

THE WORSHIPFUL COMPANY OF WATER CONSERVATORS

STATEMENT ON ITS POSITION IN RESPONSE TO THE DEFRA CONSULTATION ON ENVIRONMENTAL TARGETS, 16 MARCH 2022

SUMMARY

S1. This is a Statement by The Worshipful Company of Water Conservators. It is a City of London Livery Company, focussed on the long-term health of our water resources and the broader environment. Our members include senior professionals from water, environmental and related industries and regulators, along with others who share our passion for water and the environment. Our experience and knowledge ranges from the complexities of environmental sciences, through the application of engineering to deliver the goals identified by those sciences, and the subsequent management of the assets created. We are mindful of the impact of any decision relating to the water environment, be it environmental, social or economic.

S2. The Company agrees that there is a need to develop water and waste water management practices to meet environmental needs and public expectations. The Company supports and welcomes the concept and execution of a 25 Year Environment Plan. This Statement addresses the Targets for which it has specific expertise. It is mindful that this is an additional demand on water service customers at a time of economic pressure and it will be for Ofwat to ensure that this is regulated fairly.

S3. The Company is advocating the following:

- There is a need for a ‘road map’ to explain how the current and water management initiatives are meant to relate to each other. As presented, they are a collection of *ad hoc* proposals. These Targets need to be integrated with other relevant initiatives and policies.
- An overarching River Use and Quality Strategy, which builds on the existing Basin and Catchment Plans, but draws on past experiences, is required to provide a holistic framework to fit the Targets into.
- The government itself must take responsibility and develop policies and actions beyond setting targets. This includes encouraging behavioural change and making sure that current and proposed legislation, and guidance on matters such as planning and development, regulation and charging, continue to be fit for purpose, properly applied and executed.
- The Proposals need better economic appraisal.
- Achieving these environmental aspirations requires active stakeholder participation, from people to voluntary organisations to companies. The government can provide national leadership in bringing this about.
- The Company suggests that the time has come to create a working nexus between Citizen Science and Citizen Delivery and it will be considering how this could be best achieved.

S4. The Company recognises that after all the effort that has been made it may be too late to change the nature of the Targets, but they do seem overly simplistic and the Company recommends that there must be more sophistication and refinement of the Targets as and when they are reviewed.

INTRODUCTION

1. The Company has consistently supported the 25-year Environment Plan concept and welcomes this opportunity to comment on the proposed Targets. The Company's principal focus is water and environmental management which is the focus of its submission, but in doing so it sets out some broad principles which apply to all the targets proposed in the Consultation Document. It has already made submissions to Defra on the call for evidence on commonly littered single use plastics and on the proposal to designate an inland bathing water at Oxford. It should also be seen as a companion to its submission in response to the consultation on Defra proposals for a Storm Overflows Discharge Reduction Plan.
2. The underlying thesis underpinning this submission is that the nation has reached a point where it must be recognised that everyone has a role to play in delivering the desired Targets. For example, we must all avoid flushing used care products down toilets as a contribution to avoiding sewer blockages and consequent overflows. In respect of water management, society at large must accept the principle that water and sewerage companies' core business is transport and production, i.e. they produce drinking water and transport it to customers and then collect and transport used water and thence produce clean effluent for return to the environment. They have no direct control over what the consumption demands or used water qualities are. It must be recognised that the limits are being approached of what they and the regulators can achieve alone in terms of behavioural change influencing customer demands for products - ample good drinking water and better treated sewage discharges. (The Company's response to the Defra consultation on wet wipes sets this out.) This insight seems to be missing from the proposals in the Consultation Document. There seems to be a continuing expectation that, in the case of water management, the companies and environmental regulators will deliver the targets, but, for example, the reduction in treated water consumption will need a much broader and deeper effort. For example, in the Defra Consultation document on the plans to reduce storm flows, reference is made to 'actions that we can all take to reduce the amount of rainwater entering our sewers and keep them flowing freely'. The Company has already advocated this kind of approach in its submission for a holistic strategy for dealing with used care products. The Company would like to see the government take national leadership in the concept of Citizen Delivery.
3. Citizen Science is defined as public participation in scientific research, monitoring, and action research whose outcomes often advance scientific research by improving the scientific community's capacity to carry out its duties, as well as increasing the public's understanding of science. It has been used increasingly, for example, in river management. But to some extent this misses a major point that, as this submission demonstrates and as is highlighted in the outcomes of COP26. Citizen Delivery will be a very important vehicle for achieving environmental aspirations. The Company suggests that the time has come to create a nexus between Citizen Science and Citizen Delivery and it will be considering how this could be best achieved.
4. The Chartered Institution of Water and Environmental Management, and indeed many others, has described the wide range of tools available to government to achieve the aspiration, ranging from behavioural leadership through to regulation. The Company submits that not enough of these delivery tools have been employed to meet the desired environmental outcomes and urges government to consider them when reviewing the existing legislation and practices as part of the ongoing execution of the Environment Act 2021.

