

# SAVE OUR LANDS AND RIVER

[www.saveourlandsandrivers.org.uk](http://www.saveourlandsandrivers.org.uk)

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14th February 2024

Dear Mr Duffy

## **Teddington Direct River Abstraction scheme (TDRA) - Thames Water**

Thank you for taking time in December 2023 to meet with our local MPs and others to see the land and water environments impacted by Thames Water's proposed TDRA scheme.

We want to reinforce the serious concerns and multiple objections we have to Thames Water's proposed TDRA scheme as you, and other bodies, consider their revised draft Water Resources Management Plan 2024 and their 2025-2030 proposed business plan.

We would appreciate it if you, or one of your EA colleagues specifically acknowledged our letter, and ask you to reflect and comment on the numerous and wide-ranging points we make here. We recognize that the EA has a critical role in protecting our water and associated land environments, and we ask you to ensure your role as our guardian of this mandate is brought to bear on this particular proposal.

We also write out of a huge sense of frustration. In the last 10 months our fair, reasonable and specific questions to Thames Water have been met with evasiveness, and token acceptance in appearing to engage as opposed to a genuine acceptance that we have valid evidence-based concerns and can offer constructive challenges to get a better solution. They have in no way proved the case for TDRA and are avoiding answering valid questions. They appear unwilling to believe their process and choices are in any way questionable. Sadly, we no longer believe they have any genuine intention to fulfil their commitment for community engagement to find better, greener and more sustainable solutions. We do not make this statement lightly about Thames Water's intentions. However it is the only logical conclusion.

## **The Save Our Lands And River (SOLAR) Community**

SOLAR is a community organisation that has come together because when people realised what this scheme was actually proposing, the sense of outrage and, frankly, disbelief, was palpable. The

campaign now has the involvement and support of an ever-increasing number of resident communities in the three boroughs affected - Richmond, Hounslow, and Kingston. It is also our view that all local councils will, in due time, clearly show they oppose the scheme because of the environmental and social damage it will cause. In addition, over 70 organisations have now endorsed a Shared Statement of Opposition to Teddington DRA which was previously forwarded to you on November 30th 2023. As a scheme, it is seriously and materially flawed across a whole range of areas. The breadth of support for challenging TDRA will continue to grow and it is already becoming a broader public issue outside the local community because it is such a terrible solution choice.

### **TDRA is not a resilient scheme choice due to its design**

The evidence clearly points to TDRA as a flawed choice for a drought resilience water supply asset. The drought resilience nature of this scheme means it has to have completely guaranteed availability when it is needed i.e during those 4 months or so of drought periods once every couple of years. On this criteria the scheme design falls down on the most basic scrutiny.

- **Drought impacts** - First, and we note from Thames Water's plans that they were "caught out" by the drought impacts of 2022 and now have work underway to try and understand what happened. We are told this work is not yet complete and we do not know when it will be finished. This area of the Thames has the longest data history of river flow anywhere in the country yet Thames Water was caught out in 2022. Given the proposed scheme is a key drought resilience asset, then planning to place it in an area where you are uncertain of the river flows and may not be able to rely fully on those river flows at times of drought makes no sense. The selected location is the final point of collection of water flows before the tidal Thames. The sheer variety of different flows culminating at Teddington, with acknowledged climate changes of a greater drought and storm flows, must increase unpredictability. Yet a drought resilience asset must provide absolute assurance even when the river is at its most environmentally vulnerable.
- **Increased ecological vulnerability** - Second, your requirements for licensing make it quite clear that granting new abstraction licences must be in the context of moving rivers to good ecological status. Proposing abstraction at the very time (summer months) when the river is at its most vulnerable makes no sense at all.
- **Flow uncertainty** - Third, and to compound this unpredictability, the proposed River Thames Scheme (RTS) has already prompted Thames Water to do more assessment on the flow impact in the summer periods - the time they think they might need to operate the scheme i.e. more uncertainty. This review work is also not yet complete we understand.
- **Tidal flow** - Fourth, those who know the river's patterns understand that at Teddington Weir, where the tide meets downstream flow, at times you get overtopping of the weir i.e. tidal flow goes up the river, meaning the planned sewage outfall point would be tipping treated sewage into the river that would be abstracted in the plant a short distance upstream. There is also a reverse flow impact from lock filling and boat movements, both very high at the time abstraction/outflow would be in operation, and none of this seems to have been modelled. On this basis, why on earth would you propose an abstraction and outfall facility so close to each other?

