



Environment
Agency

Updating the determination of water stressed areas in England

Consultation response document

Date: 1 July 2021

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We help people and wildlife adapt to climate change and reduce its impacts, including flooding, drought, sea level rise and coastal erosion.

We improve the quality of our water, land and air by tackling pollution. We work with businesses to help them comply with environmental regulations. A healthy and diverse environment enhances people's lives and contributes to economic growth.

We can't do this alone. We work as part of the Defra group (Department for Environment, Food & Rural Affairs), with the rest of government, local councils, businesses, civil society groups and local communities to create a better place for people and wildlife.

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Introduction

As our water supplies come under increasing pressure, we need water companies to better manage the volume of water they distribute. To help with this, water companies in areas which are under serious water stress can charge all customers for the volume of water used. This is measured by a water meter on each property (compulsory metering). Water companies in areas of serious water stress areas are only allowed to do this through the water resources management plan process. This must show that there is customer support and it is cost effective to do so. Metering must be considered alongside other options to manage water supplies.

The Secretary of State determines which water companies are in areas of serious water stress taking advice from the Environment Agency. Minister Pow wrote to us on 24 November 2020 to ask us to update our advice on which areas the Secretary of State should determine as areas of serious water stress. We have previously provided advice in 2007 and 2013.

We consulted on updating the determination of water stressed areas in England in February to March 2021. The Secretary of State accepted our advice on the water company areas that should be determined to be in areas of serious water stress on 1 July 2021. The government is not planning to change the existing rules around when water companies can charge people for their water use through water meters.

A lot has changed since we revised the classification in 2013. The National Framework for Water Resources and water companies' water resources management plans (WRMP19) were published in 2020. Using the latest data from these plans has improved our understanding of water resources needs. This includes the impacts of population growth, climate change and environmental requirements. It includes the expectation that public water supplies are resilient to extreme droughts with a frequency of 1:500 years. This means before there are restrictions such as use of stand pipes.

The responses to our consultation showed broad support for the outcomes of the revised approach to determining areas of water stress. Our recommendation to the Secretary of State was therefore to determine the areas in serious water stress to be the same as those proposed in the consultation document.

A number of questions and suggestions were raised through the consultation responses. We have reviewed these. We have clarified our approach and carried out additional sensitivity testing as a result. This document summarises the responses and what we have done together with the final results of the determination.

How we ran the consultation

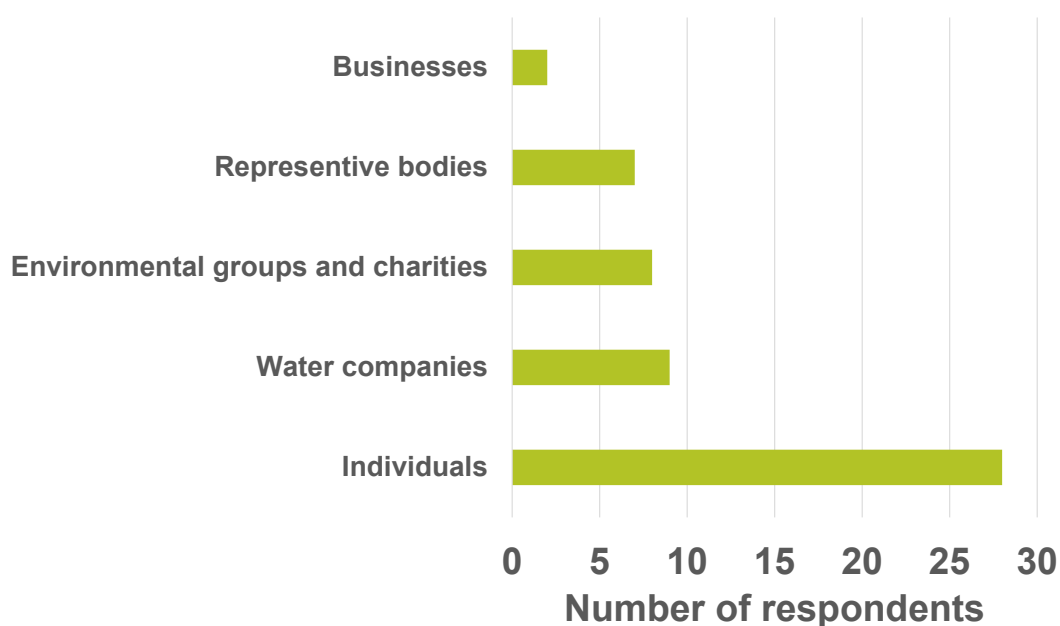
We consulted on the determination of areas in serious water stress in England for 4 weeks from 11 February to 11 March 2021 on the GOV.UK website. We consulted on the following documents:

- Water Stress Consultation
- Appendix 2 - Longer Term Environmental Water Needs Enhanced Scenario
- Appendix 3 - Assessment of Water Stress Methodology

We promoted the consultation through direct email correspondence and workshops with water companies, other regulators and non-governmental organisations (NGOs).

We received online responses from the consultation on GOV.UK and by email and post. We have listed those respondents who agreed for their names to be published in Appendix A.

We received 54 responses in total. Of these responses, 28 were from individuals, 9 were from water companies, 8 were from environmental groups and charities, 7 were from public or nationally representative bodies and 2 were from businesses.



Summary of main findings and actions we will take

The consultation document included 6 consultation questions (see Section 5), as well as the opportunity to submit more general comments on the proposed approach. Here we provide a summary of the key themes arising, from both the responses to the individual questions, and the more general comments. More detailed information on the responses to individual questions is provided in Section 5.

Support for the outcomes

Most respondents agreed that, the proposed classification results effectively reflect the levels of water stress in England for the purpose of metering. We therefore recommended that the Secretary of State should make his determination in accordance with the consultation.

Other considerations

We received many informative and helpful responses to the consultation including the following suggestions. These were raised in answer to a number of different questions.

The impact of drought and high demand

There was a view that more account should be taken of the impacts of droughts, dry weather and peak demands when we make our recommendations. We agree that all areas can be subject to droughts and high demand. For the purpose of this assessment, we have taken a long term view of the resource position rather more acute issues that can arise anywhere. Increased metering can help reduce peak demands and the impact of droughts.

Wider metering and smart metering

Many responses suggested that all water companies should be able to implement charging by metered volume for all their customers. Others asked that the link between water stress and metering should be removed, so all companies could evaluate compulsory metering. The government is not planning to change the existing rules around when people can be charged for their water use through water meters. The determination of areas of water stress enables water companies to:

- increase the areas where they can meter their customers in accordance with government policy
- where it can deliver the greatest benefit

There was also a view that smart meters should be rolled out as part of metering programmes.

Links to local planning and planning applications

A number of responses made reference to the impact of water stress on new developments. Suggestions included that being in an area of serious water stress should enable local authorities to:

- apply higher standards of water efficiency for new properties
- potentially limit new developments

The government is currently considering its approach to building standards and how to enable greater water efficiency in new developments and retrofits. Local authorities can use the water stress determination to inform whether they can require the tighter standard of 110 litres of water per head per day in new developments. Otherwise the use of the water stress determination is only to allow water companies to consider compulsory metering in their water resources management plans. It should not be used for other purposes such as development planning or water resources planning.

Chalk streams and environmental protection

Some respondents felt that we should give enhanced protection for rivers such as chalk streams and salmon rivers. We agree the importance of these environments and the method we have used has accounted for this. As a result, all areas with principal chalk streams have now been determined to be areas of serious water stress. Salmon rivers were also included in the assessment. We have covered other points about environmental protection in the section on the [Responses to questions](#).

Potential for more levels in the classification

Some respondents suggested that classifying water stress with 3 or more levels rather than 2 would be more appropriate. Reasons for requiring more levels included the need to show areas that were 'at risk' and that the term 'not serious' could lead to lack of action. On this occasion we have decided to continue with the terms 'serious water stress' and 'not serious' because the determination is for the purpose of metering, but will consider returning to more levels should the determination be reviewed in future.

Further sensitivity testing

Following the consultation response we tested the sensitivity of the results to the risk that planned reductions in leakage and per capita consumption (PCC) would not be achieved. This included tests with no reduction in leakage and PCC of 132 litres per person per day which is a smaller reduction than planned. This is instead of the 50% reduction in leakage and PCC of 118 litres per person per day planned by water companies and used in our initial analysis. These tests did not change the final classification and have provided additional confidence in the results.