5. The Company supports the drive to secure environmental improvements in all areas. The Targets miss the point that these will be best achieved by focusing on specific and local concerns rather than a broad-brush national approach. Water scarcity, for example, is of profound importance in some areas and of little foreseeable concern in others. Extra spending in a period of economic difficulties ought to focus on instances where tangible benefits will be attained. Have the proposals been subjected to the Treasury 'Green Book' on Appraisal and Evaluation (updated March 31 2022)? There does not seem to any reference to this amongst other criteria in the Annex. More focussed and appropriate cost benefit analysis is needed.
6. The Targets need to ensure that they facilitate a demanding but achievable programme of delivery. There is no doubt that water companies should be and can be better at delivery, but being better means achieving these Targets and being assisted to go beyond them through help from others.

UNDERSTANDING HOW THE TARGETS ON WATER USE AND PHOSPHATE FIT INTO THE BIGGER PICTURE

7. The Consultation Document does not provide any sense of clarity on the future of river management. The proposed policy elements lack any real sense of internal coherence. This will make it all the more difficult for the public (for which this document is meant to be aimed) to understand. Incomprehension breeds indifference. A compelling and coherent narrative is essential for active stakeholder engagement. It is not clear why the various Targets for water have been selected. It may well be that the organisations involved directly, like WaterUK and the Regulators, might understand and exercise that understanding in their responses, but we understand that many organisations being consulted do not. It would have been better in the document to have provided a synthesis of initiatives and the existing regulatory framework. At least a dozen are mentioned in passing or in footnotes: [1] Environment Act transposed Marine and Coastal Access Act and Habitat Regulations, [2] UK Marine Strategy Regulations, [3] Water Directive Regulations, [4] Storm Overflows Plan (the consultation on this is now made in parallel), [5] Water & Abandoned Metal Mines Programme, [6] Environment Agency River Basin Management Plans, [7] Environment Agency River Basin Management Plan: Nitrate and Phosphorus and Freshwater Eutrophication Pressure Narrative, Catchment Sensitive Farming, [8] Defra Strategic Policy Statement to Ofwat, [9] The Government's water efficiency policy, [10] the Environment Agency's National Framework: Meeting our future water needs, a national framework for water resources, [11] Water Resources Management Plans, and [12] Ofwat's Price Reviews. Where does this leave the time-pressed, yet concerned professional, let alone the non-specialist reader? In particular, in following up the reference to the Water Targets Expert Advisory Group, it is hard to follow through its work to the Consultation Document.
8. Even so, many areas of concern do not appear to have been addressed. For example; the evolution of River Basin Plans, the EA Water Industry National Environment Programme, the future of Nitrate and Phosphate Vulnerable Zones, Environmental Land Management and Environmental Stewardship, the Single Use Plastics Programme, the implications of COP26 and the Food Strategy, to name but a few.
9. To address this, there should be a concise and comprehensible overview that links the various targets to their specific regulatory elements. At the very least, this would ensure

that all these elements have been taken into consideration. This should then be linked with proposed national framework for the various aspects of water management under consideration. This in turn would provide an effective and comprehensible framework for ensuring stakeholder appreciation about where all the various targets have come from, how all fit together and what they hope to attain.

TARGET PROPOSALS TO IMPROVE WATER QUALITY AND AVAILABILITY

10. This Position Paper underpins the submission to Defra in the prescribed format to answer the specific given questions. To make this Paper more understandable to a wider audience, the proposed targets are summarised below, followed by the principles of the Company's responses.