- **Raw sewage impacts** - Fifth, being at the point just below where both the Hogsmill and Mole rivers come in, untreated sewage outflows, not uncommon and on record, could come to the abstraction point - there are recent and regular examples of this happening. This not only puts additional risk into the proposed scheme but also raises a fundamental question about Thames Water's design assertion in their papers that the quality of water going into the Thames Lee Tunnel from the abstraction plant will be of the **same** quality as is currently in there - this simply can't be the case with those incremental sewage outflows.

Thames Water's answer is that fail-safe systems would switch the abstraction facility off if any of these events occurred. The whole point of a resilience asset is that it is resilient. What logic lets you plan and build a resiliency asset which you may need to switch off when you need it? The facility must be there when you need it. This scheme simply cannot provide that guarantee.

Finally, we take little comfort from Thames Water's track record with these types of resilience assets. Beckton Desalination stands as one of the biggest white elephant investments in the water industry, and so many of the basic design concepts are the same - a mechanical and engineering based solution that simply had to work when it was needed but has failed completely to do what was promised. The irony is not lost on the public that the reason for Teddington DRA is because Beckton has failed so spectacularly to provide the 150 mlpd it was intended to deliver for London and that we, as customers, are already paying for !

### **Flood risk not assessed**

The proposed construction requires the imposition of a cofferdam 10m into the river for abstraction plant construction and a 3 metre "obstruction" when the abstraction plant is complete. These structures raise questions about additional flood risk for Flood Zone 3 land at the location of the intake and land directly opposite (NB Thames Water's Initial Environmental Assessment has wrongly considered this area as Flood Zone 2). With winter flows of 400 - 500 tonnes a second not unusual at this point we would expect some assessment of flow dynamics having been considered. However, this potential hazard has been put to Thames Water's senior engineering representatives several times over the last nine months, the latest at their November 2023 "Information Events", with the response that no discussions have taken place with the Environment Agency on this likely hazard and major risk.

### **Winter flood water not used**

The reality of increasing flood and drought events means during winter months there will be increasing levels of flood waters coming down the lower Thames. The River Thames Scheme makes this clear in its current consultation events. The public do not understand why this "free water resource" is not being captured and used for summer needs. For decades reservoirs have proved a safe technology, well understood and completely reliable. Thames Water's assertion that finding land for a new reservoir is not possible is weak and reflects poorly on how well the largest water supplier in England is looking after London as one the global centres in the world.

### **Promotes environmental harm**

From the Gate 2 RAPID decision on this scheme we understand Thames Water still has to address the serious environmental concerns expressed by the Environment Agency. These concerns were due to be addressed by Thames Water, with a submission by the end of December 2023. This date was

already deferred from August 2023. Can you please advise the current position in respect of these concerns?

Outside the risk around the reliability of flows and stressing a water environment at its most vulnerable time during the low flows in the summer, we understand Thames Water will be doing the bare minimum of what is required to get this scheme approved without adequate consideration of future river health. The context should be returning rivers to good status, and improving biodiversity. From what Thames Water say, consideration of this objective has minimal attention in their approach. Not addressing the emerging risks with contaminants (viruses, bacteria, parasites, micro/nano plastics, pharmaceutical waste, PFAS\* (per and poly fluoroalkyl substances) is simply reckless - a group of at least 5,000 individual substances used in industrial processes and consumer products. Thames Water has the advantage of being able to plan decades in advance yet is simply not choosing to embrace what's needed in water ecology to meet both what the public wants and our rivers need.

Can you please guide us on exactly what water standards are going to be deployed for Thames Water to meet? We are told that data is being collected but not what these standards are going to be.

