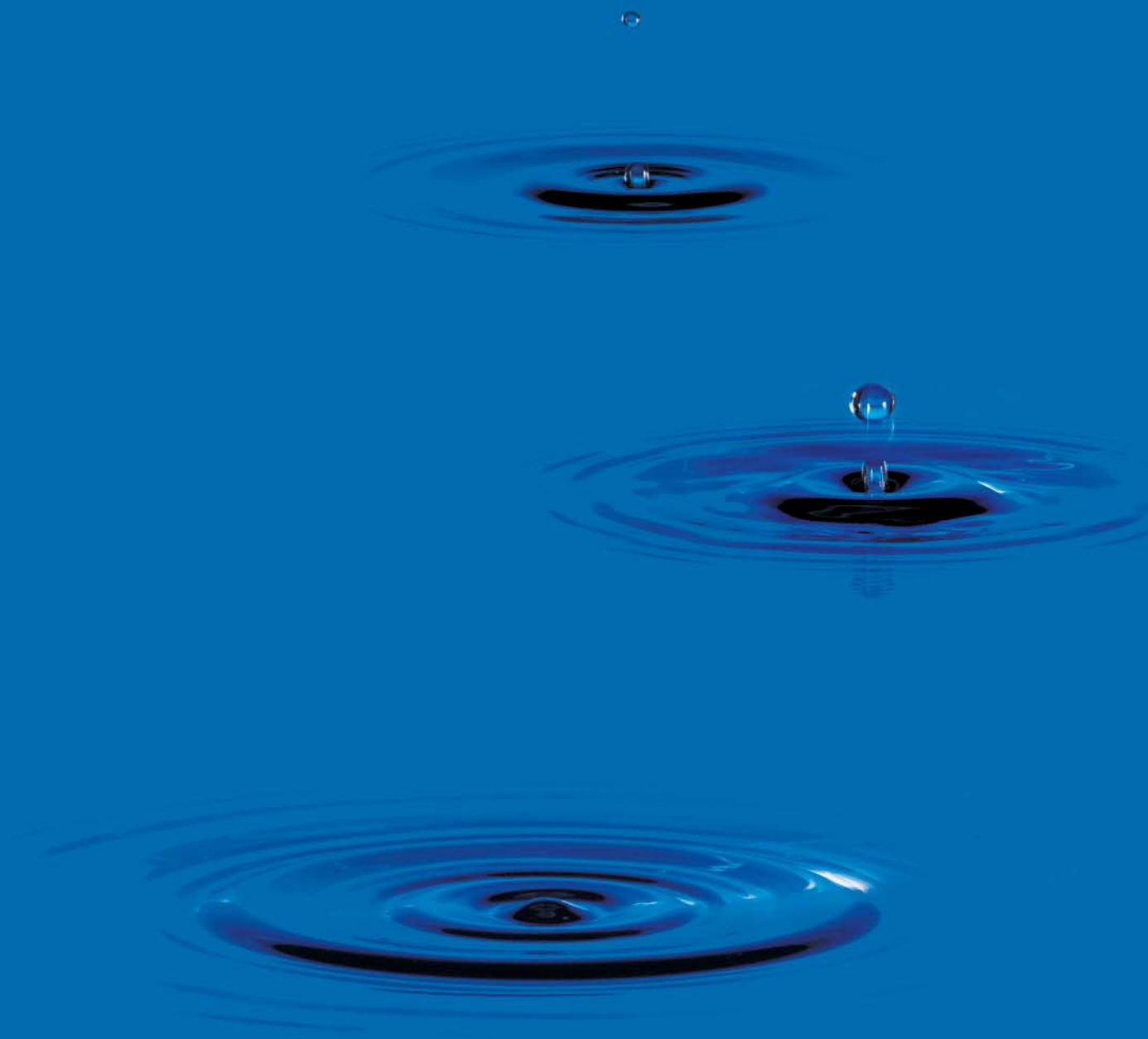


South East Water Resources Forum



contents

section 1

Chairman’s Introduction	5
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section 2

The Conference	8
The Challenge of Water Resources	8
Water Resources in the South East – a Government Perspective	12
Get on with your jobs!	17
Sustainable Development in South East River Catchments	21
Sustainable Communities in the South East: planning to meet the water challenge	30
Water supply and sewerage – a water company perspective	35
Flooding and Drainage	38
Planning to meet the water challenge – the environmental perspective	42
Summary of issues raised by delegates in discussion sessions	43

section 3

Report Back	44
-------------	----

section 4

Looking Forward	45
The Next 12 Months	46

section 5

Since the conference	47
The Regional Spatial Strategy	47
Sustainable Drainage Systems	49
The Sustainable Communities Plan	50
The Water Act 2003	51
The Water Framework Directive	52

section 6

Appendix	53
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chairman's introduction

South East Water Resources Forum
2003 Annual Report

Chairman's Introduction

I have great pleasure in writing the introduction to the 2003 Report of the South East Water Resources Forum. The report this year serves a dual purpose and is more than a report on the conference. It includes a summary of the papers presented at our conference held in May 2003 and also an annual report on the issues and activities affecting the Water Resources Forum.

The South East of England continues to face immense challenges in providing sufficient water and sufficient land to meet the development which is proposed. Even before the Deputy Prime Minister (DPM) announced the Sustainable Communities Plan early in 2003, the challenges fully engaged those who have an interest in water related issues. The fact that water seemed to have been omitted from the initial thinking in the DPM's office exacerbated the tensions between those charged with providing water and flood-free housing and those who believe that there are already too many houses and too much stress on our rivers and wetlands.

The Regional Spatial Strategy (RSS) faces head-on these challenges as well as those of transport, schools, hospitals and employment. The Forum will be engaged in the RSS development, but all who live and work in the Region can also become engaged and have their input into this vitally important process. Decisions made in the next couple of years will affect us for generations to come.

Wildlife NGO's and English Nature draw our attention to low flow rivers in the South, to the number and quality of Sites of Special Scientific Interest (SSSI's) in our Region, to the internationally designated conservation sites along our coastlines and to the dependence of many of these sites upon water. These sites have been designated precisely because they are of particular importance and they need to be protected and nurtured.

The Environment Agency draws our attention to the level of leakage from water company mains and domestic fittings, to the problems associated with development in flood plains and to the challenges of improving the quality of the Region's rivers.

Campaign to Protect Rural England (CPRE) argues against excessive development. Developers point out that demand exists and that government policy is to provide housing in the South East and that house-buyers want power showers and expect to have unlimited water for their instant gardens.



Water Companies point to the work done in improving levels of leakage, to improvements made in the quality of our rivers and to the investment made over the past 14 years since privatisation.

The conclusion we reach from considering these different viewpoints might be that we are faced with too many houses, using too much water, with not enough land and not enough water to go round. Hence the importance of the Forum. Uniquely it brings together all those with a shared interest, but often different viewpoint and perspective.

Meeting challenges in any walk of life is often about inspirational leadership. The Forum can help that process of leadership, but ultimately the inspirational leadership has to come from within all those organisations whose everyday activities and decisions impact our water environment. Corporate Social Responsibility (CSR), including the green issues, but also including all the social and economic issues which form part of sustainable society, cuts right across the water debate. We need the highest levels of CSR in all our organisations if we are to approach the challenges in agreement rather than in dispute.



The Forum wishes to become a focal point for communication and a source of good information - particularly about best practice. Best practice has to be fostered and encouraged. That is one of the tasks of the inspirational leaders that I referred to previously. Best practice also has to encompass communication with everyone in the South East and those outside our Region whose decisions impact the Region. Almost everyone reading this document will espouse sustainability, but how should we encourage the message amongst those who will not read it and amongst our school children who only too soon will become adults in this Region. We have to think and plan in the longer term, not just for the development of new water resources or sustainable drainage or flooding, but in relation to all these issues as one joined up strategy. Collectively we need to be thinking ahead, planning our research programmes to provide the answers to long term questions, working together on our difficult environmental issues and engaging stakeholders to share our visions.

Whilst we all have the chance to make a difference and to improve our Region, let us not forget one other aspect of Corporate (and individual) Social Responsibility. The Millennium Goals set in Johannesburg to eradicate global poverty, set targets for improvements to the provision of clean water and sanitation. In the time we take to read this introduction, a child will die from water-borne disease. Over 1 billion people do not have access to clean water and over 2 billion do not have safe sanitation. Whilst responding to our own challenges, let us also respond to the greater challenges posed by those whose problems make ours pale into insignificance.

