West Country Water Resources – Emerging Regional Plan for Consultation 2022

Respondent: Westcountry Rivers Trust ('WRT')

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WCWR Emerging Regional Plan website: https://www.wcwrg.org/get-involved/emerging-plan-for-consultation-and-comment-january-2022/

Consultation questionnaire: https://www.surveymonkey.co.uk/r/9GPHK55

DEADLINE 28-02-2022

Questions & Responses

Q) Supply and Demand Forecasts

To understand what the future water needs are for the region we need to first forecast both the supply and demand for water.

We have calculated the impact of climate change on water availability in the region using two scenarios; For our central emissions scenario we have used RCP6.0 probabilistic climate projections, equating to an average UK temperature rise of 1.9°C from the pre-industrial baseline through to the 2070s. Under the RCP6.0 scenario global emissions peak in 2080, then decline.

Our higher emissions scenario is based on RCP8.5 regional climate model (RCM) projections. RCP8.5 is considered the worst-case emissions scenario, with emissions continuing to rise throughout the 21st century. RCMs show a greater impact on our region than the probabilistic projections resulting in an average temperature rise of 3.7°C by the 2070s. This high emissions scenario therefore represents the expected worse-case impact of climate change.

a) Do you think this is the correct approach?

1 = strongly disagree; 10 = strongly agree

WRT response = 8

b) For the environment we have assumed we should meet current needs as we do not have detailed information on what future needs might be. Do you think this is the correct approach?

1 = strongly disagree; 10 = strongly agree

WRT response = 1

c) We have assumed the demand for water will be controlled due to both leakage reduction and households and businesses reducing their own use. This forecast assumes we meet government targets for both these areas. Do you think this is the correct approach?

1 = strongly disagree; 10 = strongly agree

WRT response = 8

d) As the future is uncertain, we have undertaken a range of sensitivity tests to show how the needs could vary depending on how the future pans out. Do you consider our approach is appropriate?

1 = strongly disagree; 10 = strongly agree

WRT response = 5

e) Do you have any comments on how the future water needs have been assessed?

As stated in the WCWR consultation briefing on the 19th January 2022, the contribution of improved land-based measures and management practices has not been incorporated into the modelling undertaken in anyway (perceived as being too difficult). The contribution of these aspects should not be overlooked given the current groundswell in this area and the undoubtedly important potential contribution of such land-based measures and management practices (environmental land management schemes, natural flood management, nature-based solutions, sustainable drainage systems, water sensitive urban design and others). This is particularly the case in the West Country where there is higher than national scope and potential for such measures and management practices to be implemented at a large scale in many catchments, including those five highlighted as focus catchments in the draft WCWR Emerging Regional Plan. WRT suggests two requirements need to be met to more resiliently assess future water needs: (i) include and enhance representation of land-based measures and management practices in future water needs modelling and assessment; and (ii) enhance/increase the representation of 'Environment' in the stress testing and sensitivity analyses. Both of these activities should be undertaken during the Foundation Phase (0-10 years) of delivering the Regional Plan. WRT suggests two approaches to achieve these requirements during that timescale: (i) CREWW at the University of Exeter has already been established and funded by SWW to "undertake research into some of the most pressing environmental challenges in our time" – given the urgency of the need to incorporate land-based measures and management practices into future water needs modelling, there is no more pressing environmental challenge than this. WRT is already working with CREWW through the OFWAT funded Catchment Systems Thinking Cooperative project (CaSTCo) and associated centres at UNEXE (e.g. CWS) to develop this priority work; (ii) Representing the 'Environment' as BAU only in the stress tests is simply not good enough and should be enhanced by developing additional scenarios based on the work undertaken to fulfil

(i). At this stage WRT would suggest the following additional scenarios at minimum: (a) Below BAU; (b) comprehensive enforcement of farming rules for water Regulations (c) Rewilding of significant high risk areas; (d) Widescale regenerative approaches; and (e) combined Regulation, Rewilding and Regenerative approaches. WRT would be happy to work with the WCWR Group and CREWW to co-develop these scenarios. A coarse-level sensitivity analysis could be undertaken relatively quickly by collating existing evidence on land-based measures (which is becoming more readily available) and synthesising it into a format suited to model requirements.

Q) Environment

The plan sets out an aim to leave the environment in a better condition than we found it.

a) We have taken a phased approach, starting with those areas where there are known and evidenced problems and ending with those areas where there is less knowledge if there is an environmental issue. Do you think this is the correct approach?