Determination

We wrote to the Secretary of State in April 2021 with our advice on updating the determination of water stressed areas in England. The Secretary of State determined the

areas on 1 July 2021. The following water company areas will move from 'not serious' to 'serious' water stress status, the areas can also be seen on Figure 1:

The numbers in brackets refer to the numbers on the map in figure 1:

- Cambridge Water (4)
- Portsmouth Water (7)
- South Staffordshire Water (10)
- Severn Trent Water – excluding Chester zone (12)
- Veolia Water (15)
- Wessex Water (17)
- South West Water – Bournemouth (19)
- South West Water – Isles of Scilly (20)

The companies already determined to be in areas of serious water stress remain so:

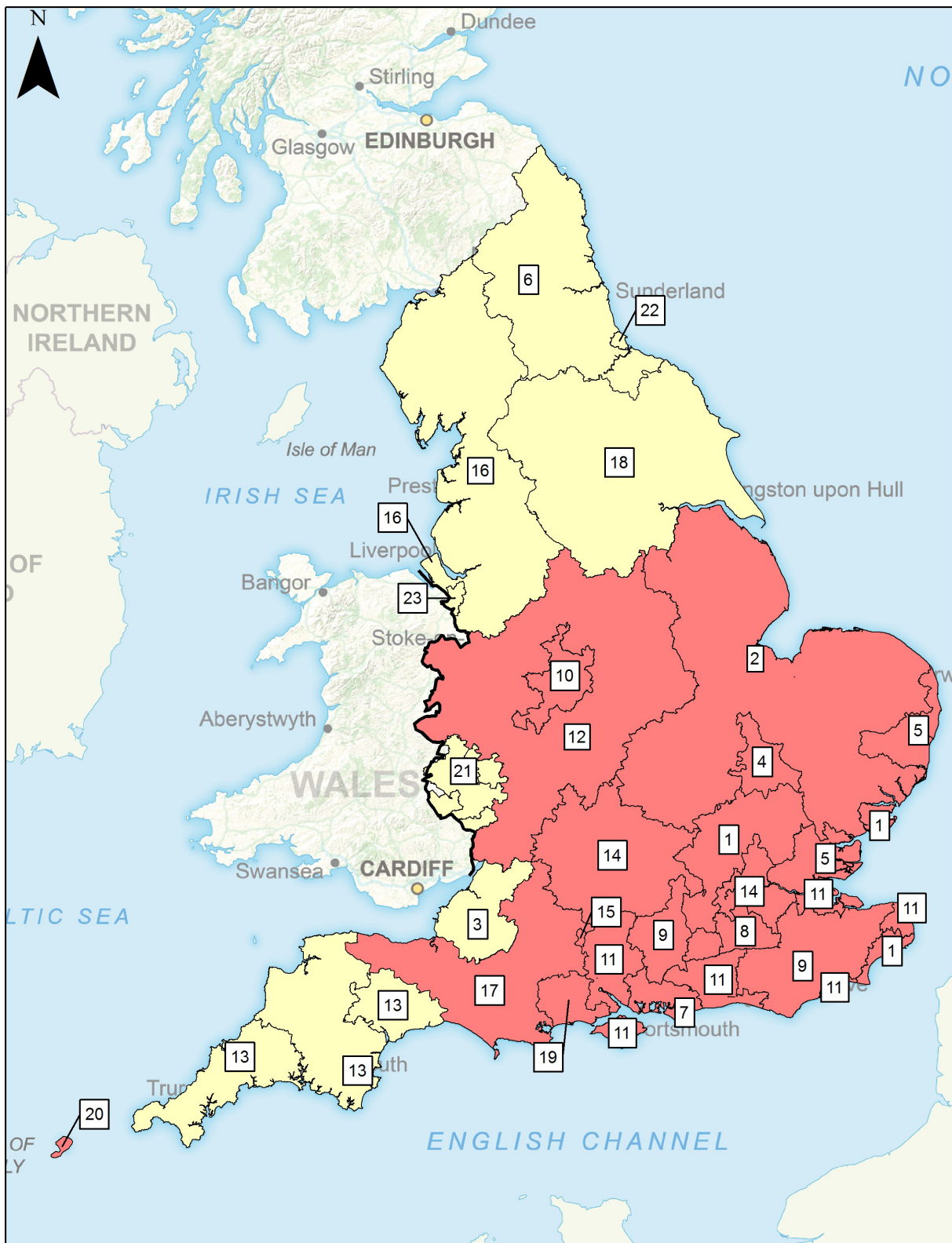
- Affinity Water (1)
- Anglian Water – East Anglia (2)
- Essex and Suffolk Water (5)
- SES Water (8)
- South East Water (9)
- Southern Water (11)
- Thames Water (14)

The following company areas are determined to be not seriously water stressed for metering.

