**Thames Water Consultation on its Water Resources Management Plan 2024 (WRMP24) and the response from the River Thames Society**

**Introduction**

1. Thames Water (TW) have just finished a consultation on the latest iteration of their Water Resources Management Plan. This is an updated version of the note prepared in February 2023 to assist the River Thames Society (RTS) formulate its own response. Our response was submitted on 20th March 2023 and is attached here. We provided a reminder of the line taken previously, when the RTS responded to the 2019 iteration of Thames Water’s plan, and included that response for information. Thames Water is now considering the many responses to the consultation and is expected to provide a Statement of Response in June 23.
2. We discovered that in addition to the consultation papers on [www.thames-wrmp.co.uk](http://www.thames-wrmp.co.uk), there were many more relevant papers from the ‘Gate 2’ submission on <https://www.thameswater.co.uk/about-us/regulation/strategic-water-resource-solutions>. These papers were extensive and filled with acronyms and abbreviations. There were options in the submissions (published 25 Nov 22) which were not expanded on the consultation (published 13th Dec 22), and were missed out entirely in the easy-read summary.
3. Some of the changes being proposed, ie transfer of water from the Severn and a new reservoir near Abingdon, are likely to require a Development Consent Order (DCO), meaning the final planning decisions are taken through a parliamentary process. However, the other proposed changes are of smaller scale or only affect limited areas meaning relevant aspects are expected to come back later for local planning permission. This will give another opportunity for comment, although the pressure for approval will increase as time runs out.

**What is planned?**

1. Because of the increase in population, the need to reduce extraction from chalk streams and increased resilience for drought precipitated by climate change, a greater supply of water is needed for the longer term. Reduction in demand and in leakage alone are said to be inadequate. Groundwater sources are limited. Although transfer between water companies was being encouraged this time, TW is planning to give water (to Affinity Water and Southern Water) as well as receive (eg in transfer from the Severn). Abstraction from the Thames is the cheapest way to increase supply as well as one of the quickest, but other methods in play include more direct re-use of treated sewage and desalination.
2. A proposal in the consultation which could be effective quickly is ‘DRA Teddington’, ie more direct river abstraction at Teddington. This was refused previously because of the impact on the residual river. This time more limited extraction was being proposed with the same volume of sewage effluent sent to the river (after added treatment) to substitute for the extracted water. The volume proposed (75Ml/d in the consultation, but at least 100Ml/d and maybe 150Ml/d in the gate 2 submissions) was said to be manageable for the river in terms of temperature, chemical and microbiological composition, and impact on navigation. This scheme would be fully activated only at times of water stress.
3. In the gate 2 submission, but downplayed in the consultation papers and missing entirely from the non-technical summary, were two other schemes for reuse of sewage effluent which could be activated in the next decade. One is Mogden re-use, in which treated effluent from Mogden has further treatment then is discharged into the river at Walton Bridge, with increased extraction of river water a bit further downstream. The other re-use scheme, down the estuary at Beckton, would involve sewage discharge which was treated well enough to be pumped via a short section of waterway to enter a reservoir in the Lee Valley.
4. As proposed previously, TW want a new storage reservoir south west of Abingdon, in what is known as the South East Strategic Reservoir Option (SESRO). It is said this proposal could come with many potential environmental and biodiversity improvements, with public access and recreation and mitigation of flooding. These aspects would be very important in enabling a more positive overall score in the system for judging these schemes. The target date for SESRO to deliver water to the system is 2040.
5. There were also proposals to transfer surplus water from the Severn and its catchment, in the Severn to Thames Transfer (STT). Options here use either a new pipeline or the Cotswold canals, part of which would need restoration to facilitate this. This would have a long lead time being effective from 2050 onwards.
6. There is limited use of additional groundwater sources and discussion on the current desalination plant at Beckton, with for the longer-term potential greater use of desalination and more reuse of waste water, eg from Deephams on the River Lee (after 2061).