11. Summary of the Water Targets:

In the 25 Year Environment Plan we committed to restoring three quarters of our water bodies to be close to their natural state as soon as is practicable. We also committed to increasing water supply and incentivising greater water efficiency and reduced personal use. We propose setting long term targets to reduce specific pressures and tackle some of the serious challenges that remain in achieving our ambition in the 25 Year Environment Plan of clean and plentiful water. These will complement existing commitments under the Water Environment Regulations.

The targets are

- *Biodiversity target: 70% of the designated features in the Marine Protected Areas (MPAs) network to be in favourable condition by 2042, with the remainder in recovering condition, and additional reporting on changes in individual feature condition.*
- *Abandoned metal mines target: Reduce the length of rivers and estuaries polluted by target substances from abandoned mines by 50% by 2037 against a baseline of around 1,500km.*
- *Nutrient targets: to address the two principal sources of nutrient pollution by 2037:*
 - *Reduce nitrogen, phosphorus and sediment pollution from agriculture to the water environment by at least 40% by 2037 against a 2018 baseline*
 - *Reduce phosphorus loadings from treated wastewater by 80% by 2037 against a 2020 baseline.*
- *Water demand target: Reduce the use of public water supply in England per head of population by 20% by 2037 against a 2019/20 baseline.*

Nutrient targets

Excess nitrogen and phosphorus currently present the most significant pressures on the water environment. Phosphorus is the most common reason a water body fails to meet good status. Excess nitrogen increases the cost of producing clean drinking water. Together, they lead to eutrophication which causes the overgrowth of algae and plants, resulting in toxic algal blooms, decreasing oxygen levels and negatively impacting invertebrates and fish. This damages the wider ecology and people's ability to use the water for recreation.

Agriculture and wastewater are together the biggest sources of nutrient pollution in the water environment. Nutrients enter the water environment through run-off and leaching from

agricultural land, accounting for an estimated 70% of nitrate inputs to our rivers, lakes and groundwaters, and 25% of the phosphorus load in our rivers and lakes.

When wastewater has been treated it is discharged back into the water environment, however despite undergoing treatment processes, this effluent contains contaminants including phosphorus. These discharges account for 60-80% of phosphorus entering rivers nationally.

Nutrient pollution can cause damage to ecosystems and biodiversity, which has affected housebuilding where local planning authorities have acted on statutory advice to prevent further damage to water-dependent protected habitats. This can cause delays and add cost. By committing to reduce nutrient pollution at source, we can bring the protected sites back to favourable condition and enable the delivery of sustainable development. We are creating two sector-specific targets under this heading, to set clear expectations from government of what the agriculture sector and water industry need to deliver. Reporting against these targets will enable clear accountability.

Nutrient pollution from agriculture

Despite many positive examples of farmers contributing to the health of the natural environment, many agricultural practices can harm water quality and biodiversity. Pressures from agriculture affect 40% of water bodies, causing them to not meet our ambition for near natural state, with nutrient pollution causing the most harm. Sediment run-off into water bodies from agricultural land plays a significant role in transporting nutrients, and can also inhibit navigation, block water industry infrastructure and increase flood risk, as well as decrease farm productivity through loss of valuable soil. We are therefore seeking to create an agriculture target that addresses the three biggest contributors of harm in the water from this sector.

There are already measures in development to reduce agricultural pollution through voluntary, incentivised and regulatory policy mechanisms as well as other mechanisms such as the Catchment Sensitive Farming Partnership. At present, we are not seeing significant change as fast as we need in order to achieve our environmental ambitions. This new, agriculture specific target, combined with the implementation of our new environmental land management schemes, an expanded Catchment Sensitive Farming advice offer and high compliance with pollution prevention regulations will help drive increased change at a catchment level. It will focus efforts on ensuring that less pollution reaches the water environment.

We are focussing on the pollutant input (load) rather than the presence of pollutants in water bodies, due to the time lag between action taken on rural land, and changes to the nutrient concentration of the water environment. Such concentrations vary across water bodies and can be unpredictable. This way we ensure that pollution reductions are identified immediately and we can drive and direct further action in a timely way where we can see that more progress is needed. We will measure progress against this target using modelling, validated using water chemistry data from the Catchment Sensitive Farming Enhanced Water Quality Monitoring Programme. The model uses data on agricultural practice and the uptake by farmers of agricultural schemes that seek to protect the environment. Alongside this, we plan to develop a national inventory showing the inputs used in the model to ensure transparency and accountability. This approach will not require a dramatic expansion of water quality monitoring programmes which will allow us to focus investment on working with farmers to reduce pollution.

