



TMS-DD-058 - PR24 WINEP
Enhancement Case supporting
information
Water WINEP annex

Table of Contents

1. Overview	3
2. Thames Water argument and supporting evidence	3
2.1 WFD Schemes assessment.....	3
2.2 New Gauge sources and Hornsey WTW Bromate investigation and no deterioration scheme (WINEP Action ID 08TW1 00032a).....	4
2.3 Water Resource Investigations	4
2.4 INNS	5
2.5 Drinking Water Protected Areas	6
2.6 Biodiversity.....	11

1. Overview

In the Draft Determination assessment, Ofwat has raised significant concerns on the cost efficiency of our proposed schemes in a number of areas within water resources. Further detail is provided below.

2. Thames Water argument and supporting evidence

2.1 WFD Schemes assessment

The assessment of the WFD schemes was a deep dive assessment which resulted in a 58% overall adjustment. Ofwat confirmed in query OFW-IBQ-TMS-023 that the deep dive included the assessment of all 15 Water WINEP WFD schemes with the non-interconnector components reviewed separately (i.e., the Netley WTW sustainability reduction reviewed separately). However, we are unclear on the cost challenge that has been applied. Ofwat reported that a cost efficiency challenge of 30% has only been applied to the 14 non-interconnector schemes, which results in an overall 18% adjustment, and a 58% challenge was applied to the Netley WTW sustainability reduction scheme only. However, by replicating the assessment it appears that the cost challenge of 58% has been applied to all 15 schemes submitted: of the total £46.945m we requested (for all 15 schemes), Ofwat allowed £19.514m which equates to approximately the 42% cost efficiency. Based on the breakdown of costs previously provided to Ofwat (Ref: Query OFW-OBQ-TMS-244) if the 58% efficiency challenge is applied to the Netley Mill WTW scheme only, and 30% to the others, the allowance would be £24.331m.

The 'Need for enhancement investment' review focusses on the adjustments made for the 'Netley WTW sustainability reduction' scheme with no adjustments made to the other schemes, which results in a 41% adjustment.

The scope overlap challenge applied by Ofwat in relation to Netley WTW sustainability reduction relates to a lack of evidence that there is no overlap with the previously funded (PR19) to increase resilience in the Guildford Water Resource Zone. However, the scope and costs submitted only cover the elements above and beyond the PR19 scheme, as described in the Options Development Report submitted to the Environment Agency as part of the WINEP process, and available as annex to this document: TMS-DD-059 SR_NetleyMill_ODR_and our response included in TMS-208. Please note the costs included in the Options Development Report are consistent with the Environment Agency WINEP requirements. We do not believe it possible to deliver the scope associated with the PR24 requirement with the cost efficiencies applied. We request that Ofwat reconsider the cost efficiencies applied.

Additionally, Ofwat raised concerns on cost efficiency based on the lack of visibility of optioneering and solution optimisation (as key efficiency levers opportunities) and cost breakdown. The overview of our cost efficiency approach is provided in section 6 of our TMS26 WINEP Enhancement Case, and we provide the Options Development Reports for each scheme as annex to this document: TMS-DD-060 SR_Bradfield_ODR, TMS-DD-061 SR_UpperSwell_ODR, TMS-DD-062 SR_Hornsey_ODR_Jan23, TMS-DD-063 FishPassages_ODR, TMS-DD-064 SR_RiverRestoration_ODR, TMS-DD-065 SR_UpperKennetRR_ODR. Please note the Options Development Reports are reflective of the programme as submitted to the Environment Agency in November 2022 and January 2023 The

cost breakdown is available in the annex TMS-DD-066 PR24 WINEP EC supporting evidence - WR WFD cost breakdown. River restoration and fish passage projects we costed based on our delivery experience of the last 2 AMPs. We request that Ofwat review the cost efficiencies applied.

2.2 New Gauge sources and Hornsey WTW Bromate investigation and no deterioration scheme (WINEP Action ID 08TW1 00032a)

In our submission we included scope to meet the requirement to deliver enabling work for a partial abstraction reduction for the New Gauge sources at Hornsey WTW for Bromate removal and investigate the additional options for a larger abstraction reduction to be delivered in future AMPs. The Environment Agency merged these activities in one solution. We submitted this action as investigation and partially allocated the costs for the no deterioration scheme at Hornsey WTW under the original WFD_ND driver.