- Bristol Water (3)
- Northumbrian Water (6)
- South West Water – Devon and Cornwall (13)
- United Utilities (16)
- Yorkshire Water (18)
- Dŵr Cymru Welsh Water – Herefordshire (21)
- Anglian Water – Hartlepool (22)
- Severn Trent – Chester zone (23)

Figure 1 on page 9 shows a map of the results. It shows areas coloured red are those that are seriously water stressed and those in yellow are not seriously water stressed.

Figure 1: map showing the classification of water stress areas.



Water Stress Map 	Notes				
	1. Affinity Water 2. Anglian Water 3. Bristol Water 4. Cambridge Water 5. Essex and Suffolk 6. Nothumbrian Water	7. Portsmouth Water 8. Sutton and East Surrey 9. South East Water 10. South Staffordshire 11. Southern Water 12. Severn Trent Water 13. South West Water	14. Thames Water 15. Veolia Water 16. United Utilities 17. Wessex Water 18. Yorkshire Water 19. Bournemouth WRZ (South West Water)	20. Isles of Scilly WRZ (South West Water) 21. DCWW 22. Hartlepool WRZ (Anglian Water) 23. Chester WRZ (Severn Trent Water)	

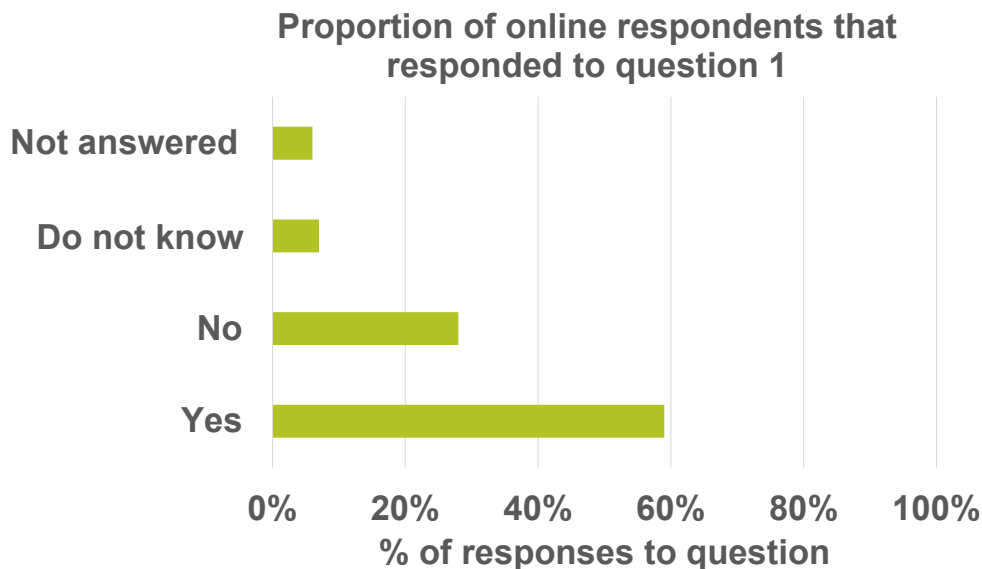
Responses to questions

Question 1

Do you think that the approach using water available for supply, environmental needs and future demand for water together, effectively supports the determination of areas of water stress in England? If not, how should the approach be improved?

We received the following responses:

- yes – 59%
- no – 28%
- do not know – 7%
- did not answer – 6%



Response to question 1 and our view

There were 23 written responses to this question. The majority of respondents supported our method of determination. Some suggested other sensitivity testing should be considered and that we should consider wider pressures than those caused and faced by public water supply. This included run-off and groundwater entering the sewerage system, short term events causing long term impacts, peak demand events, demands of agriculture and power generation.

We understand that all areas can be subject to droughts that can restrict supplies, and that there are pressures on water resources from more than public supplies. The water stress determination is specifically related to public water supplies and metering so we have focussed on these impacts.

We have taken a long term view of the resource position rather than looking at the more acute issues we face during droughts and periods of high demand. We believe that increased metering and the resulting reduction in demand can help reduce peak demands.