We will however need to expand our existing model and evidence base to assess reductions in total nitrogen. Currently, they only account for nitrate (one nitrogen containing compound), but we will expand this to capture both the inorganic (e.g. ammonia and nitrate) and the organic (e.g. amino and nucleic acids) forms of nitrogen as they both have an impact. We are proposing a national target because for nature to recover across England, water pollution from agriculture must be reduced across the whole country. However, in some regions and catchments agricultural pollution will be much more severe and require a higher reduction in nutrients entering the water environment to reach acceptable levels. We are therefore considering how we can set objectives at a catchment-level to reflect the different needs across the country.

We aim to achieve a 40% reduction in each of these pollutants loads by 2037 against a 2018 baseline (the most recent year data are available). This represents a high level of ambition and will rely on us making maximum use of the tools available in the new environmental land management schemes. In over 40 years between 1974 and 2018, surface water nitrate concentrations were reduced only slightly, and we must accelerate progress. Achieving the proposed target will require high uptake of on-farm measures to reduce the amount of contaminants that enter water bodies, high levels of compliance with existing regulations, and targeted land-use change e.g. incentivising the conversion of a small proportion of farmland to natural habitat. In addition to the proposed national target, we would like to set out ambitions for reducing nutrient pollution from agriculture in individual catchments; Defra is seeking views on whether this approach would strengthen the national target?

Nutrient pollution from wastewater

Over the last two decades, phosphorus in wastewater discharged into rivers has reduced by 67%. However, monitoring shows that there is still far too much phosphorus entering the water environment, and that water companies are still the largest source of this nutrient pollution.

We want to ensure water companies explore innovative, nature-based, and catchment based approaches to reduce phosphorus pollution from wastewater in the water environment. That is why we haven't focussed solely on phosphorus treatment at sewage treatment works. This will deliver the best outcomes for our water bodies and the natural environment as a whole. We have also made this clear in our draft Strategic Policy Statement to Ofwat which encourages water companies to use nature-based solutions.

Water companies monitor the amount of phosphorus in the water released at the end of the sewage treatment process. This data is reported to the Environment Agency, who do their own monitoring to ensure the information is accurate. This will be used to measure progress towards meeting the proposed target for reducing the levels of phosphorus in wastewater against a 2020 baseline.

We previously considered including nitrogen reduction within this wastewater target but without further research into the links between elevated nitrogen levels and eutrophic impacts in rivers, the target might require very high-cost nitrogen removal from wastewater treatment work for highly uncertain environmental benefits. We want to focus investment on the area that has the biggest impact. Agriculture is the main source of nitrogen in the water environment, and this is covered by the target above. In the case of wastewater, our evidence shows that river eutrophication can be most effectively addressed by tackling phosphorus.

During the period of 2020-2027, water companies will undertake projects to deliver a phosphorus reduction of around 50% against a 2020 baseline. We want to see a higher level of ambition and propose setting a longer-term target to build upon this progress. Beyond 2027, this will involve setting the strictest Technically Acceptable Limit, the tightest limit for Environment Agency permits, across 400 wastewater treatment works serving a population greater than 2,000. This means undertaking the more challenging and costly projects that have not been included in the current planning period.

Water companies will be primarily responsible for achieving reductions in phosphorus by implementing plans to reduce phosphorus loads. The government and the Environment Agency will assess the performance of water companies to achieve their environmental obligations and permit and regulate their activities. The Strategic Policy Statement to Ofwat makes clear the government's expectation that water companies must work to improve their environmental performance.