The water companies in the Region are currently talking about price rises of over 20% in the next five years as part of their business planning process and consultation

with customers. Several of the water companies have indicated that customer demand combined with changing weather patterns have raised the spectre of new reservoirs in the region, in both the Thames Valley and East Kent, and the raising in height of existing reservoirs in East Sussex. Do we accept these as inevitable, or should development be constrained? Is it time for alternatives such as desalination to provide the answer (despite the energy required for that process)? This summer and autumn have seen difficult water resource problems yet through the hottest summer on record, with the UK's highest ever recorded temperature occurring in Kent, there were no water restrictions. There will probably be some flooding in the South East this winter, since we have been building in flood plains for far too long. We have to become smarter in rising to the challenges, and the Forum has a role to play in this process.

The solutions we create to the challenges we face in this generation will determine the quality of life for future generations in this part of England. The costs of meeting these challenges are likely to be high, but we cannot afford not to meet them in a sustainable manner. We need to develop techniques to reduce the volume of water used in both new housing and our existing housing stock. We need innovative incentives to encourage homeowners to incorporate water saving in the same way as energy saving has been embraced. But in the case of water, without the same cost-saving motivation. There is a degree of difficulty about how we solve these conflicting issues, and to date we haven't been very sustainable in our solutions. But let us not leave this in the "too difficult to do" pile. Future costs will inevitably be incurred and will have to be shared across the community. This isn't about whether it should be shareholders rather than customers, or industry rather than taxpayers. This cost is the simple (or some might say complex) consequence of our standard of living and the affluence of this part of England and we either work out how to afford it, or our children suffer the consequences. Let us not build the next generation into a corner, not of their making nor of their choice.

In summary, we have become unsustainable in our approach to water and we need to change. We need to change our habits and that might be difficult. Our culture doesn't really seem to encourage sustainable use of water in its widest context. The South East Water Resources Forum cannot meet the challenge of changing attitudes alone, but it has an opportunity to work alongside those whose very livelihoods and future depend upon water – in other words, all of us!

Graham Setterfield
Chairman

South East Water Resources Forum

section 2

the conference

The Challenge of Water Resources

Mike Gwilliam Director of Planning & Transport South East England Regional Assembly

Text provided by Edward Dawson Regional Director Campaign to Protect Rural England, South East

Summary

The state of water resources in the South East is a matter of concern to the Regional Assembly. Working with the Environment Agency and many others, it has a duty to review Regional Planning Guidance. In the review of the new Regional Spatial Strategy, water will be an important component of the sustainable development considerations. The future availability of water resources, water quality and the health of the water environment are vital issues to be kept under review.

Amongst the Assembly Advisory Groups is one covering Natural Resources and Climate Change. However, this does not include representatives of the water companies or the development industry. The Assembly therefore looks to the Water Resources Forum as an expert group to provide a cross-sectoral input. Some key issues at present are:

- Prospects for water resource availability over the next 20 to 30 years;
- The contribution of improved water efficiency measures to sustainability;
- The incidence of water as a regional constraint and development opportunity;
- Impact of new development on wastewater treatment capacity and water quality.

Introduction

Water presents a problem and an opportunity. The water cycle is a well-recognised concept and water resources are naturally replenished. However, water can quickly bring difficulties in its wake. Too little results in low flows in rivers and even drought conditions in the short term. Too much can lead to incidences of flooding and catastrophic damage, with attendant cost and stress to all involved. On-land storage in reservoirs has traditionally been the answer to this supply conundrum. Significant storage capacity is held in London and the South East.

In the new millennium, growing demand as well as changes in climatic conditions will exacerbate the supply uncertainties. Climate change is

accepted as a major factor in planning for the region. Periodic winter floods may increasingly be followed by hotter, drier summers coinciding with times of high demand. Efficiency savings, such as with better leakage control and more efficient domestic usage, can have a positive effect. However, with increased household and population growth in the region, any gains can quickly evaporate.

Sustainable development principles require everyone to make prudent use of natural resources. Water is one such resource. The management of water resources may be taken for granted. This would be foolish and future resource availability has to be a key feature of any planning in the region. Planning has to be sensitive to constraints and locations for future

development must take this into account. Whether planning should tailor its objectives to existing resource availability or attempt to overcome such physical limitations is a critical issue.

Fortunately, the region now has a number of mechanisms to help it chart its course. The Sustainable Development Framework and the new Integrated Regional Strategy will be central to this. The advice of the Environment Agency and the Water Resources Forum will also be of pivotal importance. A co-operative working structure is essential to inform and develop the Regional Spatial Strategy. The Assembly looks to all parties to play their part in the vital process of determining the future of the region to 2026 and beyond.

The Planning Challenge

The planning challenge is to address a wider range of land use and other issues in an integrated and holistic manner. Housing supply is often seen as the most fundamental and controversial issue. Housing provision and distribution have always been central to planning guidance. They are likely to remain crucial. The role of the sub regions will become more pronounced. The role of growth areas has always played a part and has been identified as particularly pertinent by the Government. Housing affordability and access to housing are also of great importance, and affect the whole region. House price inflation has produced severe difficulties for many. Another key issue is the transport system and how it meets the requirements of the region. The future availability of skills and the state of the

labour market are important to the economy. Urban renaissance and renewal are powerful guiding principles. At all times, environmental protection and enhancement will be fundamental and pervasive aims.

Further Challenges

Accommodating economic and population growth will test the resolve of all to achieve sustainable results. Some previous policies have turned out to be unsustainable and short-sighted. Social inclusivity and deprivation issues will be equally important and deserve more attention than in the past. Cross cutting topics, such as the need to mitigate and adapt to climate change, will be ever present. Overall, more sustainable spatial patterns and better resource management will be key objectives.

Context

The process will be a review of Regional Planning Guidance and preparation of statutory Regional Spatial Strategy (RSS) to 2026. The Sustainable Communities Plan forms a central plank of government policy for this and adjoining regions. The Sustainable Development Framework will provide a set of desirable objectives to aim for and key indicators. Much of this work will now be set within a new statutory framework, based on the Planning and Compulsory Purchase Bill, currently before Parliament. Behind these different elements is the need to produce a regional integration of strategies. Within this, the requirements of the Water Framework Directive must be integral.



Sustainable Communities in the South East

The launching of the Sustainable Communities Plan (SCP) in February 2003 was an important signal for the South East. It was an aspirational document for the Government, which was determined to see more housing being built, especially affordable housing. The SCP aimed to promote smart growth and sustainable patterns of development. It would support the UK's largest regional economy; it would promote the South East as a gateway to Europe, as well as protecting the character of the countryside. It also aimed to tackle disparities, but had its prime focus and impulse as the Growth Areas.

Resource Management Ethos

The Regional Assembly has already been engaged in a series of policy reviews. These are essentially updates and proposed changes to Regional Planning Guidance. This provides the Regional Assembly, as the RPB

(Regional Planning Body) with a basis for merging Regional Assembly Strategies, covering Energy, Tourism, Transport, Minerals and Waste. All of this family of review documents follows an ethos of Natural Resource Management. A starting point is decoupling growth and resource use. All policies are appraised against the Sustainable Development Framework. Water and planning, whether for increased efficiency or conserving resources, must come together. The approach is based on sustainability in the widest sense.

Action not Words

The new RSS will have much more emphasis on implementation. This is the Government's driving force. There will be an RSS Implementation Plan. There will be clear RSS links with other strategies. Better sub regional and local delivery arrangements will be set out. There will also be substantial regional monitoring and policy prioritisation.

RSS Timetable

Process will be an important consideration of the RSS review. It began with a Rural Conference, held in July 2003 at Paddock Wood in Kent. Next came an Urban Conference, held in Portsmouth Historic Dockyard in September 2003. The full review itself started off in late summer 2003. A consultation draft is expected in late 2004. Once finalised this will be for submission to Government by summer 2005. A Public Examination will be held in late 2005.

Water Resources and Flood Risk

The main issues of water resources and flood risk will be addressed by the Assembly through its Natural Resources and Climate Change Advisory Group. This will work with the Environment Agency to improve understanding and assess the wider implications. It will be focusing on Water Resources, Water Quality and Flood Risk. The job of integrating Water Resource Strategies and flood

risk assessments with the RSS review will be fundamental. There will be a need for joint research and the Assembly is a partner in an Interreg (inter-regional co-operation) project, ESPACE, involving partners from the UK, Holland, Germany and Belgium.