**Teddington DRA**

1. This attracted most media attention. Neither extraction of river water nor discharge of treated sewage into the Thames are new. Mogden ex-sewage put into the river at Teddington would need additional treatment over and above that used currently for discharges at Isleworth because of higher standards for discharges into non-tidal rivers. The key question is whether this treatment is good enough, and whether aspects such as increased temperature risk ecological damage.
2. Were the advanced water treatment of effluent at a very high standard, then passaging through and dilution in the Thames would not be needed before extraction for subsequent treatment as drinking water. The direct transfer of treated sewage by pipe into reservoirs is being advanced for the Beckton recycling option, after only a short period in the non-navigable River Lee diversion, and there is extensive international experience of the use of recycled sewage, eg in Singapore. An option of treated Mogden effluent going via the Thames Lee Tunnel (TLT) to the reservoirs without having to go in/out at Teddington first had been edited out earlier in the TW process.
3. In the current proposals, an expanded facility at Mogden would be needed for tertiary treatment of effluent, and since space is limited, this might have to be built upwards. So gaining planning approval presented a risk (LB Hounslow). The exact route to the Thames has yet to be disclosed, but temporary disruption from tunnelling would be expected.
4. The outfall for the treated sewage is said to be 140m above Teddington Weir on land on the Surrey bank owned by Richmond Council. It would be used at its maximum only in drought conditions, but with a ‘sweetening’ flow at up to 25% needed all the time. Plume modelling shows the discharge moving across the river to the Weir. We know that at high springs flow in the river here can be reversed, but there is also an impact from lock filling and boat movements and none of this seems to have been modelled. We need to be convinced that the outflow would not end up stagnant in the lock cut, or flush back to fill the pound further upstream. There seems to be no scope to limit the discharge to certain times of day or to be influenced by the state of the tide just below the weir.
5. The Gate 2 annexes include extensive data on the expected water quality and estimates for changes in temperature and oxygenation and impact on the environment. Data on turbidity and olfactory impact on humans are not yet available.
6. The site for the increased abstraction at Teddington is to be 140m (gate2) or 250m (oral reply at consultation event) further upstream. The overall river level should not change since in/out flows are to be the same, but there is no record of the navigational impact at this site being considered, including what happens with residual flows, or in the 140-250m between intake and output, and whether the extra contribution from sweetening flow has any significance during floods. The river is expected to be busiest in high summer when the weather is hot and flow reduced over the weir in any case which is when added extraction/additional discharge would be most likely. This section of the river is very popular with many small boat clubs (Lensbury, Tamesis, Kingston Rowing club, the Skiff club, Tiffin Girls School, Kingston Royals Dragon Boat Club, Walbrook Rowing club, Kingston Royal Canoe club, Surbiton High School Boat club etc) and with wild swimmers ignoring warnings not to enter the water. The River Thames Boat Project operates locally, often moored up in the lock cut, and has responded with severe criticisms of the proposals.
7. This is a heavily used and sensitive site. The water being put in will be of worse quality than the water being taken out, so leading to a deterioration in the residual water in the river. Once the infrastructure is in place, Teddington DRA could be racked up to greater volumes of in/out, separately or together. Relative cheapness for TW comes at a price for others who use the river, with the need for speed now in part a consequence of poor previous planning.

**Mogden-reuse**

1. Although the Teddington DRA involves some re-use of Mogden waste, there is also another option in gate 2, to be progressed a bit later unless needed to substitute for repeated failure of Teddington DRA to get the go ahead. This involves “Final effluent harvest, recycling water, convey to River Thames upstream of Walton” and was not in the consultation easy summary. It involves diversion of some effluent received and partially-treated at Mogden via a pipe to near Kempton Water Treatment Works (WTW), probably at Hydes Field, within Green Belt but retained operational land owned by Thames Water. After going through a AWRP (advanced water recycling plant), cleaner water would be sent to the Thames at Walton (adjacent to the downstream side of Walton Bridge on northern bank), so enabling more water to be extracted from the river (nearby and a bit further downstream).
2. Some disadvantages are summarised in 6.33 of the gate 2 summary, including “Permanent change in character of the immediate area around the new AWRP near Kempton WTW and Walton Bridge discharge. Visual amenity changes at Walton Bridge for recreational users of local rights of way, the Thames Path and users of Walton Bridge.” This time, the discharge is upstream of the intake but will be diluted by the standard river flow. The 25% maintenance discharge year-round might add to flow concerns here, especially in flood conditions. Since it is missing from the most accessible forms of the consultation, and there are no local consultation events, TW may not be expecting any local views this time.