In turn this can reduce the impact of droughts and hot weather on water supplies and the environment.

Some responses asked for increased environmental protection, reduced abstraction and to prevent deterioration and for consideration of the worst case scenario. Others suggested we should include the impacts of climate change and protection of catchments.

The enhanced environmental scenario applies our most sensitive flow constraints to offset the impacts of climate change. It better enable sites to meet their environmental objectives in future. It provides enhanced protection for water bodies that are Protected Areas, Sites of Special Scientific Interest, principal salmon rivers and chalk streams. Other areas or streams were not treated as enhanced. All our scenarios set out a requirement to prevent deterioration in accordance with the Water Framework Directive so this is included in the assessment. The regional water resources groups may choose to enhance additional areas and will also consider preventing deterioration when they form their regional plans.

Our analysis of environmental requirements and future demand takes account of predicted climate change. Our environmental modelling looks at a water body scale, starting at the top of the catchment and working downstream. It looks at how both surface water and groundwater abstractions influence river flows and what is required to protect the environment.

One respondent also raised concerns on salmon rivers selected. We included the principal salmon rivers as identified in salmon action plans as a basis for assessing the need for management and conservation measures.

Some responses also asked that we allow for if commitments to reduce leakage and PCC are not met. Potential inconsistencies in the assessment of the 1:500 level of resilience was also raised.

We have undertaken additional sensitivity testing of different leakage scenarios and levels of PCC. This tested the impacts of not achieving the levels proposed by water companies. It included no reduction in leakage and PCC of 132 litres per head per day instead of 118 litres per head per day from water resources management plans. In all cases this did not change the results of our classification even though we used the same thresholds as set out in the consultation. We also checked the impacts of the 1:500 level of resilience which did not affect the results. This has helped to improve the confidence in the results. We understand that there will be improvements in the information available in future. New data could change the results but we have used the best information available at national level at the present time.

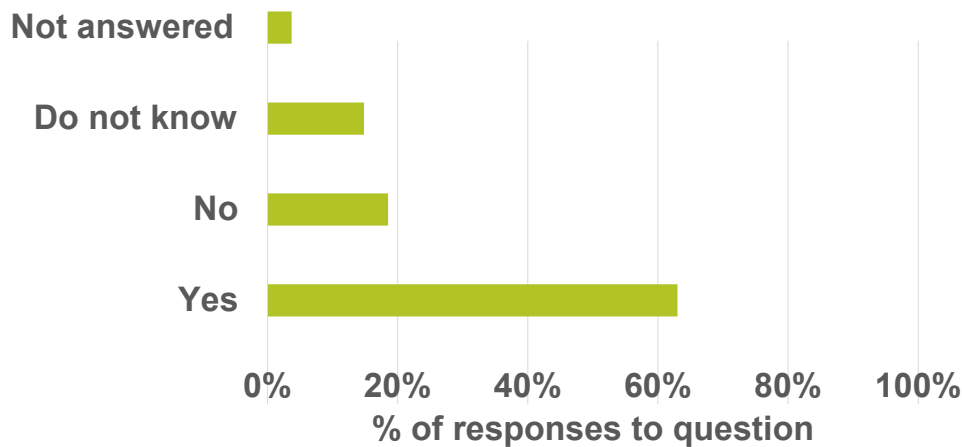
Question 2

Do you agree that the proposed classification results effectively reflect the levels of water stress in England, for the purpose of metering? If not, why?

We received the following responses:

- yes – 63%
- no – 18.5%
- do not know – 14.8%
- did not answer – 3.7%

Proportion of online respondents that responded to question 2



Response to question 2 and our view

There were 23 written responses to this question. Most respondents agreed that for the purpose of metering, the proposed classification results effectively reflect the levels of water stress in England. Some respondents felt that the link between water stress and metering should be removed to allow all water companies to evaluate compulsory metering. Some said that metering should be possible for all water companies as all areas of the country are susceptible to pressure on water supplies. Some also raised the benefits of metering to support customers with high usage to reduce consumption or water lost through leaks from their own properties. Some mentioned the benefits of metering to help water companies fix their own leaks.

The government is not planning to change the existing rules around when people can be charged for their water use through water meters. The updated determination of areas of water stress enables water companies to increase the areas where they can meter their customers in accordance with government policy and where it can deliver the greatest benefit.

