By: Director – Regeneration and Economy

To: Flood Risk Management Committee – 14 January 2010

Subject: Introduction to Local Water Resources Management Issues

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1. Summary

1.1 New information has highlighted that in some locations Kent's water resources are being lost through pollution arising, in part, within urban surface water drainage systems. In the longer term this problem will be compounded by increasing pressure on water resources from housing growth and increasing risks of water scarcity and droughts as a consequence of climate change.

1.2. Land use planning has a significant role to play in addressing these problems and it is essential that they are given specific consideration as part of new KCC responsibilities for surface water management through the development of an integrated approach.

1.3. More immediately, KCC needs to develop its position regarding a public inquiry into South East Water's Water Resource Management Plan. If timetables permit, the Committee may wish to take a view of this.

2. Introduction

2.1 New roles for KCC in surface water management planning are specifically aimed at improving the management of flood risk but they also require an integrated approach that recognises that, through the natural water cycle, excess surface water goes on to become Kent's water resources for future seasons. Changing the management of surface water has direct implications for groundwater recharge and surface and groundwater pollution and, indirectly, it therefore affects water resources. Kent's water resources are already under severe pressure so it is essential that these processes are understood and that surface water management functions deliver systemic improvements within the local water cycle as a whole.

2.2. Over the last 2 to 3 years an unprecedented amount of information on the condition and management of water resources has been produced and made publicly available. For Kent, some of this information has presented new insights into weaknesses within water company planning; pollution of rivers and groundwater that threatens to render some water resources unusable; and projections of future severe reductions in river flows as a result of climate change. This has led KCC to adopt a stronger and more proactive approach with partner organisations and, specifically, to robustly question the latest round of water company planning. As a result, KCC is currently involved in preparing its case for a Public Inquiry into the Water Resource Management Plan of South East Water.

2.3. This paper attempts to introduce the key issues as they relate to the newly established Standing Committee for Flood Risk and Water Management.

3. Key Issues

3.1. The following issues are presented separately for purpose of clarity but, in reality, they are highly inter-related through the natural water cycle. These inter-relationships are explained as far as possible.

Surface and Groundwater Pollution

3.2. Over the past 20 years enormous progress has been made in the reduction of 'point source' water pollution but these improvements have now exposed significant problems of underlying diffuse pollution that are difficult to attribute to any one cause yet have major impacts on the quality of water resources. In some parts of the county this problem is now resulting in a reduction in the total available water resources as some groundwater becomes too polluted to be used for public water supply without blending with imported water.

3.3. Kent is highly dependent on groundwater for public water supply and in the longer term this dependency is likely to increase with the incidence of warmer, drier summers. It is therefore vital that these pollution problems are quickly and effectively addressed. Protecting the quality of Kent's water resources is fundamental to making them more able to accommodate further urban development and more resilient to the risks associated with climate change.

3.4. Unlike point source pollution problems, diffuse pollution is largely a land use management issue. Urban development and transport infrastructure are implicated in some of the more serious cases, and there is a significant role for local authorities.

3.5. This issue relates strongly to probable new surface water management responsibilities for the County Council stemming from the Flood and Water Management Bill and it would benefit from good integration with this function. Sustainable Urban Drainage Systems (SUDS) are one of the key measures for enhancing surface water drainage but they are also one of the few means of controlling pollution from surface water runoff. It is therefore essential that both objectives are recognised in their design.

3.6. The WFD will progressively demand water quality improvements across the UK as a whole but the pressure on Kent's water resources are more acute that most parts of the country and therefore call for early action.

3.7. Water pollution has a strong negative influence on the water supply and demand balance, it undermines the resilience of resources and there is a risk that it may begin to impact on economic development.

Water Scarcity and Drought

3.8. In the recent Water Resources Strategy for England and Wales the EA has highlighted that the Water Use Index in the SE of England (total actual water abstraction as a proportion of the total effective rainfall) is comparable to Spain, Italy and some Mediterranean islands. In the case of SE England this situation arises because of high population density and relatively low rainfall: a situation made possible by a highly engineered (and arguably successful) system of water resources management.

3.9. Despite the limitations of this kind of indicator the European Environment Agency has found broad geographical correlation with problems of water scarcity and drought, suggesting that further intensification of water resource exploitation might be counterproductive in the long term. The EEA suggests that what is needed is "a sustainable, demand-led approach to water resource management, focusing on conserving water and using it more efficiently."

3.10 As a general principle KCC should seek surface water management solutions that can contribute to increasing the county's resilience to drought and water scarcity.

3.11 Drought has very strong implications for water quality because pollutants tend to become more concentrated. Surface water management systems have a key role to play in controlling this.

Water Supply and Demand

3.12 In the past water companies have been able to simply increase our exploitation of the water environment in response to increasing demand for water. This has led to many catchments becoming over-exploited and has, in the past, even caused some Kent rivers to dry up completely. These pressures are now better managed but there are very few opportunities to further increase water supply without incurring very high capital costs, large additional energy demands and high operating costs. These costs would inevitably lead to higher customer bills.