Water Resources – key issues

Water companies have a statutory duty to provide water. This may make it difficult to justify refusal of a specific development on grounds of water shortage. Water can be piped over long distances or provided through other technical fixes involving desalination. The costs involved, however, can be considerable both financially and to the ambient environment. Strategically, there will be uncertainties over leakage, demand management, as well as scale and location of development, and of course, climate change. A twin track approach of demand management and resource development may be required. This will need to take account of spatial development options and resource availability. A timely provision of infrastructure will be essential, including water supply and wastewater treatment. In housing, and elsewhere, the role of design quality and sustainable construction techniques will be paramount, but equally important will be the need to persuade existing consumers to use less water.

Flood Risk and management – work programme 2003

In assessing flood risk, the Environment Agency flood zone and risk maps, and river basin/catchment management plans will be important. These are currently in development. They will be a valuable improvement on Indicative Floodplain maps. The maps will cover existing flood defences, and look at the implications

of climate change. They will also aim to identify relative risk. This is a combination of probability and impact. They will then provide a policy development input to the RSS.

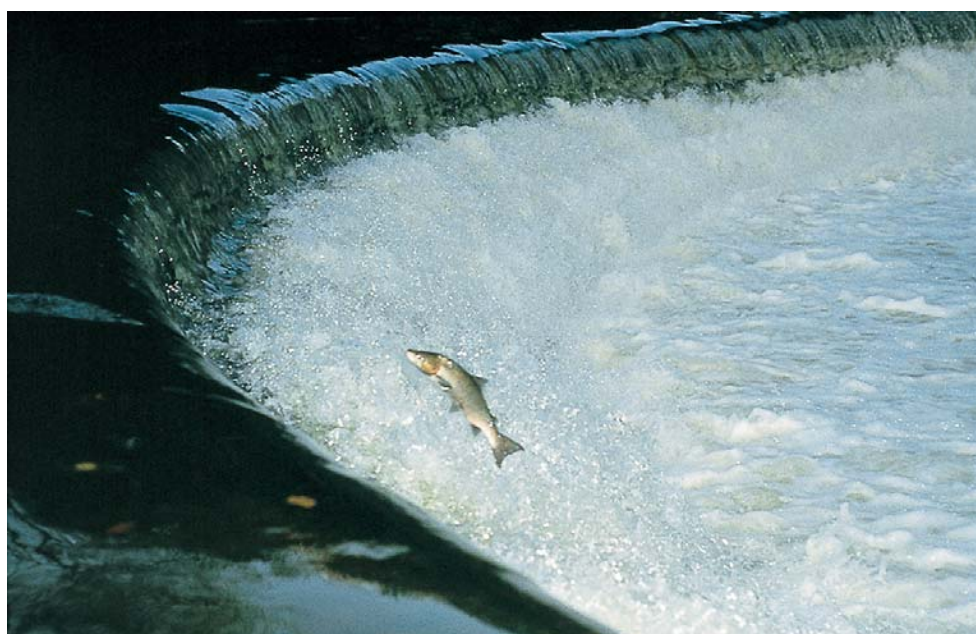
Summary

In summary, there will be an enhanced role for the regional spatial strategy. There is likely to be significant growth, which will need to be accommodated and managed. All this will bring a need for better resource management. There will be a much stronger efficiency drive. Throughout, it will be essential to have sufficient carrots and sticks to ensure an efficient delivery of policy.

January 1st 2026

What will life be like when we wake up on 1st January 2026? There may well be lots more homes and jobs. Resource consumption per unit may be reduced by ⅓. Water and energy saving is the norm in existing housing stock. SuDS (Sustainable Drainage Systems) are commonplace. Energy consumption and waste generation is falling.

There is 65 per cent recycling and composting. The Regional Transport Strategy wins the 'Goldener Loewe' award. The Thames Gateway, spurred by success of the London Olympics, creates special visitor facilities to cater for world-wide interest in this model of sustainable development!



Water Resources in the South East – a Government Perspective

Government's Policy Framework for Water

Mike Walker, Water Supply & Regulation Division, Defra

Key points:

- *Directing the Flow – Priorities for future water policy* sets out the Government's policy framework for water, which is based on the 'twin track approach' of demand management alongside sustainable resource development. It notes the existing and forecast pressures on water resources in the South East
- The Environment Agency has produced national and regional water resource strategies (*Water Resources for the Future*) to secure the proper use of water resources, and is developing Catchment Abstraction Management Strategies (CAMS) to provide more local detail on the availability of water
- *Water Resources for the Future* indicates where additional supplies may be available and where abstraction is already at unsustainable levels, and this knowledge will be refined in the CAMS process
- Water companies are under a statutory duty to supply water to meet domestic demands. In order to assist them in reconciling anticipated demand with available supply, they produce long term water resource plans and drought plans
- There is already a shortage of water in the south and east of England, and the major growth outlined in the Government's strategy document *Sustainable Communities: Building for the Future* will increase the demand for water in some of the areas with the greatest deficits
- The increase in demand will place additional pressures on the environment, and *Water Resources for the Future* identifies where abstraction may need to be reduced to correct environmental damage and comply with EU Directives
- Leakage control has an important part to play in more efficient use of water, and is now at or close to the economic level of leakage for much of the South East
- The promotion and adoption of water efficient technologies, together with education programmes to influence customer behaviour, will be key to achieving and sustaining water savings, and ensuring the sustainable use of new and existing water resources
- Water metering has a role to play alongside other measures in managing demand, particularly where there is a strong case for demand reduction measures. The Government is committed to encourage water-charging policies that take account of the need to protect the environment
- When enacted, the Water Bill* will ensure that all major abstractions of water can be controlled, and may offer the opportunity to re-balance the needs of the environment and various classes of abstractors within the South East



*Please note that the Water Bill has now been enacted (November 2003) since the time of this conference (May 2003).

In November 2002, Defra published *Directing the Flow – Priorities for future water policy*, setting out the Government's broad vision for the direction of water policy and its place among broader Government objectives.

It highlighted the need for more integration of plans impacting on water e.g. water resources and flood plans with land use development plans, so that we can avoid duplication and contradictory objectives, to achieve cost effective solutions for multiple objectives.

It confirmed that Government policy on water resources is based upon the 'twin track approach' of demand management alongside sustainable resource development.

Directing the Flow also recognised that there are already pressures on the South East's water resources, and that these are expected to increase. It noted questions over the adequacy of water resources beyond 2025 to meet demand and the precarious position of over-abstraction in the south and east.

Water Resources Planning

Planning for water resources is split between the Environment Agency, who must balance the interests of the environment and all users of our water resources, and the water companies, who provide treated (and untreated) water for domestic and business needs.

The Environment Agency has a statutory duty to secure the proper use of water resources in England and Wales. To help meet that duty it has developed national and regional water resources strategies, which look 25 years ahead. The strategy, *Water Resources for the Future*, considers the need for water of both the

environment and of society, and examines the uncertainty about future water demand and availability. The strategy is complemented by strategies for each of the seven Environment Agency regions and Wales that set out changes in anticipated demand and supply by 2010 and 2025. They also indicate Agency views on the measures individual water companies may need to take to respond in terms of development of water resources or demand management.

The Environment Agency is also developing Catchment Abstraction Management Strategies (CAMS) to provide more local detail on the availability of water. CAMS will:

- Make more information on water resources allocation publicly available
- Provide a consistent and structured approach to local water resources management, recognising both abstractors' reasonable needs for water, and environmental needs
- Provide the opportunity for greater stakeholder involvement in managing abstraction at a catchment level
- Be the vehicle for reviewing time-limited licences and determining whether they should be renewed
- Facilitate licence trading

The first handful of CAMS are at the consultation stage or have been through the consultation stage; all 129 CAMS should be operational by April 2008.

Water companies are under a statutory duty to supply water to meet demands, whether from new or existing customers, from domestic customers irrespective of their water resource position. They also have a

duty to supply business with sufficient water to meet their 'domestic' water use (sanitation etc.) needs but they are not obliged to supply business with water for non-domestic use where this would incur unreasonable expenditure or where this would risk the domestic supply.

They each have water resource plans looking ahead 25 years to reconcile anticipated demand with available supply – these plans integrate with the Agency's national and regional strategies. And they also produce drought plans, to show how they will deal with shortages with as little recourse as possible to the use of drought permits and orders, which are potentially damaging to the environment.