There was also a view that smart meters should be rolled out as part of metering programmes. We share this view and expect the uptake of smart meter technology to be widely used in future. We also expect water companies to consider installing meters even though customers may not be charged.

One respondent suggested that water company areas that already have high meter penetration should be excluded. We have decided not to do this because it could have negative impacts on areas that have high levels of metering or planned metering. It could also affect areas already determined to be in areas of serious water stress.

Question 3

What is the right size of area for the classification of water stress? Please explain your answer.

Response to question 3 and our view

There were 46 written responses to this question. The majority of the respondents agreed that areas of water stress should be classified by the area of a water company. Comments included that this approach would provide consistency, fairness to customers and effectiveness as companies already have the necessary data and experience.

Many respondents suggested that classification should be based on catchment areas or water resource zones because it will reflect local environmental stress. It would also take into account the local geology, and there is a hydrological basis for decisions. Some respondents mentioned that a regional classification would be preferred as it would be more logical to base the determination on groundwater catchments and easier to implement actions to mitigate against water stress.

Others made suggestions for classification to be made on a district council area as they will have accurate local data about private water supplies, area planning and management. Lastly, some responders felt strongly about a national or countrywide classification for reasons of consistency with our National Framework.

The legislation states that the determination of areas of water stress must be by water company areas, this means the determination cannot be at regional or national level.

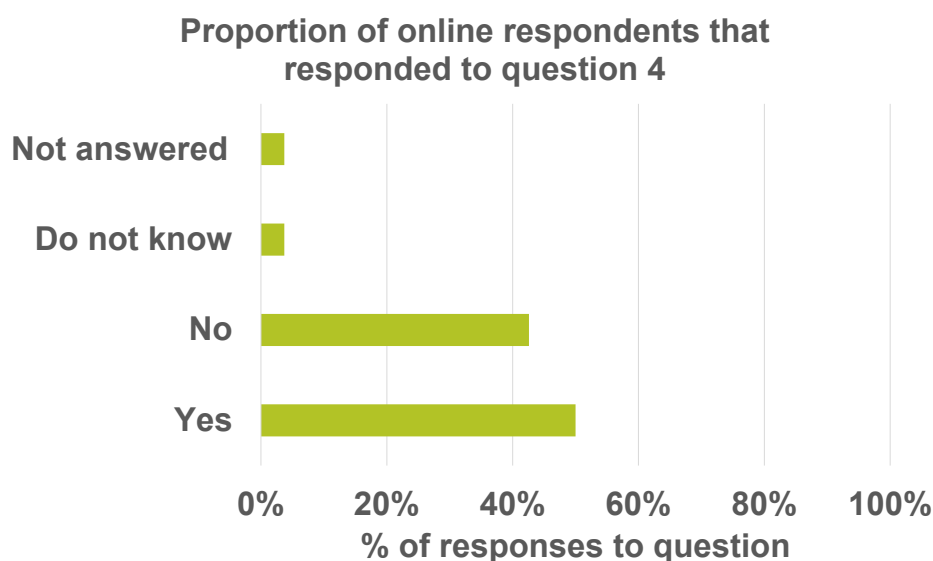
We undertook the analysis at water resource zone level and merged the results to be at water company level. We have decided to continue with the determination of water stress by water company areas. We will consider the scale for the results in future water stress calculations. The updated determination now includes the whole of the South East and Eastern regions which will help with consistent messages to support regional planning.

Question 4

Do you agree that classifying water stress according to 2 levels, serious and not serious is still the right approach? Please explain your answer.

We received the following responses:

- yes – 50%
- no – 42.6%
- do not know – 3.7%
- did not answer – 3.7%



Response to question 4 and our view

There were 36 written responses to this question. Responses to the consultation showed differing views on the number of classes that should be used to show the level of water stress. The greatest number of responses supported the use of 2 levels. This was because it is simple and is to decide whether water companies should be able to implement compulsory charging by volume for all customers. The greatest number of alternatives was 3 levels, although a gradation was also suggested. There were several reasons for requiring more levels including:

- two levels is too 'binary' or simplistic
- the need to show areas that were 'at risk' of being seriously water stressed
- to enable future planning
- the term not seriously water stressed could lead to lack of action

We understand that all areas of the country are affected by some degree of water stress. These will vary according to factors including the weather, periods of drought, climate change and population growth.