**Reduced outflow at Mogden**

1. Reduced outflow of non-saline warm ex-sewage would be an inevitable consequence of either the Teddington DRA or Mogden re-use schemes, and would also apply were Mogden discharge to be treated to be good enough to go direct to the reservoir. The Gate 2 annexes include data that looks at the estimated impact of a deficit in the current outflow on physical and chemical characteristics in the upper tideway, but more is needed. This area is important for various estuarine species and water birds, as well as for human users. Some impacts have been considered for the Richmond autumn draw down period, but only limited data at locations and other times that could be crucial for people and wildlife. Maximum loss in navigable level has been estimated at 5-6cm. For various measures like temperature, salinity and solutes, loss of effluent shifts the position upstream or downstream in the river to where it would then get close to the current situation, and it might be helpful to see this shift given as a measure. Navigators and estuarine species may not care much about another mile on the tideway, were matching the current conditions crucial to them.
2. Areas where more data are needed include the all-year impact on the water in the Richmond pound, especially in the height of summer. The passenger boat operators need to know how much longer they may need to wait for safe passage through Syon Reach at low springs. Operators of tidal dry-docks can be affected by even a few cm, with high water levels of most concern. The altered circumstances also need to be considered for those using the tidal grids and slipways.

**South East Strategic Reservoir Option (SESRO).**

1. The RTS supported a reservoir scheme previously, even though we note there has been some sustained local opposition. The reservoir would be partly above ground and partly built below. The intake/outflow from the reservoir is anticipated as being between Abingdon and Culham locks on the right (Abingdon) side, nearly opposite Culham cut. Aspirations for the proposals include provision of space for water-based recreation, footpaths and cycle paths, extensive wetland habitats as part of replacement floodplain storage, and assistance in the restoration of a section of the old Wilts & Berks canal.
2. The consultation questions concern not whether there should be a reservoir, but whether it should be 100 Mm3 or 150 Mm3, which TW describes as a close call, although they have opted for 100 Mm3.

**Severn to Thames Transfer (STT).**

1. The Cotswold Canals Trust has been enthusiastically supporting the potential for TW to help complete the restoration of the Cotswold canals, thereby enabling a through route from the Thames to the Severn as well as the much-needed water transfer. Detailed arguments from them are on [www.cotswoldcanals.org/wxfer](http://www.cotswoldcanals.org/wxfer). The alternative preferred by TW uses a pipeline for much of this water transfer which comes at a smaller short-term financial cost, but fails to deliver on the environmental and amenity benefits. The aims of the RTS have much synergy with those of the Cotswold Canals Trust, and it is suggested we take their lead in supporting this sub-option.