Our Position

12. The Company has not examined the extensive evidence cited for the need to reduce nutrients. Any reduction must be related to the alleviation of observable and measurable environmental problems like eutrophication, rather than simply to meet a water quality classification criterion. For this reason, the Company favours the notion of catchment-based standards rather than the blunt instrument of a national standard. This would be in keeping with the aims of the Water Framework Directive, the Urban Wastewater treatment Directive, and the revised Bathing Waters Directive, where national compliance is explicitly seen as an accumulation of local targets - and with a new overarching River Management Strategy, which this submission discusses later. As far as farming is concerned, the continuing execution of catchment sensitive farming and environmental stewardship will be essential, but there needs to be a sound basis for any additional restrictions as the recent debates on the farming rules for water highlighted.
13. The phosphate targets should be viewed on a local basis rather than as a national target. There is a need to understand the origin of the problem, where the phosphate originates and why. For example, phosphate is added to some soft drinks (a can of diet cola with caffeine contains 32 mg phosphorus). There is no reference in the Consultation to the commitment to review the Detergent Regulations in January 2022. Given that a significant proportion of the phosphate comes from our diet, would it be appropriate to add a review of this to the Food Strategy? These are interlinked. Indeed, the NHS already has a focus on reduction in phosphate in diet in the context of renal conditions (<https://www.ouh.nhs.uk/patient-guide/leaflets/files/56112Pphosphate.pdf>). This gives a start in addressing the issue of how diet contributes to faecal loads.
14. Given that sewage will always contain phosphate the practical limitations to future removal must be considered. The only current practical feasible methods are by precipitation with lime or iron salts or by enhanced biological treatment. More advanced processes include ion exchange and struvite recovery during anaerobic digestion, which are energy intensive. Research must continue. Some create wastes for disposal, but on the whole, the incorporation of phosphate into biosolids (sewage sludge treated and used in accordance with the relevant Code of Practice and Regulations) is a good example of recycling, consistent with the aims of COP. Recently, the increased concerns on the presence of phosphate in biosolids on farmland (due to run off from the land into water

bodies in winter) could make this practice more difficult to manage. Sustainable local practices are vital in order to achieve the goal of managing phosphate.

15. Monitoring for the presence of phosphates in inland waters is becoming increasingly effective and affordable. By making this the norm, rather than the exception, water utilities and farmers will be strongly incentivised to make best practice the norm and indeed, this information can enable them to demonstrate the progress that are making towards various targets including minimising phosphate emissions.

Water Demand: What the Consultation Document says:

We need to ensure that there is sufficient quality and flow of water in the water environment to meet the needs of people, the environment and industry. Increased demand and reduced water availability from less predictable precipitation as a result of climate change will affect the environment and reduce security of supply. The Environment Agency's National Framework sets out that an additional 25% of the current daily volume of public water supply will be needed in England by 2050. Water demand reduction is essential to support the delivery of this commitment without causing significant impacts on the environment. Therefore, we need a water demand target that addresses these existing pressures and future uncertainties.

There are a number of existing commitments and ambitions on water demand that are not statutory. These include commitments made by water companies to reduce leakage by 50% against 2017-18 levels by 2050; planning assumptions based on reducing household water consumption to 110 litres per person per day by 2050; and the recommendation that we should aim to achieve resilience under a 1 in 500 year extreme drought event by the end of 2030. The target adds value by introducing a statutory driver, setting the level of ambition for policies to reduce household consumption, ensuring that demand reductions will be delivered and by ensuring that all aspects of water consumption, such as non-household consumption are delivering reductions.

We have considered two possible metrics: Distribution Input, and Distribution Input over population. Distribution Input (DI) is the total amount of treated water supplied to customers through water companies' distribution network. This includes public water supply to households and non-households, as well as water lost through leakage, but does not include non-potable water supplies. We have suggested using the metric of DI over population, as this indicates the level of water used per person in England and will help to measure and improve water efficiency trends over time. This target would take into consideration the uncertainty around future population, housing needs and economic growth.

Our proposed level of ambition aims to deliver the reduction in water demand needed to meet the expected pressure on the public water supply. An additional 4,000 million litres of water a day is expected to be required by 2050, and two thirds of this capacity is expected to be met by demand reduction.

The government's water efficiency policy informs water companies' Water Resources Management Plans, Ofwat's Price Reviews, and regulator/water company leakage targets. Alongside these existing levers, government plans to introduce new mandatory water efficiency labels on water using products and consider how building regulations can promote efficiency, to support delivery of this proposed target. This target draws together existing commitments, creating a statutory driver for delivering the level of ambition needed to meet the required reduction in water use by 2050. It will place an additional driver on the

water industry, which will need to be factored into their planning, targets and delivery. It will also create a target and drive action for the non-household sector. Implementation of this target will lead to monitoring of overall water demand in England.

We have arrived at the figure of a 20% reduction in the use of the public water supply per head of population by modelling a consumption level of 122 litres per person per day (l/p/d). This extends beyond the existing commitments to 2025 which aim to reduce domestic water consumption on average from 138 l/p/d to 132 l/p/d. The target of a 20% reduction in public water supply will require a 31.3% reduction in leakage (from 2017/18 levels) increased from 19% by 2025 and require the new additional target of a 9% reduction in non-household demand by 2037.

