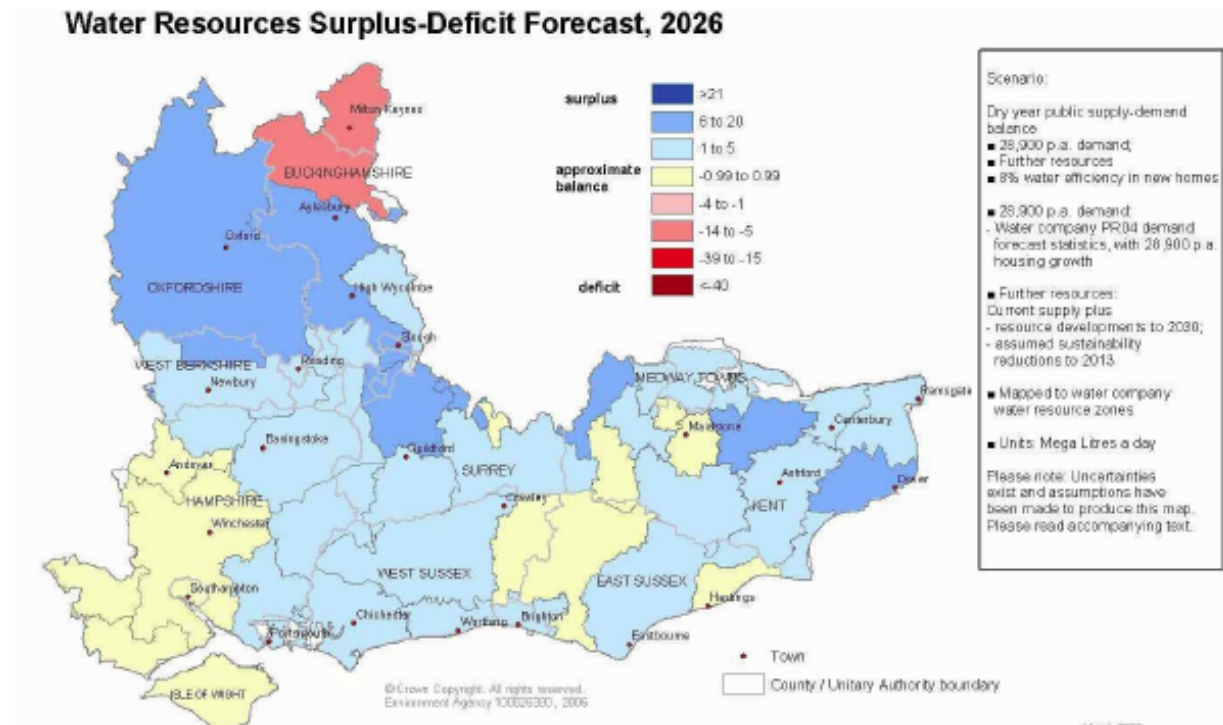


Case studies

<p>Title of case study: Water Resources South East – Commentary on South East Plan housing provision</p>							
<p>Keywords: Regional spatial planning; water resources; water efficiency; housing growth scenarios; climate change</p>							
<p>Audience: Spatial planners and decision makers; water management experts</p>							
<p>Messages in the ESPACE strategy to which the case study applies</p>	1.	2.	3.	4. X	5.	6.X	7.
	8.	9.	10.	11.	12.	13.	14.
<p>Sentences linking the case study to relevant strategy messages:</p> <p>4. Working jointly with key stakeholders on water resource impacts for the South East Plan taking climate change into consideration helped to ensure an integrated approach to adaptation.</p> <p>6. The case study on Water Resources South East represents research undertaken by the South East England Regional Assembly jointly with the Environment Agency and water companies to assess the impact of housing growth scenarios on water resources taking climate change impacts into consideration.</p>							
<p>Elements of 'Guidance' to which the case study applies:</p>				<p>'Tool' to which the case study applies:</p>			
<p>Overview:</p> <p>The Regional Assembly has been working with the Environment Agency and water companies to assess the implications of different scales and distribution of housing growth within the region on water resources. The map illustrates an example scenario. The impacts of climate change have been taken into consideration.</p>							

Photo/diagram/map:



Description:

The study explores the implications of different scales and distribution of housing growth within the region on water resources. The impacts of climate change have been taken into consideration as follows:

“We currently estimate the overall forecast growth in consumption and headroom includes approximately 50 Ml/d related to climate change assumptions. Additionally, on the supply side, we estimate 30 to 50 Ml/d of reduction in existing source outputs has been included (some of it within the target headroom assumptions) to represent decline that could result from climate change. Hence we estimate that a total climate change allowance of between 80 to 100 Ml/d has been included across the region.”

The study comes to the following conclusions with regard to climate change:

- ‘Managing the supply demand balance, in the face of the uncertainty of climate change, whilst maintaining environmental standards, will be a major challenge in water resources management in the future.
- The exact nature and scale of climate change effects is unknown, there is an urgent need for more research to be undertaken to estimate the effect, and implications of climate change on the various elements of the supply demand balance.
- Although the effects will occur in the future, it is vital that current plans fully take into account the likely impact of climate change.
- It is considered that the development of surface water storage can help to improve the region’s resilience to the impacts of climate change, and this aspect is considered further in the development of new resources. Demand management measures focused on summer and

peak water use will also be pertinent. It is expected that the effects on the yield of sources will be different for the different types of storage. Groundwater sources will be affected by the change in the quantity and pattern of rainfall during the recharge and recession periods. For surface water, the presence of storage has been shown to mitigate against the effects of climate change, and they could well be a useful measure to protect surface water yields, although there is some evidence to suggest that yields from surface water storage are also detrimentally affected by climate change. However, without storage, the so-called 'river type of scheme', has been shown to be very sensitive to the potential effects of climate change, and could be significantly affected.

- It is important that a proactive approach is taken to manage the effects of climate change. A vital issue is that adequate funding is provided to mitigate against the effects of climate change, even if they are not established beyond doubt. This will require an innovative approach to decision making process within the funding process.'

The study has informed policy development in the South East Plan.

Author:

Jorn Peters (SEERA)
Environment Agency

Further information:

Water Resources South East – Commentary on provision (Environment Agency, May 2006)