Pressures on Water Resources in the South East

There is already a shortage of water in the south and east of England and many water companies are operating with large or significant deficits in their supply/demand balance. The Environment Agency has identified in *Water Resources for the Future* areas where abstraction needs to be reduced to correct environmental damage.

The Government's strategy document *Sustainable Communities: Building for the Future* makes proposals for development in the areas of Thames Gateway, Ashford, South Midlands/ Milton Keynes, Cambridge/Stamsted/ London. All of these areas lie in the driest parts of England.

Water Resources for the Future indicates that for the Thames Gateway growth area, there is additional winter surface water available for the north bank but both summer surface water and groundwater abstractions are already at unsustainable levels. The south bank of the Thames Gateway

already has unsustainable levels of surface water (summer and winter) and groundwater abstraction.

Water Resources for the Future also indicates that the other growth areas are located where

- in the summer there is either no surface water available for abstraction or abstraction is already regarded as unsustainable
- there are either no groundwater supplies or current groundwater abstractions are already regarded as unsustainable.

It indicates that there are also problems with abstraction of winter surface water for parts of the South Midlands/Milton Keynes and Cambridge/Stansted/London growth areas.

CAMS will refine understanding of water resources availability at the local level as they are rolled out until 2007-08. For example, the East Hampshire CAMS, one of the earliest to be produced, shows that groundwater may be available, in areas previously thought to be overabstracted.

The new development areas will increase the demand for water, and this will increase the pressure on the environment. In the south east there are many nature conservation sites (Sites of Special Scientific Interest sites and Natura 2000 sites protected by the Habitats and Birds Directives) that may need to be protected from damage by abstractions. There may need to be reductions of abstractions by both the water companies and other abstractors to ensure these sites are protected from damage or restored to favourable conservation status.



The twin track approach

The twin-track approach to sustainable water resources management involves the consideration of demand management alongside resource development. Demand management includes leakage control by water companies and more efficient use of water by their customers. These activities are essential to ensure the sustainable use of new and existing water resources.

In general, the options for developing water resources include:

- new or enlarged reservoirs
- bulk supplies of 'raw' water between water companies
- inter-catchment transfers (via rivers, canals etc including, potentially, the British Waterways joint venture, WaterGrid)
- desalination

The new development in the South East will need to couple appropriate use of sustainable new resources with demand side measures that include

- Water efficient fittings and appliances
- Rainwater and greywater reuse
- Leakage control
- Tariffs for metered water supplies that offer effective incentives for water efficiency

Opportunities in the South East for demand side measures

Clearly, the planned new development in the South East presents real challenges for water supply. Efficient water use by water companies and their customers is essential to ensure the sustainable management of new and existing water resources. New development provides a unique opportunity to design and install water efficient technology into new buildings. It has been estimated that average household consumption could be reduced by about 30% through a combination of efficient fittings and rainwater or greywater systems. Additional water savings would also be possible through occupants choosing efficient appliances, such as washing machines, and changing behavioural patterns. Public education is therefore important, as peoples' attitudes and behaviour will remain key to achieving and sustaining the greatest water savings.

But to ensure that water efficiency plays its part in the new developments, planning authorities will need to ensure that developers use water efficient appliances in their new housing and that business also uses water wisely.

The *Water Supply (Water Fittings) Regulations* were introduced in 1999 to prevent the waste, misuse, undue consumption and contamination of drinking water. They set minimum standards for certain products and appliances – toilets, washing machines and dishwashers – with respect to water efficiency. For example, in 2001 the maximum flush volume of new toilets, which account for about a third of domestic water use, was reduced by 20%.

Defra's Market Transformation Programme (MTP) is currently consulting on a range of policy options that could help deliver improved water efficiency of products. The intention is to encourage the provision of reliable consumer information on the water efficiency of products, including labelling, on a voluntary basis in the first instance. This will enable the need for mandatory measures to be assessed.

The government has various schemes to promote efficient use of water by business, including the Envirowise programme and the recently announced Enhanced Capital Allowance scheme for water efficient technologies.

Envirowise is a technology transfer programme, funded by Defra and DTI. It produces case studies and guidance on reducing water use in business, and provides free advice via the Environment & Energy Helpline.

The 2003 Budget introduced Enhanced Capital Allowances for investment by business in certain water efficient technologies. Tax relief of 100% in the first year is available on qualifying investments, delivering significant cash flow boost and shortening the payback period on investment. As well as the tax relief, businesses will benefit financially by being water efficient.

In its first year (2003/04) the qualifying technology categories will be:

- Meters
- Flow controllers
- Leakage detection equipment
- Low flush toilets
- Efficient taps

Once the scheme is launched, products that qualify for Enhanced Capital Allowances will be listed on the Water Technology List, which will be available online via www.eca.gov.uk

Leakage

Leakage accounts for about 22% of water put into supply nationally. In some areas of the South East, leakage is as low as 15% due to the greater pressure on water resources there. All companies in the South East, with the exception of Thames Water, are now at or close to their economic level of leakage (ELL), which is the level at which it costs more to make further reductions than to produce additional water from other sources. While reducing leakage below this level might be technically feasible, it would result in additional costs to water customers. But as water resources become scarcer, leakage prevention will become more cost effective.

Metering

Metering is the most appropriate and already the dominant form of charging for non-household customers. The extension of water metering to households is continuing within the safeguards put in place by the Water Industry Act 1999. There are no plans to reduce either the rights of consumers to choose the basis of the water charge in their own home or the safeguards on the

circumstances in which homes may be charged on a metered basis.

Within these legal limits, water metering has a role to play alongside other measures in managing demand, particularly where there is a strong case for demand reduction measures. Water companies have opportunities to use tariffs to influence demand once measured charges are the established basis of charging for a property. Companies may meter all premises that are not homes, and homes when the occupier changes, or when water is being used for prescribed non-essential purposes. Within these metered categories there is scope for developing tariffs to influence demand in a way that contributes to the supply/demand balance.

All properties built since 1990 are fitted with water meters. Since April 2000, all domestic water customers can ask to have a meter fitted free of charge, where it suits their needs. The Act also gave water companies the right to compulsorily meter customers who use high volumes of water for discretionary, rather than essential purposes, for example garden watering using sprinklers.

Water undertakers are able to apply to the Government for 'area of water scarcity' status for all or parts of their supply area; if granted, the undertaker would be able to introduce compulsory metering in the designated area(s). At present no companies have applied.

The Government is committed to encourage water-charging policies that take account of the need to protect the environment. Under the right circumstances water meters can help reduce discretionary water use and encourage customers to think more carefully about their water consumption habits.

The Impact of the Water Bill

The Water Bill (July 2003) is going through Parliament. When enacted it is expected that all significant exemptions from abstraction control (e.g. irrigation, warping, transfers to canals) will be ended. This will ensure that all major abstractions of water can be controlled, and if necessary reduced. This may offer the opportunity to re-balance the needs of the environment and various classes of abstractors within the South East.

In addition, a standard abstraction threshold of 20 cubic metres per day will be introduced, below which an abstraction licence is not needed. But there will also be the facility to vary the threshold on a local basis, either up or down. This may be of relevance in the South East; should the water resources position deteriorate the Environment Agency may recommend that in parts of the South East the threshold should be reduced.

The Bill will also introduce new duties on water undertakers, putting the requirement for drought and water resources plans onto a statutory basis and requiring the water companies to conserve water in their functions.



Get on with your jobs!

Tony Hillier, Hillreed Homes

- There is a genuine supply problem in our housing stock, and there is recognition that the delivery system is blocking the process. Everyone in the development industry has a part to play in resolving the problem.
- There are very many organisations involved in water issues, and many different plans and strategies. In all this complexity there are real issues and uncertainty about where decision-making lies, who is responsible for taking action and who is accountable.
- A lot of emphasis has been placed on long-term, strategic issues, but if we are to meet the targets for provision of new homes in the South East over the next five years, we need real practical solutions that can make a short-term impact.
- House builders have real concerns about the levels of service provided to them by water companies. They are looking for an enthusiastic and action-orientated approach to ensuring adequate and reliable water supplies that meet the needs and expectations of their customers.
- Sustainable drainage systems are in theory an excellent technique for managing run-off from developments. However, there are many practical difficulties including the availability of land, the design criteria, long term adoption and attitudes towards localised flooding that must be addressed before these systems can be used on a wide scale.
- There is resistance to water saving measures in new homes, such as water recycling, because they add cost to the property but do not add value.
- We must anticipate that customer demand and expectations will increase rather than decrease, and this assumption must feed into long-term planning.
- Compulsory water metering for the existing housing stock would provide a quick and effective way of reducing water consumption in the Region.
- Any solutions must be commercially viable, and there is a finite limit to the contribution that land values can make to the process.
- The water industry has a key role to play in developing solutions to the under-supply of housing.