As part of our submission of the representation to Draft Determination, we are revising the submission by allocating the full costs of the Hornsey WTW scheme to the original WFD_ND driver, hence separating the schemes.

This leaves a large and complicated investigation requirement within the water resource investigations. The River Lee / Coppermills / Hornsey New River system is complex. There are surface water abstractions, groundwater abstractions, water transfers, groundwater contamination (bromate) and reservoirs that are all managed to ensure consistent supply to our customers. Due to the additional licence reductions planned and resultant reduced blend capacity within the system, a full investigation into new management options for bromate is required. The scope will include short term measures as well as long term solutions to align with our overall environmental ambition set out in our Water Resource Management Plan. The investigations would include reviewing alternative treatment technologies that could be implemented in AMP9 if further flow reductions are implemented. The overall scope of this requirement exceeds the scope of a normal investigation due to the complex nature of the Lee valley and the significant constraints on managing water quality and therefore the benchmarking is not appropriate to assess the cost requirement for this investigation. We request Ofwat to assess this investigation as outlier.

2.3 Water Resource Investigations

Within our WINEP some investigation lines cover multiple abstraction sources that have been grouped together and therefore the benchmark costing is not appropriate. The lines that were combined includes a combination of sources within the same catchments or a programme of works linked to the same workstream. Therefore, we have requested these sources be split out across different WINEP IDs and confirm that the cost estimate included in our submission was appropriate to ensure each one is funded adequately. This split is in line with our PR24 RES1 data table submission.

2.4 INNS

We set out our requirement for INNS in our TMS26 WINEP Enhancement Case. Ofwat have undertaken a deep-dive assessment into our INNS measures, resulting in 50% overall adjustment due to needs, best option and cost efficiency. This has meant we have been allocated £7.5m as opposed to the £15.074m requested.

We believe that full account has not been taken of the complexity of INNS management within our supply area or of the detailed costing that has been completed as part of our INNS company-wide plan. Within the Thames Water network, 82 transfers were identified, including all main transfers ('pathway 1') and overflows/washouts/discharges associated with them, either along the transfer or for particular receptors.

The company-wide INNS plan has been developed for the purpose of instructing the management of INNS spread both to and from assets within our estate. The plan applies to all staff of Thames Water, as well as, in some cases, third parties associated with Thames Water (i.e. contractors, volunteers and recreational users of assets etc.). Thames Water staff include operational, office, engineering, recreational, biodiversity and management focused staff and informs how a range of measures may be implemented to control INNS spread. This includes measures such as large capital development projects, to small day-to-day activities, to cultural shifts across the organisation as a whole.

The ODR sets out the resultant recommendations from this investigation, and is available as an annex in TMS-DD-067 INNSpecies_ODR.

In AMP7 Atkins were commissioned to undertake a comprehensive cost assessment of INNS options in the company-wide INNS plan (INNS CWP). The CWP was developed for the purpose of instructing the management of INNS spread both to and from assets within the Thames Water estate, and the biosecurity options identified in the CWP have been selected through a screening exercise and consultation with relevant stakeholder such as the Environment Agency. These have been developed through expert judgement informed by cost-benefit effectiveness. This CWP has been signed off by the Environment Agency and costed to a high level; as such we are confident that the costs submitted are correct and align with the industry standard of INNS work. The plan is submitted as additional evidence and available in TMS-DD-068 Thames Water Company-wide INNS Plan_v2.0.

We plan to implement a range of mitigation measures from nine broad mitigation measure types as listed out in the CWP; costs requested have been based on these and represent the best value plan for INNS. These nine measures include some 'softer' measures relating to development of appropriate biosecurity-related elements in one or more job roles, implementation of an educational strategy, a review of standard operating procedures and waste management protocols and research into novel INNS mitigation measures. Harder, more 'active' INNS mitigation measures are also included, such as an INNS Monitoring Plan and subsequent Management Programme, implementation of washing facilities and sign-in procedures for recreational users and trials of physical water treatment measures (e.g. ultra-violet treatment, infrastructure alterations, biocides and Mecana pile cloth filters).