**Summarising Comments relevant to RTS and its members**

1. Although this time, unlike the last, TW was asked to collaborate with other water companies in the South East, it feels as if some contingency planning ought to be even wider. Responses to the consultation would be considered by Ofwat, which has some accountability direct to parliament. The DCOs on the SESRO and STT proposals will gain national public debate, but other more local schemes are likely to be excluded from them.
2. Whilst encouraging action to reduce leakage and also reduce demand, it may have to be accepted that new water resources will also be needed for drought resilience, and to enable reduced extraction from the most sensitive sources, eg those drying-up chalk streams. We are generally most comfortable with ‘natural’ sources, like catching water when it is spare in new reservoirs or transferring it from wetter regions in the UK.
3. It may have to be accepted that increased use of recycled dirty water, eg treated sewage, will also be needed. For this there would need to be appropriate monitoring and research on safety for human consumption in the long term, with contingency planning for (a) raising standards to the best internationally and (b) such water to be found unsafe in the future. If Mogden waste is to be used, then treating it to the standard that enables return indirectly to a reservoir seems preferable to the Teddington DRA scheme as it is at present.
4. Thames Water (TW) has an uphill battle to gain public confidence, in view of its handling of repeated discharges of raw sewage into the Thames. The mismatch between the gate 2 submission and the consultation papers does not help, nor potentially misleading graphics in the non-technical summary. TW claims to be committed to openness, but this consultation has suggested otherwise.
5. For many, confusion has arisen over the several ways Thames Water can discharge waste into the Thames, not helped by some media comments. These are (1) untreated raw sewage spilling over from CSOs (combined sewer outflows); (2) filtered but otherwise untreated sewage discharged from sewage works under storm discharge permits; (3) effluent treated to the standards required for tidal water; (4) effluent treated to the standard required for non-tidal water below any extraction point; (5) effluent treated well enough to enter waterways from which drinking water is extracted further downstream and, (6) effluent treated to such a high standard it can be discharged indirectly into reservoirs for subsequent treatment as drinking water. With the background of adverse publicity about discharges of untreated sewage, ie (1) and (2), it has become apparent that what was being proposed for Mogden discharge at Teddington (4) was more-highly treated than that currently discharged at Isleworth (3), but not to the standard currently used further upriver (5). Also, treatment of Mogden effluent to avoid the need for it to go back into the Thames (6) was feasible, but this option had been dropped in favour of Teddington DRA.
6. Confirmation was sought from TW on the above description of different grades of discharge, and a helpful full response was eventually received. When out of politeness TW were then asked if this could be posted on the RTS website (ie in this paper), there was some backtracking, with concern it had not been prepared for ‘publication’, and further checks would be needed. We are still waiting. So TW’s version is not yet here - sorry
7. We cannot support the Teddington DRA in the absence of reassuring data on the impact on the local river and its users. If the reuse of Mogden discharge at Walton is to be progressed, then explicit local consultation is needed. For any reduction in effluent at Mogden, there needs to be more data that provides reassurance, with positive mitigations proposed to support the upper tideway and its users. We have previously supported the Abingdon reservoir and the water transfer option that uses the Cotswold Canals and continue to do so, not least because of their amenity and environmental potential.
8. Since we submitted our response, we have had sight of comments from many others, especially about Teddington DRA. There has been debate with the 2 local MPs and a stakeholder group formed by TW, on which the RTS will be represented. Although responses from statutory consultees are not yet public, the key response from the **Environment Agency** (EA) has become available, extracts of which have appeared in the media. Many of their comments have synergy with those from the RTS. On Teddington DRA, the Environment Agency still has a number of reservations based on impact on the environment and viability in the long term. Given that the Teddington Direct River Abstraction has not yet been shown to be feasible or environmentally acceptable, the EA say TW should ensure alternatives are progressed, asking that Thames Water ensure any options selected are resilient, reliable and do not cause any adverse environmental impacts.

**This paper has been drafted for the RTS website on www.riverthamessociety.org.uk. For those reading this who are not yet members of the River Thames Society, please look at our website to learn more about us including the benefits of supporting us with your membership.**

**** consultation response from River Thames Society

 20th March 2023

**Re: Thames Water Consultation on its Water Resources Management Plan 2024**

By email on: consultation@thames-wrmp.co.uk, cc water-resources@defra.gov.uk

The River Thames Society (RTS) is a long-standing member organisation concerned with the health and use of the River Thames. For more about our aims, see the response we made to the WRMP2019 consultation, attached for information.

It is unclear to us if the experience of summer 22 affected the water supply resilience requirements in time to be included in the draft currently being consulted upon, or whether the modelling may need to be updated. We may need a fundamental rethink about the likelihood of drought events and just shifting the date for achieving various resilience targets may not be good enough.

Q1. The RTS supports reducing extraction from vulnerable chalk streams and the highest level of environmental improvements

Q2, Q3. The RTS supports all action to reduce demand and stop leaks: this must be top priority. 50% reduction in leaks by 2050 is an insufficient challenge.