The Image Problem

House builders traditionally have had a bad press and been blamed over time for everything from the shortage of affordable houses to global warming. But times are changing. It is recognised now that the crisis in our housing stock is not just a result of builders hoarding their land banks but a genuine supply problem, which everyone involved in the wider development industry needs to engage with in order to resolve.

30 – 120

My estimate, crude I know, of the breakdown of organisations supporting this Forum is that there

were 30 groups who you could consider as ‘profit making’ and 120 who are not.

The cynic in me would say that for every person trying to make things happen there are 4 people trying to prevent it, modify it, or in some way trying to influence it.

Plans referred to in the last Annual Report

Digging deeper into the last Annual Report we find a whole raft of plans and strategies which are all in themselves, I am sure, quite sound and serious documents; but like a lot of serious documents they are often quoted and rarely read.

At the risk of appearing flippant there is, I believe, a serious point here which we all need to take in the right spirit which is: who is calling the shots in the decision making process concerning these issues? Who is really making things happen? And more importantly, who takes responsibility when things don’t happen?

Recognising the complexity of the relationships in the water provision industry, whose job is on the line if supplies are not available? Whose organisation gets bombed out if the drainage crisis worsens? And who will get serious grief if, say, the progress of sustainable drainage is impeded?

Real and Present Danger

So this was my starting point, that we have effectively sack loads of plans and guidelines, busloads of organisations involved in delivering, but only buckets full of real progress! My challenge to all of us is that the delivery outputs are out of scale with the resource that is being applied to the process, and we do have a *real and present danger*. Our mission is to provide 39,000 new homes across the South East region on an annual basis plus business, plus schools, plus leisure facilities. Against this backdrop we do have a drainage crisis especially in the area of surface water. We do have many areas where the adoption process is grinding to a halt. We do have water supply and pressure problems in many areas. We do have a real timescale issue. Yes, there are the big issues, strategic issues that have a timescale of 20 years but there is also a current timetable over the next five years during which the industry has got to provide houses on the ground.

Our need therefore, is for practical solutions that will impact in this timescale, not involving major hearts and minds campaigns to change

people’s habits and aspirations.

We need more quick wins.

What we really, really want

Whilst we do, as an industry, want to be involved in consultation on the big picture issues, it is the micro issues that engage us in a more urgent way. What we really need is:

- Confidence in supply. That is supply at the level of demand which customers expect. This involves more showers, not less! All of them to be power showers – like it or not – this is where customers are coming from!
- We need design realism. Not long ago it seems that we were thinking of designing for a 50 year flood, then 100 year, now some areas are using 100 year + 15%. Where do we go next? Is it not time to address this whole issue of design criteria and introduce an air of ‘sustainable realism’ into this? Perhaps we need to accept that in some cases localised flooding once every 10 years may not be such a bad thing, when set against the massive cost and design of alternative unsustainable infrastructure.
- We need the ability to install water supplies across regions.
- We need a genuinely positive approach for adoption issues. This seems to be lacking across the area where there is little incentive to adopt sewers and other installations.
- We need good pressure in the supply mains. At a time when it seems as though water authorities are solving their problems by reducing pressure, we as an industry are looking for guarantees of higher pressure to enable modern and efficient plumbing systems to work effectively.

- Finally, we need action people in water and drainage authorities who genuinely are involved with the process and want to make things happen.

It has to be said that as an industry this is not our experience. Generally, the view is that service levels to us as customers are poor and diminishing. There appears to be an absence of performance standards or any commitment to performance levels, and little urgency in the adoption processes.

Without wishing to appear critical of water authorities, the view of many within our industry would be that although we are looking at deregulated authorities, they still appear to be acting like monopolies. There appears to be little incentive to change. Our concerns about expertise within the industry remain, as with each successive take-over that goes on between the water authorities – so further levels of expertise and knowledge seem to be stripped out.

Welcome to the Fantasy World of SuDS

It is good to draw attention to sustainable drainage which everyone agrees is a major benefit, but which in reality encounters major obstacles in terms of design and implementation. Whilst the idea of swales and other drainage techniques seems appealing in green field situations, remember that 60% of the sites being developed at the moment are brown field and PPG3 imposes such significant density criteria that there is simply no spare land within the majority of development sites. Second on the obstacle course, we have the whole issue of design criteria that I touched on earlier and finally at the end of the day nobody really wants to adopt them. So what is a great idea and

embraced by everyone is being cut off at the knees.

The choice that most people would make is clear. Given the choice between huge underground concrete storage pipes and a bit of occasional localized flooding in controlled areas – which is the more sustainable option? I do believe it is time that we need to change our mindset on design issues.

This is illustrated in the whole area of balancing ponds as a storage mechanism. What a wonderful way of dealing with surface water and great from an environmental and ecological point of view. However, it is virtually impossible to get them adopted other than at massive cost and the consequence is that designers are driven away from this option. It is time to have some lateral thinking on adoption issues. Why not in the case of ponds, have English Nature and The Wetlands Trust and other interested organizations link up and become a national adoption agency for these areas.

Finally, what about good old-fashioned soakaways! Applying current design criteria it is virtually impossible to make soakaways work whereas, in my experience, even in relatively heavy soils they work successfully for the majority of time. Yes, occasionally there may be some localised waterlogging in the garden but perhaps the time has come to accept this as part of the solution in truly sustainable drainage. Again, it requires a change in mindset.

Water saving measures – Let’s get real

We need to get real about water saving as well. Every time the subject comes up the solutions appear to be reduced pressure and grey water recycling. However these ideas in the main have only been successful in

showpiece experimental developments. The reason is clear because in general terms they are costing £1500 a plot and do not add value to a property at the end of the day.

Given the choice between whether a customer would like a tiled floor, a conservatory, an extra shower, more floor space or grey water recycling there is simply no contest.



It does need to be remembered that if something does not add value to the sales price then it has to come off the land value. The relentless pursuit of land values to fund social and infrastructure benefits will eventually impede progress of development.

What we can do to get on with our jobs

Well firstly, there are the big picture people who are looking at the design and planning issues over a long time horizon. I would encourage you that the basic assumptions you need to make are that there will be an increase in demand as customers expect more and more facilities and appliances, not

meeting supply by a reduction in demand.

Water companies have a lot to do. I am not being flippant but I do believe that things will only improve when customer service and meeting expectations become more than a state of the art call centre. There is desperate need for real people on the ground with an enthusiasm and a passion to sort things out.

The Environment Agency? How about getting hold of the issues relating to design and adoption and promoting practical and achievable sustainable drainage techniques, with a major reappraisal of the design criteria and acceptability of localised flooding and water logging in exceptional times.

For this Forum? As well as promoting the dialogue and fertilisation of ideas which it does, why not focus on promoting some quick wins within the industry. There are quick wins to be had. Why not look again at the existing housing stock for a programme of compulsory meters, which is recognised as being the most effective way of reducing water consumption. There are 20 million existing houses versus 175,000 new ones each year. What about promoting the return of soakaways and accept the principle of occasional waterlogging as a genuine quick win in the area of sustainable drainage.

Finally, for house builders, well we need to keep on talking and bringing these matters to your attention. However, we need to dispel the myth that it is the house builder who always pays for design solutions at the end of the day. It is the *development process* that pays. Land values are not a cash cow to fund social and infrastructure issues. If you look at current S106 Agreements, it is obvious how

attempts are made to recover more and more from the development process but there is a finite value that land can contribute.

Regard also has to be paid to the huge variation of land values across the region, from £250,000 an acre to £1,500,000. Solutions in all cases must be commercial and have the minimum impact on land values.

So the warning bells are ringing! House building is already at its lowest rate since the war, but there is recognition that the delivery system in the widest sense is blocking the process. The water industry has a key part to play in developing practical commercial and effective solutions to the real problems that exist if we are to break out of the cycle of under-provision.