Recent work by Imperial College and by the UK Centre for Ecology and Hydrology has concluded that many chemicals and pharmaceuticals present in treated effluent pose a threat to the freshwater ecosphere. These threats are exacerbated in drought conditions when volume and flow is low and temperature higher – just at the time when TDRA is designed to operate. Indeed in their own documentation on the TRDA scheme TW note that ““concentrations at which individual or groups of chemicals may be disruptive to individual fish species are poorly understood, as is (the effects of) bioaccumulation. At this stage it cannot be assessed. It’s only possible to note an increased risk for potential impact”

This is like conducting a live experiment on the Thames. The long-term impacts of these substances are starting to be understood and other countries are already moving to deal with them. The idea that a “strategic scheme” does not do this is both short sighted and irresponsible particularly where there are many practical and greener alternatives that could be deployed.

Because of the nature and design of the scheme it will on average over 3 years tip into the Thames nearly 2.5 times the volume of treated sewage to abstracted water driven by the need for a continuous “sweetening flow” every hour of the year when not in full operation. In effect it is a treated sewage disposal scheme, not a water supply scheme.

Public opinion on the question of understanding how precious our natural resources like rivers are, is shifting much faster than Thames Water recognises. Their base of research claiming this type of scheme is supported by the public is flawed, out of date and woefully out of line with reality. This aspect reflects exactly how Thames Water missed the public outrage connected with sewage overflows and leaks. They are marching down the same path with TDRA. From all their consultation and information events thus far Thames Water has nowhere stated how many people have actually said they supported the scheme. They are only recording how many interacted with them. If those figures were published their support for this scheme would be miniscule - virtually no one believes it has any merits at all.

The public is looking to the Environment Agency as our guardians of river health not just to stop further harm to freshwater ecosystems but to improve current standards, practices and conditions for the next generations.

### **Thames Water's "Best Value" proposals remain unproven**

Not only has Thames Water comprehensively failed to make the case for TDRA as a "preferred Best Value scheme" but their more recent efforts to explain its value have been so poor, that an enormous majority of those who become aware of it completely reject it

We first asked Thames Water to explain their best value assessments over 10 months ago. Despite months of requests and Thames Water's putting on information and consultation events, they have still failed to provide answers to repeated, and very specific, questions around "show us your workings". In fact, their more recent efforts to explain "best value" have been so poor that public attitudes to the TDRA proposal are even more sceptical. Thames Water only made more effort after RAPID made it quite clear in their Gate 2 final letter last August that Thames Water needed to up its game on public engagement. In fact they have been even worse—Their public documents are almost impenetrable and when you finally find something that may help you (e.g. rdWRMP24 technical appendix B, annexes E and F), the documents state they are available on request. We've asked for them repeatedly and months later Thames Water has still not sent them to us. This reinforces RAPID's valid criticism in their Gate 2 final letter, but engagement has worsened. It's because Thames Water's defensiveness is increasing as public pressure grows. They simply can not see their way to accept they have picked a truly awful scheme to solve a genuine challenge.

Failure to share and demonstrate reliability of data attributed to key factors and their relative weightings has discredited any claim for the validity of this cornerstone of "best value" methodology. So to date the result of Thames Water's efforts has been to accelerate the public disquiet about this TDRA scheme.

### **No work on social and health impacts considered**

It has become clear that Thames Water has not considered at all the social and health impacts of this scheme and that is completely unacceptable. The proposal requires temporary and permanent loss of protected natural habitats (Ham Lands), of areas of heavily used community open space (Moormead Park and Burnell open space), and threats to the safe enjoyment of the increasingly used recreational River Thames. Loss of these amenities carries significant risk of damage to contributors to public health which must be assessed.

The proposed locations for shafts and enabling works across Ham Lands, Burnell open space, Royal Park Gate woods, Moormead park and many other areas would cause enormous harm to protected species, such as known badger setts and other local wildlife. It would disrupt regular sports activities and annual events. The proposed tunnelling through the Ham area will disturb the land (former gravel pits filled in by rubble from the London bombing) Further, the latest news regarding Thames Water planned excavations under the adjacent residential properties (historically affected by subsidence), has caused anxiety amongst locals and will continue to create a progressive impact on their mental health. This requires careful consideration and cannot be taken lightly.