3.13 KCC is taking a strong stance with water companies concerning their 25 year Water Resource Management Plans and has called for better co-operation between companies to share resources, develop more resilient systems and avoid unnecessary infrastructure investment.

3.14 As a result of the challenge from KCC and several other organisations, South East Water has made some changes to their plan and in January 2010 will be presenting their new position in preparation for a public inquiry in May. KCC will need to consider this new information from the water company, review our position and prepare the necessary formal statements by the end of February. The Standing Committee on Flood Risk and Water Management may wish to take a view on this.

3.15. Local authorities are well placed to play a key role in helping to reduce water wastage and there are potential linkages to new surface water management responsibilities through measures such as rainwater harvesting.

Future Risks and Uncertainty

3.16 In March 2009 the EA produced its new water resources strategy for England and Wales 'Water for People and the Environment' that showed that by 2050 Kent might face autumn river flows in the order of 50% lower than the present day. This information is relatively 'coarse grain' and cannot yet be relied on for specific river catchments but it is currently being updated in the light of the more recent UK Climate Projections.

3.17 Kent's groundwater resources are normally replenished during the winter and it is fortunate that the average quantity of winter rainfall is expected to be only slightly affected by climate change. However, the occurrence of high intensity rainfall events

is expected to increase and this may mean that less rainfall is able to infiltrate into the ground and percolate down to the groundwater. Surface water management systems may need to play an increasing role in this process over time.

3.18 The more severe impacts of climate change might be felt in summer months as peak temperatures are expected to be higher and rainfall lower. This combination could cause worsening river water quality, especially during late summer and early autumn.

3.19 The EA water resources strategy sets out a number of actions that need to be taken to meet these challenges. These are mainly aimed at managing water demand and making water resources management systems more resilient and able to accommodate these uncertainties.

3.20 Updated information on the water resources implications of climate change are expected from the EA in autumn 2010. Following this KCC will have a better understanding of the local implications and will then be able to develop our policy response.

4. The role for Local Authorities

4.1 As industry continues to make improvements to its impacts on the aquatic environment, the remaining issues increasingly tend to be related to land use planning in its broadest sense. Agriculture clearly has a large role to play but, for urban areas, so do local authorities. For KCC this is entirely consistent with our duty of care for the environment and our community leadership role.

4.2 Part of this role is now likely to be imposed through the Flood and Water Management Bill that would bring new statutory responsibilities for surface water management. Other such responsibilities may follow over time but will generally be as a consequence of problems that are felt nationally. Given the extreme pressures that Kent faces a more proactive local approach might be needed.

4.3 Surface and groundwater pollution can be mitigated by local authorities through:

- Ensuring that sustainable drainage systems are included with new development.
- Embracing new roles for surface water management (Flood & Water Management Bill) and ensuring that these deliver water quality improvements as well as flood risk management.
- Liaison with the EA to identify priority locations.
- Examining runoff provision from highways and other paved areas and identifying ways to intercept polluted runoff.
- Starting to consider how some sustainable drainage techniques might be introduced into existing urban areas.
- Ensure that adequate measures are included into future River Basin Management Plans.

4.4. Local authorities can address water scarcity, drought and other future risks and uncertainties by:

- Investigating the issues and broadening awareness – possibly through holding a local conference.
- Development of policies aimed at increasing future resilience of water management systems and lobbying water companies to adopt resilient solutions.
- Conducting Water Cycle Strategies to support Local Development Frameworks and ensuring that these identify robust solutions for improving the resilience of water resources systems at the same time as accommodating economic growth.
- Ensuring that adequate measures to address Kent's problems are included into future River Basin Management Plans.

4.5. Local authorities can contribute to the balancing of water demand and supply through:

- Ensuring that the water efficiency of new homes is adequately addressed in Local Development Frameworks.
- Improving the efficiency of water use in existing homes by ensuring that simple, effective water efficiency devices are installed along with energy efficiency retrofit programmes.
- Measuring and benchmarking water use in public sector buildings and implementing targeted improvements.
- Continuing to encourage similar improvements in the business sector, especially where these can help businesses to reduce costs.
- Working with partners to help raise public awareness to bring about reduced water wastage.
- Maintaining pressure on water companies to keep leakage under tight control.

5. Recommended next steps

5.1. The current public inquiries the water company Water Resource Management Plans will take place in May 2010, and this is a good opportunity to influence government and water companies. KCC will be preparing written representation pointing out the high level issues for Kent and requesting that the inquiries address them thoroughly. The Committee may wish to take a view on this if timescales permit.

5.2. KCC should understand the implications of the new UK Climate Projections for water resources management in Kent and develop a policy response in late 2010.

5.3. Water companies should strengthen their activities on demand management; assist local authorities in reducing wastage within public sector buildings; and support projects for retrofitting existing homes. For South East Water the public inquiry will be the test of their position.

5.4. Local authorities should take action to reduce their own water use and to ensure that water efficiency measures are included within programmes for improving the energy efficiency of existing homes.

6. Recommendations

The Committee is asked to note the report.

Background documents; None

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