Given the detailed options appraisals and cost assessments completed we are confident in the costs submitted as part of our business plan we request that Ofwat reconsider the cost efficiency applied.

2.5 Drinking Water Protected Areas

Ofwat raised concerns whether the investment is the best option for customers. Whilst the Environment Agency guidance for Drinking Water Protected Area is clear and aims at a very specific category of interventions, we have developed a full Option Development Report, which we annex to this document: TMS-DD-069 DrWaterPA_ODR. The Option Development Report present the alternative initiatives which have been considered and the different approaches explored.

As Thames Water do not own the land in catchment, and are not applying the pesticides and nitrate, our only option to help protect raw drinking water quality is delivering these schemes and advice on the ground within the catchment, including offering farm advice, direct funding of high benefit activities, assistance with applying to other funding schemes and awareness raising events. Additionally, the WINEP drivers are statutory, hence not requiring a benefit assessment according to the Environment Agency guidance.

In particular, the development of the Catchment Fund involved working closely with agricultural advisors, including Catchment Sensitive Farming Officers and an independent, specialist agricultural consultancy to develop the most appropriate scheme to offer to farmers in each catchment, that would protect/improve raw drinking water quality, specifically in terms of nitrate and pesticide pollution, and maximise engagement/uptake across all Safeguard Zones. The options offered under the Catchment Fund are similar to what is offered through other organisations. These include government grants such as through the Sustainable Farming initiative (SFI), Countryside Stewardship (CSS) and Capital Grant Scheme and funds offered by other water companies. The options offered are the industry standard for catchment solutions and are supported by Catchment Sensitive Farming (CSF) for mitigating pollution from agriculture and proven to offer water quality benefits. See Table 1 for comparison.

Our target areas include approximately 310,000ha of arable land, with approximately 1600 farmers/landowners. Due to this large total area, and the significant size of each safeguard zone (SgZ), we need to maximise uptake of the scheme across as much of the area as possible to be able to have a meaningful impact on water quality at abstraction points, which will involve significant investment in terms of funding activities and delivering farm advice and awareness raising events and informative farm walks.

If the funding rates were reduced uptake would fall significantly; therefore, if the budget was significantly reduced, the only option would be to keep the funding rates the same but approve fewer applications, greatly reducing the area impacted by this scheme and thus the impact of the water quality benefits.

Table 1 - Comparison of Thames Water funding rates and two other water companies and two government schemes

Activity	Thames Water Year 2023-2024	South East Water 2024-2025	Severn Trent 2024-2025	Countryside Stewardship	SFI 2024-2025
Winter Cover Crops	£129 per ha	£130/ ha	£120 per ha	£129/ ha	£129/ ha
One year Cover crops	£570 per ha	£385/ ha	£136 per ha (groundwater catchments)	N/A	N/A