Thames Water now appear to have reluctantly accepted to include something in this area of social impact in their full Environmental Impact Assessment scoping due to be completed by April 2024. This is far too late. It should have been completed to be part of their 2025-2030 business plan and

their rdWRMP 2024. They should be doing what is right, not blindly following minimal requirements.

The trend of increasing use of the above amenities will continue and in their best value model Thames Water has taken absolutely no consideration of this. To describe this scheme as a “preferred best value” without having even looked at this aspect of impact is, quite frankly, a terrible indictment. It is more so because of what Thames Water has stated in its rdWRMP24 - section 2 point 2.3 - that opens the section on environment;

“The Covid-19 pandemic and its aftermath have been accompanied by a surge in public interest in making use of outdoor spaces for recreation and wellbeing, including rivers and streams. This covers a wide range of activities, from simply going for a walk, through to water sports, fishing and wild swimming. Customers have increasingly expressed concern that water company activities are compromising river quality and jeopardising not just these activities but also the health of the river ecosystem itself. Our customers expect us to protect the environment in the course of our day to day activities; this is something which we are fully committed to”.

Thames Water has stated this but from the millions of pounds of public money spent by them on this scheme so far, they have not done a shred of work on this aspect of the scheme. It is these types of things that more and more of the public can't understand and it's because there is no way to understand it logically. Thames Water makes matters worse by saying in their rdWRMP24 that because their process has come up with the same answer (TDRA) as in WRMP19, it gives them confidence they are right. Organisations that develop and learn recognise that when you don't properly critique and review what you do you get stuck in ways of thinking and solutions that are simply wrong. That is what has happened here. No one within Thames Water has properly challenged TDRA with sufficient rigour. The governance and oversight processes they describe are simply Thames Water marking its own homework. This is exactly what happened when Beckton Desalination was chosen. The alternative of Beckton Reuse was known and on the table but rejected. Thames Water is repeating its mistakes of the past with TDRA.

### **Much better, greener and longer term sustainable alternatives**

We have talked to Thames Water about 15 alternative schemes all of which could be better value, greener, potentially lower cost and provide better longer term, more flexible/ sustainable solutions. The total value of these in terms of mlpd are way in excess of what TDRA will provide within the same time frame. We'll outline an example of just one of these below but first we'd like to highlight why describing the TDRA as a strategic scheme does not stand up to the most basic scrutiny.

In our meeting with Thames Water's interim CEO Cathryn Ross and her colleagues on 1st December 2023, we specifically pressed the point that “resilience” schemes should be of scale to deal both with uncertainty levels going forward, and provide flexibility and future-proofing. They agreed with this perspective. TDRA provides insignificant volume and is inflexible. Although it has a deployable capacity of 67mlpd it will only actually - deliver on average 9 mlpd - around 0.5% of London's daily demand. We accept it is the peak demand use that is relevant but building an asset that sits idle for most of its time is a waste of money given the alternative solutions. Its actual utilised volume is in the category of a rounding error in terms of London daily water volume.

In addition It is not really water recycling. Its scheme design means it will on average tip 2.5 times the amount of treated sewage into the Thames compared to what it abstracts. It is basically a sewage disposal scheme risking environmental damage to a unique water course.

Furthermore, because it is periodic indirect water recycling it is a scheme that fails to embrace the future in terms of direct recycling so will be overtaken in due course and therefore become obsolete. This choice by Thames Water is being made at a time when it could choose to rebuild its reputation with the public by committing to develop a visionary direct or indirect potable facility. Thames Water is failing to embrace this opportunity and TDRA demonstrates they don't have the vision or drive to do this.