Q4. We are in favour of the SESRO (South East Strategic Reservoir Option), but have no consensus views from our members on which size to favour

Q6. Limiting customers’ bills is important, but relative immediate financial costs must not be allowed to dominate decision-making. Whether above Teddington or elsewhere, Direct River Extraction (DRA) may appear cheap, but is associated with long-term disadvantages to the environment and our enjoyment of it. The existential impact of DRA on chalk streams has taken too long to be recognised: we must avoid the same applying to the main river

**Q5 Do you have any comments on the new water source options included in our draft plan? Together with Q7 ‘Do you have any other comments on our draft plan?**’

Water transfer.

* In general, we support collaboration between water companies with water seen as a precious national resource, not just a commodity to be traded.
* We appreciate the many amenity advantages from reopening the Cotswold Canals, which could also play a key role in water transfer. This option for STT (Severn Thames transfer) has our full support.
* It could be important for the UK to have the strategic capacity to transport raw water by ship. It is unclear if this option was assessed only by considering those responding to a bid. A UK-wide rather than a Water resources South-East view might be more appropriate on this for the medium term, and enable the UK to remain self-sufficient in water

Reuse of treated waste water

* Mogden-recycling that involves water out/in at Walton needs to be subject to explicit consultation, rather than having it slipped under the radar. The same applies to recycling at Beckton. The crux for both these schemes will be the quality of the water after treatment and how any otherwise adverse impacts on the river are able to be mitigated
* If Mogden waste were treated to the right standard, it could be sent via the TLT (Thames Lee tunnel) direct to East London, so avoiding the disruptive in/out as in the Teddington DRA. In our view, this would be preferable than disturbing the river further at Teddington.
* If Modgen waste is diverted from its usual outflow by Isleworth Ait, there would be consequences for the local river which have not been adequately explored to date. This area is important for various estuarine species and water birds, as well as for human users.
	+ Some impacts have been considered for the Richmond autumn draw down period, but data is needed at locations and other times that could be crucial for people and wildlife.
	+ Areas where more data are needed include the all-year impact on the water in the Richmond pound, and especially in the height of summer when incoming tide combines with low fluvial flow.
	+ For various measures like temperature, salinity and solutes, loss of effluent shifts the position upstream or downstream in the river to where it would then get close to the current situation, and it might be helpful to see this shift given as a measure. Some estuarine species may not care much about another mile on the tideway, were matching the current conditions crucial to them.
	+ With maximum loss in navigable level estimated at 5-6cm, passenger boat operators need to know how much longer they may need to wait for safe passage through Syon Reach at low springs. Operators of tidal dry-docks need to know how much they could be affected, with high water levels of most concern. The altered circumstances also need to be considered for those using the tidal grids and slipways.
	+ It is unclear how the operation of Richmond lock and Weir could be impacted.
	+ Local mitigations may be needed
* Continued reuse for drinking of human waste water may be inevitable going forward, but demands extensive monitoring and research in the local context, not just relying on international data, since some of the pathogens/toxins/enzyme-disrupters/pharmaceuticals etc may have greater representation in the UK than overseas. Deregulation must not be allowed to reduce safeguards for UK water users.
* In relation to Contaminants of Emerging Concern (CECs), we are not reassured by: “However, for CECs, if in future the UK water quality regulations were to be heightened in line with recent USEPA (United States Environment Protection Agency) guidance, compliance will be very challenging for most of the UK new and existing water treatment works” (gate2 summary p5.9). Contingency planning for higher standards, say at least to that in USEPA guidance, is needed. This may mean different and bigger sites being reserved for Thames Water to use for further treatment of waste. It may not be right to rely on the current land at Mogden which is already too restrained, planning instead that any tertiary or other advanced treatment has the space it needs for the medium and long as well as short-term future.
* Comments from the RTS in the last consultation are still pertinent. Monitoring of potential impacts from the increasing use of recycled water needs to include livestock and companion animals and the potential for unknown unknowns.
* Scenario planning must include the potential for multi-used recycled water to be found unsuitable for drinking, eg if new data arises on the long term adverse impacts of microfibres or there is a major long-lasting contamination event. Planning must ensure minimal levels of safer sources of drinking water could remain available for the nation, including investment in desalination.
* We have yet to form a view of the schemes with long lead-times at Beckton (at confluence of the Roding/Barking Creek and the tidal Thames in East Ham), at Crossness (where sewage from the Southern Outfall is prepared for discharge in Thamesmead), and others on the R Lee including at Deepham (Edmonton).