Sustainable Development in South East River Catchments

E Maltby^{1,2}, C Linstead¹, R Thorne¹

Key points:

- The South East faces acute pressures on its water resources due to proposed house building, increasing population and per capita water consumption, restricted resources, a growing economy and predicted climate change.
- There is a real need to manage our water resources in a more sustainable manner and resolve the conflicting priorities of different stakeholders to allow us to meet the needs of society and the economy while conserving the environment.
- In 2002, the South East Water Resources Forum called for investigation into an integrated approach to water resources management in the Region at a catchment scale.
- The Royal Holloway Institute for Environmental Research (RHIER), together with SEEDA, the Environment Agency, English Nature, Southern Water and the Westcountry Rivers Trust, is progressing a regional initiative on three pathfinder catchments in order to develop an integrated and holistic approach to water-related sustainability issues.
- Experience from comparable work under the auspices of the Westcountry Rivers Trust in South West England demonstrates the possibilities for environmental and economic benefits to be achieved concurrently. In many cases 'win-win' outcomes can be achieved through non-regulatory, participatory approaches.
- The aim will be to ensure that river corridors are managed wisely and contribute optimally to the sustainable development of the Region. The project will identify potential economic and environmental benefits through improved catchment management, develop and implement initiatives to address key issues, and provide a model that can be applied to other river catchments.
- RHIER is currently undertaking a scoping study based on three catchments that reflect the range of issues in the South East: the Darent, the Kennet and the Kentish Stour. The study involves reviewing the catchments, engaging with key stakeholders, identifying data requirements and suitable decision-making tools, and developing potential funding opportunities.
- Once funding has been secured, the project will be delivered on the ground by employing project officers to work with land owners and businesses in the areas of diffuse pollution, water efficiency, sustainable drainage, biodiversity and quality of life.
- It is intended to seek substantive support from EU funds for the implementation of the project. A key requirement will be matching support from the Region, and the likelihood of achieving success will be increased significantly by full engagement of the individuals and organisations represented in the Forum.

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Introduction

The importance of water resources and the increasing pressure on them to meet diverse demands for domestic and industrial water supply, recreation and ecological/ environmental requirements makes it vital that we learn to manage our water resources more sustainably. This is particularly important as we face the progressive effects of climate change. We need especially to resolve the conflicting priorities of different stakeholders to allow us to meet the needs of society and the economy, while preserving the environment.

Water resources are part of wider and complex natural and societal systems, and SEEDA has recognised the key social and economic roles that river corridors, including the floodplain and adjacent wetlands, play within the South East. With appropriate management, the riverine landscape can contribute to many of the 25 objectives identified in the Regional Sustainable Development Framework, including those relating to economic regeneration and recreation, as well as water quality, flood amelioration, biodiversity and sustainable water use.

The SEEDA Water Resources Forum in 2002 called for the testing of a new integrated approach to water resource management at the catchment scale using real river basins in the region as pilots. To address this, the Royal Holloway Institute for Environmental Research (RHIER) is working in a partnership involving SEEDA, the Environment Agency, English Nature, Southern Water and the Westcountry Rivers Trust to progress a regional initiative on three pathfinder catchments (Kennet, Darent and Kentish Stour). This initiative will develop an innovative integrated and holistic approach to water-related sustainability issues in the South East.

What is the challenge?

With any sustainable development issue the challenge is to achieve the appropriate balance among the social, economic and environmental dimensions. The 'correct' balance is, of course, a matter of perception but there are certain thresholds, particularly with regard to environmental systems, that must be respected if a development or management solution is to be truly sustainable. Where there is a perceived conflict between the different aspects of sustainability, solutions to problems tend to result in win-lose situations and trade-offs. Systemic approaches to problem solving with integration of the three dimensions of sustainability, on the other hand, can result in win-win solutions.

The use of catchments as a source of water or as a means of removing or diluting wastes will inevitably lead to some degree of environmental degradation. The physical

disturbances from access for recreation, economic developments or agriculture also have an impact. It must be ensured that the impact of these pressures on water quality, water quantity (be it low flows or flooding), and the resultant impacts on biodiversity, are minimised and certainly kept below the defined thresholds of unsustainability.

The challenge is at least twofold: first, it is to allow us to make use of water resources for economic development, drinking, sanitation, recreation and other uses while balancing the cost of any degradation caused to the environment against the benefit to society and the economy. To do this we must make certain that the maximum benefit is gained from the resources that are exploited, thus ensuring that the impact on the environment is minimised for the benefit gained, and ensuring that we understand where the thresholds of the natural systems are – and for there to be a genuine political will not to

exceed them. Second, it is to examine how management actions that bring about environmental protection or enhancement can actually generate economic and social benefit. It is the attraction of such real benefits that can secure the practical engagement of a wide range of potentially conflicting interest groups.

The range of pressures on the water resources in the South East are similar to any other region of the UK but certain pressures are particularly acute in the region. The recent Sustainable Communities strategy document published by the Office of the Deputy Prime Minister suggests that London and the growth areas in the South East have the capacity to accommodate 200,000 new homes in addition to those already envisaged in the regional planning guidance, which allows for 39,000 new homes per year³. These new homes also will need new infrastructure to provide services, creating added development pressure. Given the scale of the proposed development, it is vitally important that it is carried out in a manner that does not reduce the sustainability of our water resources.

The need for additional homes is partly driven by changing lifestyles, with a trend towards fewer persons per household, but also by the increasing population of the South. The Office for National Statistics predicts that the 2000-2010 period will see a 6.8% increase in the population of the South East region⁴. The high population density puts added pressure on the spatially restricted water resources. Southern

England has a per capita water availability less than that of Sudan, principally because of the population density⁵.

Compounding the pressure on water resources from the increasing population in the region is the general trend of increasing per capita water consumption, which the Environment Agency predicts could grow by around 10% over the next 25 years⁶. This increase is driven by both the greater use of water consuming appliances and facilities, and also the trend for smaller households as there is an 'economy of scale' for water consumption in large households. Domestic water consumption in the South East is already the highest in the country at 167 litres per day compared with an average for England and Wales of 151 litres per day⁷.

Demand for water resources also comes from industry, and a growing economy needs to have access to additional water if it is not going to become a restriction on growth. SEEDA estimate the GDP of the South East in 2002 to have been £140 billion⁸. Within the UK regions, only the economy of London is larger. Between 1990 and 2000, the South East economy grew faster than any other UK region, expanding at an average annual growth rate of 3.1% (against 2.2% for the UK as a whole). Real growth in the South East's GDP has been projected to be, on average, 3.2% per annum, compared with 2.7% for the UK as a whole over the period 2000-2010. As a consequence, the South East has the highest

consumption of water for industrial use of any other region in England and Wales at 982 MI/d, compared with the average of 688 MI/d⁹. As the region is one of the larger and more densely populated, however, on a per capita or area basis, consumption of water by industry is not excessively high compared with other regions.

Compounding these pressures there is the predicted impact of climate change on the availability of water resources. The UK Climate Impacts Programme predicts a reduction in summer rainfall of 8-23%, and increases in winter rainfall of 6-22% in the South East, increasing the pressure on catchments when there is least water availability and increasing the likelihood of flooding in the winter months.

Challenging preconceptions

It is a common misperception that environmental improvements always entail additional costs. In many cases there can be 'win-win' outcomes. Many of the cases where there are perceived costs to environmental improvements it is because the costs disproportionately fall on one stakeholder and the benefits are shared, or the external environmental benefits are not quantified or quantifiable. It is important that we challenge these misperceptions and challenge the preconceptions that stand in the way of novel solutions.

Experience from the work of partnership projects developed under the auspices of the Westcountry Rivers Trust in South West England demonstrates the possibilities for



3 Regional Planning Guidance for the South East (RPG9). Government Office for the South East. March 2001.

4 Population projection data available from www.statistics.gov.uk

5 Environment Agency Demand Management Bulletin. Available Water Comparisons 15/10/00.

6 Economic Profile of the South East. SEEDA. Available at: http://www.seeda.co.uk/seeda_documents/corporate_&_strategy/index.asp

7 Data from Environment Agency REWARD project

8 Economic Profile of the South East. SEEDA. Available at: http://www.seeda.co.uk/seeda_documents/corporate_&_strategy/index.asp

9 Data from Environment Agency REWARD project. Excludes electricity generation and leakage.

environmental and economic benefits to be achieved concurrently. Through engaging farmers and implementing on-farm environmental improvement projects in the River Tamar catchment, such as reducing fertiliser use, wetland restoration and preventing stream bank erosion by fencing, there was an average annual benefit per farm of £2300. This represents a benefit to project cost ratio of 8.2:1, including estimates of the indirect benefits to water quality, fisheries, tourism, biodiversity and flood mitigation. This represents an important financial gain for the agriculture sector at a time of low farm incomes. These financial benefits can also be an important mechanism for supporting wider rural economies and not simply the agriculture sector.