Enhanced management following maize crops	£203 per ha	£185/ ha for grass drilled maize	£136 per ha	£203 per ha	£203 per ha
Undersown spring cereals	£380 per ha	N/A	N/A	£380 per ha	N/A
Legume ley	£593 per ha	£385/ ha	N/A	£593 per ha	£593 per ha
Arable reversion to grassland Option A Low nitrogen input	£165 per ha	£330/ ha	£326 per ha	N/A	N/A
Arable reversion to grassland Option B Very low nitrogen input	£489 per ha	£330/ ha	£326 per ha	£489 per ha	N/A
Reduced input grassland Option A Low nitrogen input	£75 per ha	£330/ ha	£396 per ha	£151 per ha	£151 per ha
Reduced input grassland Option B Very low nitrogen input	£150 per ha	£330/ ha	£396 per ha	£151 per ha	£151 per ha
4m-6m buffer on cultivated land	£515 per ha	£8 per m	£515 per ha	£515 per ha	£515 per ha
4m-6m buffer strip on improved permanent grassland	£235 per ha	£8 per m	N/A	£235 per ha	£235 per ha
Grass strips within arable fields	£765 per ha	N/A	N/A	£765 per ha	£765 per ha
Equipment to disrupt tramlines in arable areas	50% of cost up to a maximum of £1,500	£1,500 per unit	N/A	N/A	N/A
Weed management - equipment	50% of cost up to £15k or £40k if Bespoke Project	As agreed with catchment advisor	50% of cost up to a maximum of £10k	N/A	N/A
Blackgrass control	50% of cost up to a maximum of £15k, or £40k if Bespoke Project	N/A	N/A	N/A	N/A
Roofing	£72 per m2	50% of costs	£72 per m2	£72.50 per m2	N/A
Clean and dirty water separation	50% of cost up to £15k or £40k if Bespoke Project	£35 per m2	50% of cost up to a maximum of £10k	Rainwater goods - £11.55 per metre	N/A
Self-supporting covers for slurry stores	£31 per m2	50% of costs	N/A	£29.50 per m2	N/A
Concrete yard renewal	£34 per m2	£35 per m2	50% of cost up to a maximum of £10k	£33.64 per m2	N/A
New livestock and machinery tracks	£45 per m	£45 per m	50% of cost up to a maximum of £10k	£44.63 per m	N/A
Pesticide sprayer washdown/handling area	£40 per m2	Up to 50% of costs	50% of cost up to a maximum of £30k	£35.86 per m2	N/A

Pesticide biofilter	£2026 per unit	£2100 per unit	50% of cost up to a maximum of £30k	£2026.14 per unit	N/A
Lined biobed	£120 per m2 of biobed	£75 per m2	50% of cost up to a maximum of £30k	£66.24 per m2	N/A
Resurfacing of existing gateways	£137 per gateway	£140 per gateway	£95 per gateway	£136.95 per gateway	N/A
Relocating a gateway	£350 per gateway	N/A	£95 per gateway	£369.59 per gateway	N/A
Hard bases for livestock feeders/drinking troughs	£290 per base	£180 per base	£180 per base	£290.63 per base	N/A
Livestock removal from high-risk fields	£115 per hectare per year	N/A	£115 per ha per year	£115 per ha per year	N/A
New livestock drinking troughs	£153 per trough	N/A	50% of cost of trough	£152.92 per trough	N/A
Livestock pasture pumps	£296 per pump	N/A	£242 per pump	£295.90 per pump	N/A
Solar panel pumps	£450 per pump	N/A	£450 per pump	N/A	N/A
Training & development	50% of cost up to a maximum of £1,500	N/A	N/A	N/A	N/A
In field drainage assessment	50% of cost up to a maximum of £1,500	N/A	N/A	N/A	N/A
Precision pesticide & fertiliser application technologies	50% of cost up to £15k or £40k if Bespoke Project	Up to 50% costs / As agreed with Catchment Advisor	Up to 50% of costs up to £10k	N/A	N/A
Farmer innovation	50% of cost up to £15k or £40k if Bespoke Project	As agreed with Catchment Advisor	Up to 50% of costs up to £10k	N/A	N/A

We provide the Options Development Report to provide evidence that the solution proposed are cost beneficial and best value for customers. Because of the statutory nature of these WINEP drivers, the cost benefit analysis data was not required by the Environment Agency guidance.

The delivery of these schemes will involve expanding into new groundwater catchments where there has been little to no engagement in the past, so time and money will be required to build relationships, spread awareness, and encourage uptake of the schemes.

In surface water catchments, the focus will be on flufenacet, whereas previously the focus was on propyzamide. This herbicide is used predominantly in cereals, whereas propyzamide is more commonly used in crops such as OSR and beans, so it is likely that we will need to engage with new farmers. This means that the running of regular events and other awareness raising activities, such as newsletters, will be essential to spread awareness and build engagement.

Offering funding for activities under the Catchment Fund is an essential engagement tool that not only offers direct water quality benefits from the uptake of funded activities, such as the purchase of precision application technology or the construction of centralised pesticide handling facilities, but also opens a channel of communication with farmers that allows us to get out on farm.