It is illogical to develop new abstraction facilities like TDRA at a time when, rightly, river abstraction is being stopped elsewhere due to the ecological harm it can cause to natural water sources. Furthermore, the idea of designing a facility to specifically abstract during summer periods when the river is more ecologically stressed is nonsensical. Stressed and vulnerable water courses become so because of abstraction actions taken. TDRA is a prime example of the type of solution that will be seen in future years as another white elephant investment that made not a jot of difference to solving the real challenge. It is worrying to note that in the Section 35 application Thames Water did not describe TDRA as a drought resilience measure raising the possibility that Thames Water may look to utilise the abstraction facility beyond anything that has been consulted on.

The points above are even more important when you look at the uncertainties and increased stresses from climate change. It is well understood that climate change is going to exaggerate the extremes of water surpluses and droughts. The strategic solution to that is a water strategy that utilises winter surpluses in the summer is reservoirs. Thames Water's TDRA answer to the challenge of water in the North East of London makes no sense at all. Thames Water saying they can't find the space/land to create more reservoir capacity to serve London is unacceptable. A new reservoir for London is needed, as recognised by the interim London Climate Resilience Review just published by the London Mayor, The answer is not a small, inflexible, operationally flawed and ecologically/socially damaging scheme like Teddington.

The recent level of flood waters across the country highlight in the mind of the public not only the challenges this brings, but also the opportunities in the context of water provision at stressed times of the year. In the past months in less than 4 minutes the volume of water that Thames Water says it needs at peak times of use for TDRA flowed over Teddington weir and washed out to sea. It might be inconvenient for Thames Water to apply themselves to this challenge but the very well proven route of reservoir storage has been with us for multiple decades - a durable and completely reliable solution.

As one example of solving the challenge is the possibility of improving water availability from the Queen Mary reservoir. Years of gravel extraction means there is more water in there than Thames Water has used in its water resources modelling. They have now accepted this and, finally, after months of asking have just passed us the bathymetric survey baseline they are using from 2014. There are 4.8 billion litres of available water in this one reservoir alone that are not in Thames Water's supply model. We have follow up questions to clarify Thames Water's numbers (we believe there is even more than the 4.8 billion litres they are saying). 4,8 billion litres equates to some 60% of the requirement TDRA is due to deliver during its planned peak operation. This is from just one of the 19 reservoirs in East and West London. This opportunity has not even been evaluated in Thames Water's "Best Value" model.

The National Infrastructure Commission makes it clear that in the future optimising existing assets offers some of the best gains. The example above may well lead to the public asking if there are other examples that could be found in other reservoirs in the west and east of London. This optimisation seems absent from Thames Water's plans.

We quite understand simply making better use of existing assets will not solve the whole challenge and that alternative larger supply schemes like Beckton recycling/ Mogden recycling or canal transfer schemes are also needed in terms of scale and resilience. The point about cost of alternatives is key and the associated cost of future debt for building new assets like Teddington from a customer perspective. Thames Water has confirmed this scheme alone would add up to £4 per household to their bills - that's some £750m over the planned asset lifetime. This is an eye watering level of wasted money that could be so much better spent.

### **Conclusion**

The TDRA scheme is dealing with a water supply challenge in the coming decades with a scheme that is not strategic, resilient nor offers scale. It is environmentally and socially damaging and wholly unsupported by the public in the face of much better alternatives. We ask the Environment Agency to help protect this part of the river and help meet your stated aspiration of making " **this the first generation to leave the environment in a better state than it inherited**". SOLAR cannot accept the Sec of State's decision that the Teddington DRA is a strategic scheme in terms of approach and it is not a nationally significant scheme given its minimal scale of impact. We urge you to get Thames Water to take this scheme out of their plans and to prioritise the exploration of the credible alternatives.

We kindly request this letter be reviewed and we would like to hear your views on what we are saying, despite the project being "in its early stages". We look forward to receiving your response reflective of our shared commitment to finding sustainable solutions for our community.

Yours sincerely,

Ian McNuff

For and on behalf of SOLAR

C.C. Munira Wilson, Sarah Olney, Ruth Cadbury, Ed Davey MPs

Steve Barclay, Secretary of State, DEFRA

Robbie Moore, Minister for Rural Affairs

Lee Rowley, Minister of State for Housing

Steve Reed, Shadow Secretary of State DEFRA

Sadiq Khan, Mayor of London