Teddington DRA

* The case has not been made that it would be appropriate to have further extraction at Teddington. Although drafted in relation to existing extractions, it is pertinent to note: ‘recent precedent suggests that it is generally incumbent on water companies to prove that abstractions do not have a detrimental impact on the environment in order to make the case for why licence reductions should not be made, rather than to find evidence of impact and make licence reductions in response’ (Section 11 consultation papers on Overall best value in 11.13). Inadequate data has been provided on the Teddington DRA scheme and some of the current data are concerning, hence we cannot give it our support.
* Serious questions are raised but not yet answered about:
	+ river flows and its relationship with river traffic, lock and tidal movements (back flows upriver are seen regularly at this location so extracted water might well include treated effluent which would have to meet drinking water standards after all): actual measurements of flow and not just theoretical modelling are required;
	+ the totality of the impact on local water quality, which inevitably will be reduced;
	+ the navigational impact above the weir which needs to be assessed by the local competent authority (Environment Agency), not just assumed to be negligible, and include users of small sail and man-powered vessels including paddlers
	+ interference with multiple leisure users of the river and its bank including swimmers, fishermen and those looking for temporary bankside mooring;
	+ aesthetics, noise, odour and other nuisances as well as potential health impacts for those nearby, including those on the river, both banks and the residents on Trowlock Island opposite;
	+ disturbance to local ecology, not just for the pound above the weir, but also for the Richmond pound below.
* The treatment being proposed for waste discharged at Teddington is some improvement on that for waste discharged at Isleworth: however, we believe any benefits are outweighed by the other disbenefits noting this effluent would still be of a lower quality than that discharged further upriver.
* Teddington DRA would not be needed were Mogden effluent to be treated to a high enough standard to be able to enter the TLT direct or to be discharged to the river at Walton, either of which we would favour over Teddington DRA, subject to appropriate mitigations being applied.
* Navigation needs to be maintained at all times with no further reduction in the permitted minimum flows over Teddington under the LTOA (Lower Thames Operating Agreement).

Mrs Hilary Pereira, for the River Thames Society, on hilary.pickles@doctors.org.uk

***FOR REFERENCE***

***DRAFT WATER RESOURCES MANAGEMENT PLAN 2019 – RIVER THAMES SOCIETY RESPONSE.***

*1.*  ***INTRODUCTION***

*1.1 The River Thames Society was established in 1962 and since then it has become the “voice of the River” from source to sea. The Society has five branches covering the whole River Thames and they are the core of the Society being involved in planning issues, working with other “River” organisations and taking part in a range of River events. The Society also organises a River Wardens Scheme.*

*1.2 The aims of the Society are:-*

* *To protect the natural beauty of the River Thames, adjacent lands and buildings of historical and architectural interest and promoting nature conservation.*
* *To support and contribute to the efforts of other organisations with similar interest in the River.*
* *To preserve and extend amenities and to encourage the use of the River for all purposes.*

*1.3 We have carefully considered Thames Water’s proposals in its “Draft Water Resources Management Plan 2019” and this paper summarises our views.*

*2.* ***THE RIVER THAMES SOCIETY RESPONSE***

*2.1 We welcome the proposals to meet some future water demand by improving leakage control, smart metering and public education on water usage. This is environmentally friendly and cost effective. The company must however take these initiatives very seriously and significantly invest in them if they are to be successful. The company has a history of not effectively managing leakage control and little real progress has been made on public education. We need to be REASSURED THAT THE COMPANY WILL VIGOROUSLY PURSUE THESE COMMENDABLE INITIATIVES.*