Non-regulatory 'carrot' approaches such as this, which complement top-down regulation, may be vitally important for delivering sustainable solutions. For a sector such as agriculture, which is under great pressure from the recent BSE and foot and mouth crises, mechanisms that provide incentives rather than disincentives are particularly important to ensure that small farmers remain in business. The principle applies equally to other economic sectors where Small and Medium Enterprises (SMEs) are particularly affected by economic cycles.

The Ecosystem Approach

Participatory win-win solutions are good examples of how sustainable development can be delivered in practice. Such solutions are also implicit within the Ecosystem Approach, which offers an integrated holistic model for the application of sustainable development to catchment systems.

The ecosystem approach has been

adopted by the Conference of Parties to the Convention on Biological Diversity (CBD) as the fundamental tool for delivery of the Convention's primary objectives:

'The ecosystem approach is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.... Application will help to reach a balance of the three objectives of the Convention.' (Decision COP V/6 - www.biodiv.org)

The ecosystem approach acts as a framework for balancing and integrating the three objectives of the Convention: conservation of biodiversity, sustainable use and equitable sharing of the benefits from natural resources. Only through integration of these three goals can optimal sustainable solutions be found, rather than trade offs and win-lose solutions. The approach recognises the need to tackle conservation and environment from a holistic perspective that considers the systemic relationships rather than simply focusing efforts on single species or habitat conservation or the creation of reserves. It provides a means of integrating traditional approaches to conservation and management with more innovative mechanisms in an overarching framework. The approach recognises that the protection of species is important, as is the preservation of particularly diverse or distinctive ecosystems, but the ecosystem approach attempts to preserve species through the protection of the ecosystems that support them.

The ecosystem approach does not define the scale at which management actions are taken. The scale is defined by the management objective and can range from a reserve to a biome or the entire biosphere depending on the

particular issue. In the case of water resources, the appropriate scale is the catchment as it forms a distinctive landscape and hydrological unit. The ecosystem approach recognises that society and the economy interacts with the environment within a single system and it is important to understand these relationships to ensure that management changes are sustainable.

The CBD work programme on the ecosystem approach has defined 12 complementary and interlinked principles which underpin the approach, and five points of operational guidance. These are set out below.

Ecosystem Approach Principles

- The objectives of management of land, water and living resources are a matter of societal choice.
- Management should be decentralised to the lowest appropriate level.
- Ecosystem managers should consider the effects (actual or potential) of their activities on adjacent and other ecosystems.
- Recognising potential gains from management, there is usually a need to understand and manage the ecosystem in an economic context. Any such ecosystem-management programme should:
 - a) Reduce those market distortions that adversely affect biological diversity;
 - b) Align incentives to promote biodiversity conservation and sustainable use;
 - c) Internalise costs and benefits in the given ecosystem to the extent feasible.
- Conservation of ecosystem structure

and functioning, in order to maintain ecosystem services, should be a priority target of the ecosystem approach.

- Ecosystems must be managed within the limits of their functioning.
- The ecosystem approach should be undertaken at the appropriate spatial and temporal scales.
- Recognising the varying temporal scales and lag-effects that characterise ecosystem processes, objectives for ecosystem management should be set for the long term.
- Management must recognise that change is inevitable.
- The ecosystem approach should seek the appropriate balance between, and integration of, conservation and use of biological diversity.
- The ecosystem approach should consider all forms of relevant information, including scientific and indigenous and local knowledge, innovations and practices.
- The ecosystem approach should involve all relevant sectors of society and scientific disciplines.

Guidance

- Focus on the functional relationships and processes within ecosystems.
- Enhance benefit-sharing.
- Use adaptive management practices.
- Carry out management actions at the scale appropriate for the issue being addressed, with decentralisation to the lowest level, as appropriate.
- Ensure intersectoral cooperation.

The project

Working in partnership with SEEDA,

the Environment Agency, English Nature, Southern Water and the Westcountry Rivers Trust, Royal Holloway Institute for Environmental Research (RHIER) is undertaking a project examining the potential for implementing initiatives that will significantly improve the sustainability of the use of water resources in the South East. The project will use the ecosystem approach outlined above as its conceptual basis.

To ensure that river corridors are managed wisely and contribute optimally to the sustainable development of the region, an assessment of their current and potential future contribution to the social and economic wellbeing of the region is needed. This assessment can lead to the identification of actions that could be applied on the ground to deliver more effective management.

It is planned, therefore, to develop a proposal for a major multi-disciplinary project to assess these issues for three river catchments in the South East and

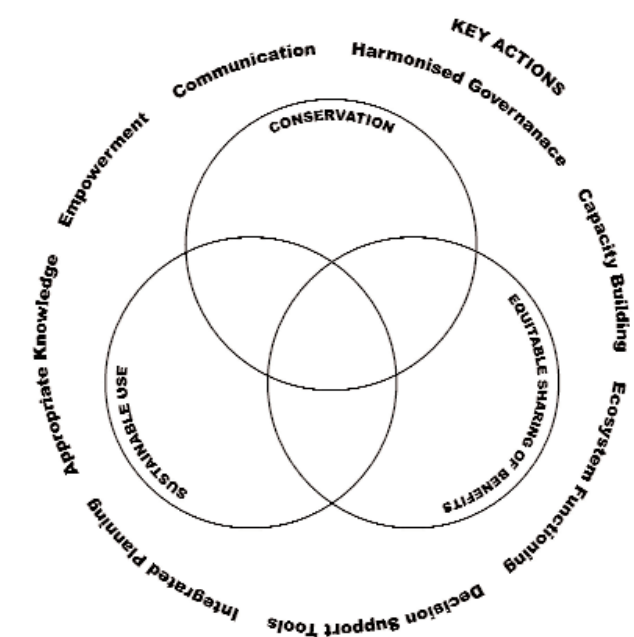


Figure 1 The Ecosystem Approach.

address the priority needs with practical initiatives. This project will benefit the region in the following ways:

1. It will provide an assessment of the goods and services provided by the river catchments and identify potential economic and environmental benefits through improved catchment management.
2. It will identify measures of sustainability against which progress can be evaluated (economic development, social benefit, hydrology, water quality and biodiversity).
3. It will develop and implement initiatives in key areas of catchment management (e.g. diffuse pollution, sustainable drainage, water efficiency, quality of life and habitat improvement) to contribute to regional sustainable development.
4. It will provide a model that can be applied to other regional river catchments.

At this stage RHIER, with guidance from the project partners, are undertaking a scoping study in order to gather the necessary information to take the project forward. This involves:

1. Reviewing the three pathfinder catchments.
2. Engaging key organisations and stakeholders in the selected catchments to focus more clearly on the key issues.
3. Identifying data requirements for the full project, data sources and likely costs.
4. Reviewing and proposing tools which will aid the implementation of sustainable management through more informed decision making in the catchments.

5. Developing potential funding opportunities.

The three catchments that the scoping phase of the project is focusing on are the Darent, the Kentish Stour and the Kennet. These three catchments were chosen in consultation with our partners to reflect the range of issues in South East catchments and therefore make good candidate case studies for developing the project.

The issues that present the most pressing problems vary from catchment to catchment depending on local circumstances. Potentially the most important issue in the Stour is the proposed development around Ashford, which sits in the upper part of the catchment. As one of the four growth areas set out in Government plans, at least an additional 31,000 homes are expected to be built around Ashford by 2031. Parts of Thanet have also been designated as a priority area for economic development. In terms of natural features, the Stour catchment also contains designated sites of national, European and international importance, such as Stodmarsh, which is designated as an Sites of Special Scientific Interest (SSSIs), Ramsar site and Natural Nature Reserves (NNR).

Within the Darent catchment one of the key issues is over-abstraction and its impact on water quality and biodiversity, although the situation has improved with the implementation of the Alleviation of Low Flows (ALF) scheme and the decline in industrial abstractions in parts of the catchment. Prior to the implementation of this scheme, the average daily flow in the lower part of the catchment was estimated to be only 40% of the natural flow¹⁰. These low flows resulted in the disappearance or substantial reduction in the populations of key invertebrates and the loss of native

brown trout from the middle and lower reaches¹¹. The catchment contains several water-dependent SSSIs with potentially significant implications for the implementation of the Water Framework Directive (see Arkell et al., 2002)¹²

As with the Stour catchment, the Darent is subject to increased pressure from development, in this case from the Thames Gateway and around Dartford.

