	0	0	0	0	0	0	000	
Marsynthm Lipital Distantion Lipital Construction Lipital Cons	Invertebrates (species)	number of samples									0	
Narrow Light standard Regenerational Bar Manufact Samples Light standard Hander Samples Hander Samples <br< td=""><td>Macrophytes</td><td>Days/yr</td><td></td><td>0</td><td></td><td></td><td>0</td><td>0</td><td></td><td>0</td><td>0</td><td></td></br<>	Macrophytes	Days/yr		0			0	0		0	0	
Liper arranke. Liper arranke. Col Col <td>Diatoms</td> <td></td> <td></td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0.00</td> <td></td>	Diatoms			0	0	0	0	0	0	0	0.00	
Long antitue Long of onloci Long O O O O O O O Char Implies of onloci Implies of onlo		£/per sample		0	0	0	0	0	0	0	0.00	
Inter sample winder of advised inter of advised inter inter of advised inter inter of advised inter inter of advised inter of advised in		£/day		0	0	0	0	0	0	0	0.00	
Liper ample Control Control <td>Zooplankton</td> <td>number of samples £/per sample</td> <td></td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0 0.00</td> <td></td>	Zooplankton	number of samples £/per sample		0	0	0	0	0	0	0	0 0.00	
Other Number of samples O	Other			0	0	0	0	0	0	0	0.00	
bits bits <td>Other</td> <td>number of samples</td> <td></td> <td>-</td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td>-</td> <td>0</td> <td></td>	Other	number of samples		-			-			-	0	
Other Number of amples No. No. No. No. No. OPAL 16 yrd Image of amples Image of amples <t< td=""><td>Other</td><td>number of samples</td><td></td><td>0</td><td>0</td><td></td><td>0</td><td>0</td><td></td><td>0</td><td>0</td><td></td></t<>	Other	number of samples		0	0		0	0		0	0	
Effor sample O <t< td=""><td>Other</td><td>number of samples</td><td></td><td>0</td><td>0</td><td></td><td>0</td><td>0</td><td></td><td>0</td><td>0</td><td></td></t<>	Other	number of samples		0	0		0	0		0	0	
Cond. (c) 0.00		£/per sample		0			0			0	0.00	
Traffer Fords L/unit L/unit Monange frame/ and status Monange f	TOTAL (days) TOTAL (£)						0.00			0.00	0.00	
Juncal production of Line (Junch, Weight, Status) Line (Junch, Weight, Status) <thline (junch,="" stat<="" td="" weight,=""><td>Monitoring equipment</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></thline>	Monitoring equipment											
Juncal production of Line (Junch, Weight, Status) Line (Junch, Weight, Status) <thline (junch,="" stat<="" td="" weight,=""><td>Trailer (New) Trailer (Existing inc maintenance)</td><td>£/unit £/unit/yr</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></thline>	Trailer (New) Trailer (Existing inc maintenance)	£/unit £/unit/yr										
Sode Extende Lunk/yr	Autosampler (standard)	£/unit									0.00	
Immerse Europy Meters lence Differ Europy Euro	Sonde (Existing inc maintenance)	£/unit/yr									0.00	
Metter lance burger b	New Esnet telemetry Timeview licence	£/unit £/unit/γr									0.00	
Other L/mt/yr L/mt/yr <thl mt="" th="" yr<=""> <thl mt="" th="" yr<=""> <thl m<="" td=""><td>Meteor licence</td><td>£/unit/yr</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.00</td><td></td></thl></thl></thl>	Meteor licence	£/unit/yr									0.00	
Dibler L/mL/y L/mL/y L/mL/y L/mL/y <thl ml="" th="" y<=""> <thl ml="" th="" y<=""> L/mL</thl></thl>	Other	£/unit/yr									0.00	
Other L/unk/yr L/unk/yr L/unk/yr Market (1)	Other	£/unit/yr									0.00	
Of AL (1) O	Other Other	£/unit/yr										
Accidence (Ph/Matters etc) Other Other Other Other Other Image: Constraint of the constraint of th	TOTAL (£)			0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Other Other Differ Differ Differ Other Image: Second	Stakeholder/ Third Party											
Obser Obser Obser Image: Second	Academic (PhD/Masters etc) Other											
Other O <td>Other</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.00</td> <td></td>	Other										0.00	
Other O <td>Other</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.00</td> <td></td>	Other										0.00	
Communications/PR Image: second	Other TOTAL (£)			0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Differ Differ<												
Other Ditler Ditler Ditler Other Ditler Other Ditler Other Ditler Other Ditler Other Ditler <th< td=""><td>Other</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	Other											
Other Other <th< td=""><td>Other Other</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.00</td><td></td></th<>	Other Other										0.00	
OfAL(4) 0 0.00 <th< td=""><td>Other Other</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.00</td><td></td></th<>	Other Other										0.00	
Other 000 </td <td>TOTAL (£)</td> <td></td> <td></td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td></td>	TOTAL (£)			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other 000 </td <td>Other</td> <td></td>	Other											
Other 000 Other 000 Other 000 OffAr 0.00 OffAr 0.00 OffAr 0.00 OffAr 0.00 Other 0.00 Other 0.00	Other											
Other Open Open <t< td=""><td>Other</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.00</td><td></td></t<>	Other										0.00	
000 000 000 000 000 000 000 000 000 00	Other										0.00	
8AND TOTAL(2) 0.00 0.00 0.00 0.00 0.00 0.00 0.00	TOTAL (£)			0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	GRAND TOTAL (£)			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	