*2.2 We also feel that these initiatives should also include industrial and farm users. These activities also have significant impacts on Water demand and we feel IMPROVED DEMAND MANAGEMENT SHOULD INCLUDE ALL WATER USERS.*

*2.3 We are anxious that the Plan will not result in increased abstraction which is not carefully controlled and environmentally sensitive. Over abstraction in the Thames and its tributaries (particularly in times of stress) is clearly greatly detrimental to the environment and is not sustainable. The Plan needs to REFLECT CAREFULL MANAGEMENT OF ABSTRACTIONS GENERALLY.*

*2.4 Turning specifically to the issue of taking more water from the River at Teddington weir, we have some concerns regarding this. Although some/all of the treated discharge from Mogden would be piped up to enter the River to compensate, this would only assist in maintaining flow between Teddington and where it would otherwise have entered the River at Mogden/Isleworth, leaving the shallowest reach of the River, i.e. Syon Reach potentially impassable at low tide even for the smallest vessel. This would also have a significant environmental impact on that reach of the River. At times of stress the existing rates of abstraction produce very little river flow between Teddington and the Richmond half tide barrier when there has been little rain up river. This causes problems with oxygenation and keeping the fish population alive. This could potentially get much worse with the current proposals.*

*2.5 In more general terms we are concerned about the unclear impact of the ecology of the tideway arising from – excess nutrients, turbidity, odour, chemicals, contaminants and reduced oxygenation from the addition of treated waste from Modgen entering higher up the River than at present, with less tidal mixing and also the water being held virtually static for hours by the half tide barrier with increased salinity further downstream.*

*We strongly feel therefore that any increased ABSTRACTION AT TEDDINGTON SHOULD BE MANAGED IN SUCH A WAY THAT EFFECTIVE NAVIGATION IS MAINTAINED AT ALL TIMES AND THE ECOSYSTEM OF THE TIDEWAY IS NOT DAMAGED.*

*2.6 Turning to the implications for Human Health we have some concerns. Endocrine disrupting chemicals and other harmful discharges into rivers have been a concern for some time. The potential cumulative impact of recycling water with not all hazardous agents removed by standard treatment processes could have an impact on human health. Although there is specific monitoring for many hazardous discharges the greater intensity resulting from intensive recycling water could potentially cause problems. There also remain concerns about current unknown unknowns e.g. -*

* *For products where international use and experience is not directly comparable and so confidence cannot be drawn from reuse schemes elsewhere.*
* *The generation and spread of atypical animal or human pathogens including novel infections, agents including antimicrobial resistance.*
* *Trade effluent from illicit uses e.g. the production of recreational drugs.*

*In view of the foregoing we seek REASSURANCE THAT THAMES WATER WILL PUT IN PLACE ROBUST MONITORING AND TREATMENT PROCESSES THAT WILL PROTECT HUMAN HEALTH AND THE ECOSYSTEM OF THE RIVER WHERE RECYCLED WATER IS CONCERNED. There is also concern about companion animals and livestock which may have susceptibility to some hazards which is different from that seen in humans.*

*2.7 We note that the proposed reservoir at Abingdon is now quite a distant proposition. We believe that the proposed reservoir site is the only viable site in the Thames Water geography and we feel detailed plans for its viability and environmental impact etc. should be reinvigorated and perhaps brought forward as part of the plan. We do not believe that the Plan will be effective without the construction of the reservoir perhaps sooner than currently anticipated. We feel therefore THE PLAN SHOULD INCLUDE A RE-EXAMINATION OF THE TIMING OF THE PROPOSED ABINGDON RESERVOIR AND EARLY CONSULTATION ON ITS IMPACT.*

*3.* ***CONCLUSION***

*3.1 The Society has some serious concerns about Thames Water’s Draft Water Resources Management Plan 2019 and we have defined these in this response. We would be happy to discuss any elements of our response further as required.*

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