If competitive funding is not directly offered, farmers are much less likely to be willing to engage with us. Farm visits and advice days are invaluable for helping farmers understand the specific water quality challenges in their local area, and, when combined with funding, can help farmers move towards more water-friendly farming practices that can be maintained in the long term, providing water quality benefits for years to come.

Getting out in catchment can also help to highlight issues that can be mitigated to help protect water quality, that we would have otherwise been unaware of.

The Catchment Fund has been expanded to include a “bespoke project” funding stream that offers funding of up to £40,000 for large projects that will have significant, long-term impacts on water quality. This has been running for two years now and uptake has been steadily growing. So far, we have agreed to fund five pesticide sprayer washdown and loading areas. This infrastructure is expensive to construct, so in many cases farmers are reluctant to make the investment without some form of funding. The Severn Trent STEPS handbook (page 25) states that 40% of pesticide detections in the catchment result from contamination during pesticide handling, making our investment in supporting farmers to construct sprayer areas to centralise pesticide handling activities invaluable in terms of water quality protection.

Funding rates offered under the Catchment Fund are comparable to other schemes available. If the funding rates were reduced uptake would fall significantly, therefore, if the budget was significantly reduced, the only option would be to keep the funding rates the same but approve fewer applications, greatly reducing the area impacted by this scheme and thus the resulting water quality benefits.

As mentioned earlier, Thames Water is a very large water company with a very large area. The SgZs included in the proposed WINEP schemes alone include around 310,000ha of arable land, with 1600 farmers and landowners within areas eligible for funding through the Catchment Fund. Our costings are comparable to other companies (See Table 1 above). If we receive less funding, it will reduce our ability to support the number of applications we hope to receive, and will also have to reduce our farm advice engagement in the catchments. Table 2 below shows the budget that would be required for funding applications from varying percentages of eligible farmers in our target areas.

Table 2 - Budget requirements to fund Catchment Fund agreements from different percentages of eligible farmers across the Thames Water catchment

% of total number of eligible farmers	Approximate actual number of farmers	Funding required <u>per year</u> for Catchment Fund activities
5%	80	£1,200,000.00
10%	160	£2,400,000.00
25%	400	£6,000,000.00
30%	480	£7,200,000.00
50%	800	£12,000,000.00

60%	960	£14,400,000.00
75%	1200	£18,000,000.00
100%	1600	£24,000,000.00

To ensure the best value for our customers, the primary objective of farm advice offered is to help farmers understand and mitigate water quality risks on farm, help support a move to more water friendly farming practices and assist them with applying for government grants such as SFI, the capital grant scheme or countryside stewardship as appropriate. The Thames Water Catchment Fund is then there to help support farmers where other funding is not available/appropriate, for activities that specifically target the water quality issues faced on each farm in each catchment. This method ensures that we can achieve the maximum impact for the minimum cost.

Ofwat raised concerns as to whether the investment is efficient. As stated in the introduction, our only option to help protect raw drinking water quality is delivering these schemes as alternative to more costly treatment options at Water Treatment Works, as specified and requested by the Environment Agency WINEP guidance, available as annex: TMS-DD-070 PR24 WINEP driver guidance - Drinking Water Protected Areas. Our target areas include approximately 310,000ha of agricultural land, with approximately 1600 farmers/landowners. Due to this large total area, and the significant size of each SgZ, we need to maximise uptake of the scheme across as much of the area as possible to be able to have a meaningful impact on water quality at abstraction points, which will involve significant investment in terms of funding activities and delivering farm advice and awareness raising events and informative farm walks. The schemes are aiming to maximise farmer engagement, spread awareness, and fill in gaps in government funding options, focusing on our specific drinking water quality challenges in high-risk areas.

We undertake an annual tender process to award work for on ground delivery of farmer engagement (farm advice, Catchment Fund support and visits, events, farm walks, etc). Project partners are selected based on a cost benefit analysis and tender for work each year to ensure work is delivered for the minimum cost.

A portion of the budget is also planned to be used to help Thames Water become involved with field/crop trials and other investigations in partnership with other organisations, such as the Wetlands Trust and neighbouring water companies such as Affinity Water, to help expand our scientific knowledge and understanding of how environmental conditions and farming practices impact water quality. This would provide invaluable learning to help shape the schemes going forward to achieve the maximum benefit in the most cost-efficient way.