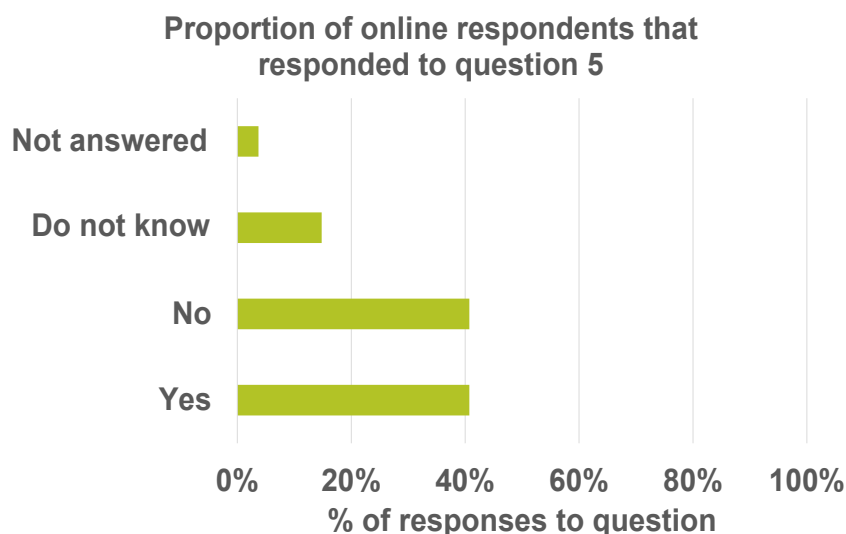
We understand that there could be a case for further levels in future such as 'at risk' to allow for future planning. We also understand the view that the term 'not serious' could imply that no action is needed. We have decided to continue with the simple approach of serious and not serious on this occasion. We will review this in future and continue with our messages that all areas of the country are susceptible to pressure on water supplies.

Question 5

Are there any water company areas you would like to be included or excluded? If yes, please state which areas you would include or exclude.

We received the following responses:

- yes – 40.7%
- no – 40.7%
- do not know – 14.8%
- did not answer – 3.7%



Response to question 5 and our view

There were 54 written responses to this question. Most respondents supported the inclusion of the additional water company areas in the consultation. They also supported keeping those that are already determined to be in areas of serious water stress at the same level. Several individuals and organisations requested that all water companies should be allowed to consider compulsory metering.

The government is not planning to change the existing rules around when people can be charged for their water use through water meters. The updated determination of areas of water stress enables water companies to increase the areas where they can meter their customers where it can deliver the greatest benefit.

One water company suggested that the level of uncertainty associated with the results and future investment in water resources meant that its areas should not be included as areas of serious water stress. We have assessed all companies in the same way and acknowledge that resource developments have the potential to address deficits in future. Metering can also help to achieve this and it supports the need to take the twin track approach of demand management and resource developments.

We have therefore decided to include areas with high meter penetration as seriously water stressed where the assessment shows this to be the case. This is so companies can build on existing metering programmes to reduce consumption further.

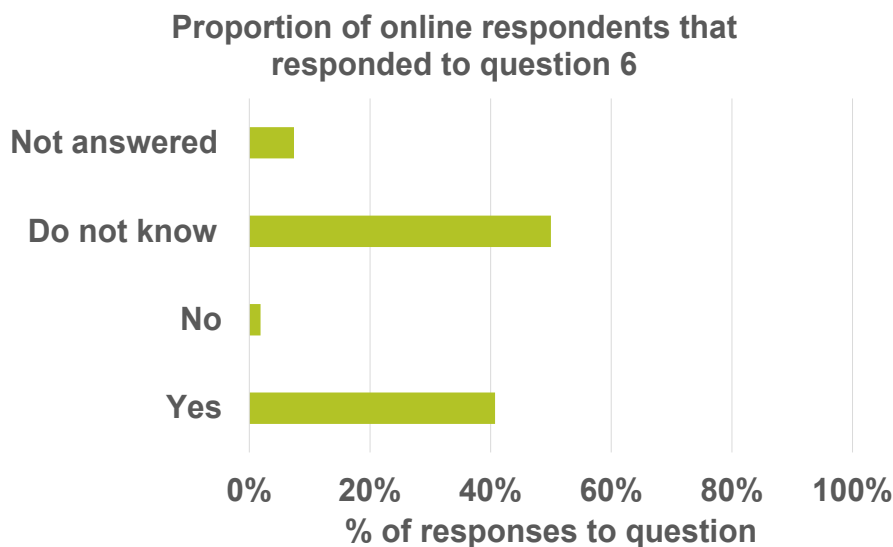
Overall the level of support for our results led us to recommend the Secretary of State to determine the additional areas to be in areas of serious water stress and the existing areas to remain so.