Overall water consumption in England has been increasing since 2013, with the impact of covid-19 causing a spike in consumption. This target will be vital in driving action towards reaching the 110 litres per person per day we need to meet by 2050 as set out in the National Framework report

Our Position

16. The text does not address the concept of water footprint (<https://waterfootprint.org/en/water-footprint/personal-water-footprint/>), although it does refer to domestic and non-domestic consumption; the Target to reduce non-domestic consumption by 9% is not headlined. It is not clear as to where the water footprint of food production in the UK sits. There is a very important nexus between food production and nutrition with environmental impacts, the ‘farm to fork’ concept, which has come to the fore as a consequence of COP26 and the Food Strategy. The national per capita water consumption target seems a very blunt instrument to deal with regional problems. The success of smart meters in identifying excessive domestic consumption and household leakage by Thames Water demonstrates the potential for more refined and effective water reduction approaches. This is a target which demonstrates the point that the Company is making about the wide range of contributors to the solution of the problems driving the Targets.
17. No doubt the concept of economic levels of leakage are still central to planning and any drive to reduce leakage below this will have exponential cost implications, but the environmental cost of leakage should be factored into that algorithm, more than was the case in the past. The emergence of integrated smart leakage detection systems, network pressure management optimisation, and no-dig pipe rehabilitation technologies are driving down the costs of leakage reduction and should be encouraged. The notion of national reduction Target seems a very blunt instrument to deal with regional problems. If the Target does require significant mains rehabilitation and replacement, this will add to the short-term costs, but are often very controversial, disruption of roads with consequences for traffic and access and will add to the burdens identified in the Company’s response to the Consultation on the Storm Water Reduction Plan and relevant legislation needs reviewing to ensure that it is fit for purpose.
18. The overall driver seems to be resources stress in some parts of the country. It does not confront, in itself, the pressures created by the quite understandable demand for new housing, which increase consumption demands in total demands. The Company has submitted some extensive comments on the relationship of water services and planning in

the context of sewage and surface loads on sewerage in response to the consultation on the plans to reduce storm overflows. Any review of this should embrace water supply demands as well (and, indeed, the phosphate loads). There are implications for the Planning Framework, Planning and Building Regulations. Water Companies and Regulators should have Statutory Rights as planning consultees, so that they can make more effective contributions to local planning, and this applies as much to the future of sewerage as it does to water supplies. Zero carbon challenges also suggest that demand needs to be reduced, not just per capita, but overall, so that the energy demand for pumping and heating water falls commensurately.

19. The Company hopes that the Water Resources Plans recognise the contribution that sewage effluents make to maintain the flow of some watercourses and in the past, when Water Companies proposed more recycling of effluent, there was resistance to these initiatives. Reduced consumption means less sewage effluent flow, with not always beneficial environmental impact. Less water consumption could also mean stronger sewage. So, there is a balance to be struck. The Environment Agency needs to review the concepts of Minimum Residual Flow established under the 1963 Water Resources Act.
20. The Targets fail to demonstrate the multi-pronged approach in which Government itself has a role to play, for example:
 - Change of domestic behaviours on water use through a national ‘nudging’ programme which goes beyond the efforts of water companies.
 - Changes to planning and building regulations, all new properties must be designed as far as possible to be consistent with the consumption target for expected average occupancy, e.g., low flush toilets, rainwater harvesting, etc.
 - Change of retailer behaviour, e.g., regulation of water usage by white goods <https://www.affinitywater.co.uk/news/eco-settings-on-white-goods> Maybe a national standard?
 - In water scarce areas, mandate ‘smart’ garden irrigation systems as adopted in Australia and Texas.
 - Understanding the impact and consequences of reducing water consumption in food production. Water footprints for foods to be included in all their packaging. Changes in trade and industrial water consumption by strengthening the regulations for Environmental Permitting, which will succeed the IPPC Regulations possibly by strengthening the regulatory role that water companies might exercise for trade effluent control.
 - Requiring Ofwat to develop tariff concepts which reward water saving through smart meters. For example, studying the Australian examples where smart meters are actively used as a two-way engagement tool to enable customers to optimise their water consumption.
 - Getting the public acceptance of direct use of reclaimed sewage effluent as a source of drinking water and the necessary investment in new technologies recognised in Price Determinations.
 - Further examining the feasibility of seawater as a source of drinking water which would require a step change in the viability of desalination, again recognised in Price Determinations. But, at the moment, desalination is very expensive and has a high carbon footprint, which runs counter to the commitments of COP26.