Finally, the proposed scheme's costings are based on successful farmer applications in each catchment of below 20% with our average uptake this year being around 15%. All our activity costs are benchmarked against other funding schemes offered by the government and are in line with what other water companies offer. Our farm advice and event management are reviewed via a tender process each year to ensure we are getting the best possible costs for these activities.

In summary we are confident in the costs that were submitted in our Business Plan. The cost efficiency applied would have a material impact on the scale of our catchment management activities and thus the associated water quality benefits. We request that Ofwat consider the

costs submitted in our business plan and the cost efficiencies that have been applied to our catchment management programme.

2.6 Biodiversity

The Biodiversity Performance Commitment, which forms part of the biodiversity project proposals for WINEP, has been responded to and challenged in detail in the Outcomes Chapter of our DD Response.

Ofwat have commented that there was no breakdown of costs associated with biodiversity, no 3rd party assurance and no detail on cost efficiency, ensuring no overlap with projects.

Detail of the costs model and approach associated with the performance commitment were covered in detail in the original Outcomes Chapter 9 – Biodiversity, which was submitted along with PR24 methodology for biodiversity which also included further maps and appendices to demonstrate how the proposal was fit for purpose, given Thames Water’s investment in growth and renewable projects over the next AMP. The report also detailed the cost and biodiversity unit gain per project per year associated with the PC, a breakdown plan of action for how we would deliver these biodiversity units per year as well as management and monitoring over the 5-to-10-year project cycles.

The base expenditure costs were developed based on a broad set of information:

- i) The cost model from the Surface Water Management Teams SUDS programme,
- ii) Experience from AMP7 working with a range of contractors creating and managing habitats, such as wetlands, ponds, grasslands, tree planting and those contingencies needed for mitigation, such as archaeological potential, permits, protected species surveying, replacement planting plus long term management,
- iii) Taking into consideration that biodiversity contractors are in more demand and have higher rates compared to other regions in the UK.

These costs were 3rd party assured by WSP, who were partners in bringing the WINEP biodiversity proposals together.

We have challenged the costs model put forward by Ofwat to deliver the performance commitment, which is covered in detail in the outcomes chapter.

Additionally, we have challenged the feasibility of delivering the suggested unit increase per 100km². During our deep dive exercise into land availability, we have shown there is very limited land available for additional biodiversity gains. This is due to the demands for growth, renewables, and land already needed to support mandatory biodiversity gains as part of planning (which cannot be stacked). Land availability is also reduced by the 100 sites where we have created new habitats as part of last AMPs’ bespoke performance commitment. This land is not available for any future new schemes.

The 9 large sites we have put forward are strategic and connect to neighbouring wildlife sites, which is the main object set out under wider WINEP for biodiversity.

For the further WINEP lines, under ID 08TW100896 with NERC_IMP were actions nominated by Thames Water to contribute to increasing the quantity, quality, and connectivity of habitats, as required under WINEP. During February 2024, questions had been submitted by Ofwat to understand the details of these schemes. An actions specification form had been produced but

had not been uploaded by Thames Water for Ofwat to review. We have looked at those projects put forward and reduced, based on the cost challenge from Ofwat, ensuring no overlap and that these projects are in-line with what our stakeholders feel are top priority on our sites, based on local groups that Thames sit on, such as Colne Valley, Lea Valley and the 18 developing Local Nature Recovery Groups. An updated version of the TMS-DD-071 NERC_IMP Biodiversity action specification form has been produced. This work has been produced with WSP as our 3rd party assurers, who we have worked closed with us to deliver biodiversity net gain for the last AMP period.

In summary we are confident in the costs submitted in our Business Plan and are submitting additional supporting information to justify these. The cost efficiencies applied to biodiversity would have a material impact on our ability to deliver the schemes set out in the WINEP. We request that Ofwat review the efficiencies they have applied. We would also be unable to deliver the proposal performance commitment for BNG. We request that this is also revised.