1 = strongly disagree; 10 = strongly agree

WRT response = 5

b) The Emerging Regional Plan has based on known local environmental WR and National EA datasets used at a catchment level, but at this stage does not examine all potential environmental local needs outside of abstraction that are within the 25 Year Environment Plan. Do you think that this approach is correct at this stage?

1 = strongly disagree; 10 = strongly agree

WRT response = 3

c) The WCWRG should be pursuing ambitious environmental improvement objectives through the Regional planning process but balanced against cost?

1 = strongly disagree; 10 = strongly agree

WRT response = 8

d) Do you have any comments relating to our aim and approach for leaving the environment in a better place than we found it?

The aim and approach is commendable but needs to be enhanced based on additional evidence that would be forthcoming if additional modelling efforts outlined elsewhere in this response are undertaken. Costs to the environment need to be balanced with financial costs – we only have one environment to provide us with water, which must be given priority over financial costs as far as is practicable. Additionally, addressing those 'lesser known' environmental issues in parallel with the well-evidenced ones is of crucial importance to prevent them worsening and requiring even more future investment to rectify them – just look where the water quality of our rivers is now and the investment required to restore good

water quality. Preventing another issue on that scale is one of the most important actions the Regional Plan should set out to do for our region. We also need to take every opportunity to exploit new sources that have minimal environmental impact (like Park & Stannon on Bodmin Moor). Additionally, incorporation of multiple river health data sets including public, private and third sector sources needs to occur as well as the expansion of the prevalence and role of Citizen Science data. The WRT is actively pursuing funding routes to help the WRWC to do this at a regional scale linking with Catchment Partnerships across the South West.

Options

a) Our plan has focused on strategic needs and the main strategic options to provide more water in the region. Are there any strategic options you think we have missed?

A strategic demand-side option that is not explicitly mentioned (though could be implied to be included in water efficiency measures, though the appropriateness of that is debated) is water substitution. Water substitution means removing water as the product, process or service-providing product (more information here: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/227031/Forum-guide-substitution-101105.pdf). There are currently several EU Horizon projects researching water substitution and it would be pertinent for the WCWR region's Mineral Products Association's Task and Finish Group, as well as the national Retailer and Wholesaler Group to undertake a rapid review and assessment of options for water substitution. The WCWR Group could support this by investing in and diversifying process and service innovations that might be uncovered by such an assessment. Small scale recent examples of this from a water efficiency point of view include dry shampoos, composting toilets and waterless urinals. This also supports a multi-sector approach to water resources planning and management.

Additionally, large-scale decentralised rainwater harvesting and management could also be explored and government lobbied to mandate 'sponge' and 'water sensitive urban design' approaches in new developments in order to receive rights to connect to the water supply and sewer systems. During renovations or retrofits similar measures could be explored and mandated. This would of course require the water sector to work closely and collaboratively with the planning sector.

Whilst not a strategic option in itself, we should also be encouraging academia and research organisations in the region to be pro-active in areas such as developing innovative sustainable and economic processes for water treatment (along the lines of the SIX-Ceramac process used at Mayflower WTW), desalination and STW final effluent recycling. This could be effected immediately through the multi-million pound CREWW at the University of Exeter.

Another strategic option to consider is to increase water availability through Ecosystem-based Adaptations (EbA). These are a type of Nature-based Solution designed specifically to reduce vulnerability and build resilience to climate change.

Assuming that Ecosystem-based Adaptation (EbA) measures are based on sound science and applied at the right location in the landscape, investing in EbA has a high Return On

Investment (ROI) if you look at the avoided costs. Financially, it is a good deal. Even more so when taking into account the ethical aspects and the additional ecosystem services for society in the form of health, nutrient cycling and biodiversity resulting from restored natural & agricultural landscapes.

While EbA measures are increasingly becoming mainstreamed to respond to water quality and flood risk pressures, their potential to increase the resilience of water resources in terms of quantity is only starting to be recognised outside of the environmental sector. These measures, combined with demand management and hard infrastructure, restore resilience of water supply by restoring the natural capital water resources depend on. Strategic investment in integrated catchment scale EbA implementation for water resources will benefit the water industry as well as provide a wide range of public goods such as flood risk reduction, healthy soils and climate change mitigation.