Question 6

Do you agree with the different approach we have taken for the Isles of Scilly, because of the available data and that water resources planning for the Isles is at an early stage? Please explain your answer.

We received the following responses:

- yes – 40.7%
- no – 1.9%
- do not know – 50%
- did not answer – 7.4%



Response to question 6 and our view

There were 22 responses to this question. Just over half the responses said they did not know largely because they were not familiar with the area or did not answer. Almost all the remaining respondents agreed with our approach to determine the Isles of Scilly as an area in serious water stress. This is based on the limited data available and the exceptional circumstances.

One respondent did not support the proposal, stating that sufficient measures were under way to allow the Isles of Scilly to not be classed as seriously water stressed. The level of support we have received and the pressures set out in the consultation document means we continued with our recommendation to include the area as seriously water stressed. This is until a further review when more information on sustainability is available and investment plans are complete. It does not mean the Isles of Scilly, in the near term, are at any different water resource risk compared to the present day.

Question 7

Please add any further points relating to water stress that you would like to raise as part of this consultation.

Response to question 7 and our view

There were 41 responses to this final question. Many respondents re-stated their support for our proposal on updating the areas to be considered as areas of serious water stress. Some respondents reinforced issues that should be considered. These included:

- improvements to managing the demand for water
- implementation of other water saving measures like rainwater harvesting
- improve communications about the need to save water
- government action to introduce measures such as a water label and targets to reduce demand
- national approach with compulsory metering across England
- increased cooperation and innovation by water companies
- inclusion of sensitive environments and chalk streams and aquifers to be classified as areas of serious water stress
- any additional money raised through metered charges should be used to improve water resources rather than for water companies
- the link between water stress and planned development
- introduce appropriate schemes to protect, develop and store water resources at local and national levels
- the need to improve the understanding of the value of water and natural capital
- support for water resources developments
- the need for compliance with environmental legislation
- the commitment to achieve net zero
- wider contributions towards green recovery
- the need for resilience in decision making in future

Many of these comments are more appropriate for water companies and other regulators. They should consider them when developing the longer term national planning framework, regional water resources plans and future versions of water company water resources management plans. We will pass on these comments to the leads for these topics to consider.

A number of comments centred on the Environment Agency's and the government's role in reducing water consumption. This included improving building regulations to reduce household water use. We have worked closely with Defra and others on the Defra consultation on *Measures to reduce personal water use* in 2019. This consultation covered a range of topics including metering, building regulations for water consumption, water efficiency labelling and how to encourage people to use less water.

The summary of responses to the Defra consultation will be available in spring 2021 to coincide with the water stress determination. The government is developing its policy

position on measures to reduce personal water use and this will include many of the points raised in response to the Environment Agency's consultation on water stress areas.

Next steps

We have published the updated determination of water stressed areas in England at the same time as this response. We will amend our water resources management plan guidance. It will provide information on the process water companies are expected to follow in response to which areas are now determined as seriously water stressed. And therefore when they must consider compulsory metering in their plans.

If you wish to follow up on your responses or any points made in this document in more detail, please email us at: Water_Company_Plan@environment-agency.gov.uk

Appendix A: List of respondents

Water companies:

- Northumbrian Water
- Portsmouth Water
- Severn Trent Water
- South East Water
- South Staffordshire Water (incorporating Cambridge Water)
- South West Water
- United Utilities
- Wessex Water
- Yorkshire Water

Public and national organisations:

- Arqiva Ltd
- Blueprint for Water (Wildlife and Countryside Link)
- CIWEM
- FlushRain
- National Farmers Union
- Salmon & Trout Conservation
- The Consumer Council for Water
- Water Resources East
- Water Resources South East
- Waterwise

Other respondents:

- Burnham Thorpe Parish Council
- Cam Valley Forum
- Friends of the Ems
- Member of Parliament for South Cambridgeshire
- Upper Thames Fisheries Consultative

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