- Examining the notion that reducing the excessive use of phosphate in diets can contribute to the solution of environmental problems.

There appears to be no follow up of the report produced by Artesia and published by WaterUK in August 2019 (<https://www.water.org.uk/wp-content/uploads/2019/12/Water-UK-Research-on-reducing-water-use.pdf>)

Government Action in Delivery

21. The Company urges the government to establish an action programme on such matters which could be combined with a similar programme focussed on the reduction of storm sewage overflows.

THE NEED FOR AN OVERARCHING STRATEGY

22. The classification of, and a framework for river use and quality are not referred to, and the Company is aware that this has dismayed a number of bodies. It is indeed surprising that after the intense interest in this topic that there is no mention of this albeit that the aspirations of different bodies might vary. This is essential for rebuilding public trust in water companies, which has suffered in recent years due to CSO and sewage treatment works incidents. The Government also needs to give suitable guidance on how it envisages the Environment Agency enabling this, given its reduced current capabilities.
23. The Company would be pleased to share its experiences and thoughts on this matter. There is clear indication in our response about the importance of local factors to share a brief thought now. The Company has already submitted in its response on bathing waters that the way forward must be a return to a framework, which protects and enhances nature and agreed use of designated river stretches, and for quality specifications to be created for each designated stretch using agreed national criteria. These are then used to determine discharge consents (including the separated surface waters) and river flow regimes, using models such as SIMCAT. This would be much better approach and be part of whatever must emerge in future in catchment and basin management plans. There is a need to take a step back and think about cost and environment focussed integration of river planning.
24. The Company submits that there needs to be a system which puts the environment first and then, within Catchment Plans, classifies the abilities of each stretch of water to meet those needs. The current system of classification of rivers can be misleading, particularly in terms of chemical status, and the Environment Agency recognises that. There is a media inclination to blame water companies and agriculture for this perception, but the Consultation Document recognises that there are other contributors, such as discharges from abandoned mines. The Government can take a lead, for example in evolving pesticide use regulations. Once more this highlights the benefit of a multi-targeted approach to solve the problems identified.

Further reading

This Position Statement covers a wide range of subjects for which there is a very substantial bibliography on the internet and, indeed, in the Consultation Document itself. It does not

seek to provide what would be a very comprehensive list of references, but does include a few, which support the specific points being made.

The Company has already made submissions to Defra on the call for evidence on commonly littered single use plastics ((<https://www.waterconservators.org/wp-content/uploads/wolvercote-mill-stream-defra-consultation.pdf>) and on the proposal to designate an inland bathing water at Oxford. ((<https://www.waterconservators.org/wp-content/uploads/A-HOLISTIC-APPROACH-TO-SOLVING-THE-PROBLEMS-OF-SEWAGE-BORNE-LITTER.pdf>). This Position Paper should also be accepted as a companion to its submission in response to the consultation on Defra proposals for a Storm Overflow Reduction Plan)

Biosolids:

1 [Guest blog: Aligning policy and priority on biosolids - CIWEM](#)

2 Phosphate in diet:

(<https://www.ouh.nhs.uk/patient-guide/leaflets/files/56112Pphosphate.pdf>).

Water Use:

1 Water UK study (<https://www.water.org.uk/wp-content/uploads/2019/12/Water-UK-Research-on-reducing-water-use.pdf>);

2 <https://www.affinitywater.co.uk/news/eco-settings-on-white-goods>

3 Water footprint <https://waterfootprint.org/en/water-footprint/personal-water-footprint/>),

River quality planning:

1 [20160217 Tony Warn - Water Quality Planning.pdf](#) :

2 Mark Everard WATER QUALITY OBJECTIVES AS A MANAGEMENT TOOL FOR SUSTAINABILITY FBA [228601502.pdf](#)

The Company stands ready to help the Department should it so wish. The principal points of contact are:

Professor Martin Bigg, Warden (martin2.bigg@uwe.ac.uk); and Peter Hall, Master Water Conservator (peterbhall@hotmail.com).

The Worshipful Company of Water Conservators

11 May 2022