Best Value Planning

Meeting water needs often requires a trade-off between different factors. To understand this we have produced a 'best value' framework to try and balance the trade-off between the environment, cost, and resilience to droughts.

a) Do you think the themes we have selected (environment, cost and resilience) are the correct themes to assess?

1 = strongly disagree; 10 = strongly agree

WRT response = 7

b) Do you have any comments on what best value means to you or how we should examine what is best value for the region?

The Best Value approach used is fit for purpose but does it really go beyond statutory and regulatory requirements to really show customers and citizens in the WCWR region that everything is being done to protect and enhance the environment whilst enabling social and economic prosperity in the region? Whilst resilience is covered in relation to ensuring water supply, any mention of connection to managing flood risk is not yet covered. As large scale effluent reuse is one of the suggested strategic supply-side options is would be pertinent to include a metric in this best value framework to represent reduction in stormwater flow (minimise discharge (rate and volume) of rainwater during storms) and reduction in combined sewer overflow (minimise discharge (frequency and volume) of sewer network spills) due to stormwater (surface water sewers) or effluent (combined sewers) reuse. It would also be useful to co-define additional metrics in collaboration with a range of stakeholders outside of the water sector.

Strategy and timing

We have used the forecasts of needs and the scenarios to develop a strategy for the region. This is split into a plan with three phases that allows the region to flex and adapt if the future changes.

c) Do you think a phased approach is right?

1 = strongly disagree; 10 = strongly agree

WRT response = 9

d) Do you think we should do more, earlier, even if the trade-off is higher cost but less risk?

1 = strongly disagree; 10 = strongly agree

WRT response = 9

e) The future position is sensitive to whether the demand for water reduces in line with Government targets. We haven't looked at increasing the cost of water during times of dry weather. Do you think this is something that we should consider going forward?

1 = strongly disagree; 10 = strongly agree

WRT response = 10

f) Do you have any comments on the proposed strategy for the region?

Really good to see an initiative to address supply issues on a regionally strategic basis, something which has been lacking in the past.

Very uneasy with the huge reliance on demand reduction to address supply issues up to ~2040 - 80+% looks very optimistic! It is unlikely increasing environmental awareness amongst consumers alone can deliver that - may need to consider a sliding scale of charges based on usage to focus efforts. These types of intervention require urgent investigation and assessment if they are to be considered as realistic options.

Whilst it's clearly essential to reduce demand via continued leakage reduction/more metering/customer education/embracing grey water systems etc., we need to invest in infrastructure, for both raw and treated water, to enhance distribution systems on a region-wide basis. For example, at present it is perhaps the case that the only real SWW/WW connection is from Wimbleball to Maundown WTW. Very expensive developments but ones which are vital from environmental, water supply, economic & tourism standpoints.

On a more local basis companies need to improve water security by ensuring that no sizeable community is wholly reliant on a supply derived from a single WTW (e.g., large parts of Exeter and large areas of Cornwall supplied by Restormel WTW) and that the more strategically important WTWs do not rely on one raw water source (e.g., River Exe for Pynes WTW).

Whilst Government is currently consulting on the potential setting and implementation of demand reduction targets for non-public water supply users, the WCWCR Group could take

the initiative and lead in this area and begin to assess what these may look like for the region and when it would be prudent to implement them (e.g. end of Phase 1 or into Phase 2?).

g) Would you like to be involved in the development of the regional plan going forward?

Yes. As stated in the Conclusions of the Emerging Plan for Consultation "The needs of the environment are key to future water needs and environmental NGOs should aim to: • Collaborate with WCWRG in helping to define our environmental destination. • Help improve the evidence to ensure the environmental destination delivers real benefits to the environment." As stated in this consultation response, WRT are willing and committed to working with WCWR Group to improve and enhance the representation of the environment and land-based measures and management practices – including needs that align with or connect to those – within modelling and assessment to ensure that the final WCWCR Regional Water Resources Plan is the most resilient and sustainable it can be in the context of the National Framework and 25 year Environment Plan.

Additionally, the Trust is concerned that the Environmental community "voice" is not strong enough on the WCWR Membership and the current approach to consulting environmental and river groups is not sufficient. Full representation is needed at the Board level from the NGO/Community sector in the same way it is on Regional Flood Committees, with strong linkages through to all Catchment Partnerships. Other Water Resource groups have embraced this and WRT is happy to fulfil this role.

h) Please provide suggestions on how you would like to be involved/kept updated on the regional plan as we progress.

Emails, webinars/workshops, meetings, LinkedIn updates.