The high level of urbanisation in the catchment also impacts on water quality, with the more urban parts of the catchment (Rivers Cray and Shuttle) having moderate to poor water quality. The Darent itself however is generally good. Stresses on water quality in the catchment are primarily from non-consented discharges and pollution incidents such as the operation of sewer overflows in wet weather and spillages from road accidents.

Given its proximity to London, the Darent catchment has significant pressures from recreation. A particular problem noted in the Local Environment Agency Plan (LEAP) is the amount of illegal fishing.

The presence of alien invasive species is also a problem, in particular Chinese mitten crabs, Japanese knotweed, and Himalayan balsam.

The Kennet is the most rural of the three example catchments, although the area also encompasses part of Reading and other major towns such as Newbury, Marlborough and Hungerford. Because of the predominantly rural nature of the catchment and the lower development pressures, diffuse pollution is a more important issue in this catchment. Other important issues include problems with low flows and water quality arising from supply of

water to the Kennet and Avon canal and excessive suspended solids.

Parts of the catchment are outstanding examples of chalk stream habitats. There are two river SSSIs designated within the catchment – the River Lambourn and the River Kennet from Marlborough to Woolhampton, plus other water-dependent SSSIs. There are also two candidate Special Areas of Conservation (cSACs) in the catchment – the Kennet and Lambourn floodplains and Pewsey Downs. The high quality environment and the presence of the Kennet and Avon canal attracts a considerable number of visitors to the area (10.9 million visits per annum), and this brings with it added pressure on the environment.

The scoping study has identified five target sectors as the important sustainable development issues for catchments in the South East:

- diffuse pollution
- water efficiency
- sustainable drainage
- biodiversity
- quality of life

The first major task of this scoping phase of the project is the identification of the current initiatives that are tackling these five sectors within each of the study catchments. This will be done by consulting the main stakeholder groups in each catchment and reviewing relevant management plans such as Catchment Abstraction Management Plans (CAMS), Local Environment Agency Plans and Biodiversity Action Plans.

In addition to the ongoing initiatives, the stakeholders will be consulted concerning what they perceive to be the most pressing issues. Issues that are not being addressed, or for which there are insufficient resources to



River Kennet

¹⁰ Darent Local Environment Agency Plan Environmental Overview. Environment Agency September 1999.

¹¹ *ibid*

¹² Arkell, B; Fojt, W; Maltby, E; & Thorne, R: The Water Framework Directive and Sustainable Development in the South East. Report of First Annual Conference. South East Water Resources Forum 2002.

address fully, will be identified through this mechanism in addition to those issues identified in catchment plans and strategies. Many of the concerns that need to be tackled in an integrated catchment management strategy are the responsibility of multiple organisations or partly fall outside the remit of statutory agencies, such as water efficiency measures or the encouragement of Sustainable Urban Drainage Systems (SuDS). In these cases, the partnership approach of this project can be used to bridge the gaps and address issues for which there is no direct responsibility. By mapping current initiatives and gaps to a common framework within the ecosystem approach, the implementation of this project will help the regulatory bodies to deliver their own objectives.

An important part of the scoping study will be the development of indicators to measure the success of the project. These indicators need to fit with the South East sustainable development framework set of indicators but there also needs to be specific indicators that measure the success of projects on the ground. It is important to ensure that the correct parameters are being measured and that the indicators are outcome driven rather than outcomes being determined by the chosen indicators. Example indicators include the number of management plans developed, kilometres of fencing installed, hectares of woodland planted or kilometres of riverbank with improved access.

In addition to these tasks the, scoping study will establish GIS databases in each catchment that will enable the mapping of pressures in the catchment and location of initiatives contributing to the objective of the project.

The scoping study will have two key outputs. The first will be a report detailing the catchment reviews, results of stakeholder engagement, data requirements for the full study and a list of potential funding opportunities. A proposal for the larger study will also be produced, which will form the basis for subsequent implementation. This will include the aims and objectives of the project, the key benefits to the region, details of methods and workplans, and a list of key outputs and deliverables. The present scoping study will also develop a strategy for implementing initiatives in the action areas identified where gaps currently exist.

How the project will deliver

The scoping phase of the project will lead to the identification of the issues in each of the catchments. Within each catchment a limited number of priority areas will be targeted that are key issues for that catchment and that are not being addressed by other organisations, or for which there are insufficient resources to properly deal

with the problem. These gaps will be prioritised on the basis of where the greatest benefits can be delivered by developing on-the-ground initiatives.

Once funding has been secured, the project will be delivered by employing project officers working with individual land owners and businesses in the areas of diffuse pollution, water efficiency, sustainable drainage, biodiversity and quality of life. The project officers will develop site-specific action plans for farms or businesses. For farms these would provide land management plans tackling areas such as fertiliser and pesticide applications, fencing of vulnerable riverbanks and establishing buffer zones. Project officers would also act as a conduit for the improved uptake of already available funding through other sources (e.g. Countryside Stewardship Scheme). The sustainable drainage theme of the project will be focused on developers. The project officers will engage the major developers working in the three catchments and provide advice to encourage the adoption of SuDS in

new developments. The water efficiency theme will deliver water efficiency audits to the major industrial water users operating in the catchments. The quality of life and biodiversity aspects of the project will be delivered as cross-cutting themes within the management plans produced.

The crucial element in the implementation phase of the project is the development of partnerships. Given the wide range of statutory and non-statutory agencies, NGOs and interest groups, it is important that all work together, recognising the additional value that can be gained from partnerships. By working in partnership with other stakeholders this project aims to help others deliver their own objectives, ensuring no unnecessary duplication of activity.

Concluding thoughts

The Forum has called previously for the development of an initiative by which a new integrated approach to water resource management can be trialled. Such an initiative is now underway as a partnership project engaging SEEDA with the scientific community, statutory bodies and NGOs. The ambition is to develop a practical model for sustainable development of water resources in one of Europe's most pressurised regions. The full value of the initiative will rest in the ability to roll out a successful approach more generally from the experimental catchments. The likelihood of achieving success will be increased significantly by means of the full engagement of the individuals and organisations represented in the Forum. The project core can be expanded with the addition of other interested and relevant stakeholders. This offers the opportunity to advise and influence the development and implementation of the project.

It is intended that substantive support be sought from the EC but a key requirement will be matching this support with funds raised from the region. This may comprise support 'in kind' as well as offers of 'new money'. In any event, the opportunity exists for full participation in the course of an initiative which will help to achieve sustainability of the region's water resources. Members of the Forum interested in participating or seeking further information should contact either Dr Conor Linstead at RHIER (conor.linstead@rhul.ac.uk) or Simon Richardson at SEEDA (simonrichardson@seeda.co.uk).

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Sustainable Communities in the South East: planning to meet the water challenge

Keynote address

Sir John Harman, Chairman, The Environment Agency

Key points:

- Economic growth in South East England is coming up against environmental limits, yet our environmental assets underpin the Region's social and economic well-being. Water maintains many of these assets, although at some sites the volume of water legally abstracted, or the potential to abstract, is more than the catchment can sustain.
- It will be a challenging task to implement the EU Water Framework Directive, which requires a programme of measures to ensure that all water bodies achieve 'good status' by 2015. Climate change adds to the complexity of the task.
- Society's aspirations, our propensity to consume resources, the forecast economic and housing growth in the South East and climate change all place an increased burden on our already fragile water resources.
- Even without new development pressure the status quo is not sustainable, yet unless we take action now, water consumption in the South East will rise sharply in the next 10 years.
- Part of our response to this challenge will come through better regulation, and the Water Framework Directive will provide an overarching programme to deliver long-term protection and improvement of the water environment.
- The Water Bill* will lead to a more flexible regulatory regime for abstractions, and will also be a key element in sustainable management of water resources.
- Regulation is only part of the story and we need to ensure that sustainable housing construction is a cornerstone of future developments. High standards of water efficient technology should be included in all new build, but retrofitting should also be promoted for existing build.
- Water consumption is not metered in the majority of existing households in the South East, but unless more widespread metering is installed we are restricting our future ability to manage what is already a scarce resource.
- New building offers developers the opportunity to install water efficient measures that minimise consumption, without introducing any practical difference to the user and providing attractive payback periods.
- Water availability and infrastructure must play an important part in the spatial planning and phasing of new developments in the South East, and water efficiency measures should be a condition of planning permission being granted.

*Please note that the Water Bill has now been enacted (November 2003) since the time of this conference (May 2003).

Keynote address

As we have heard, the South East is faced with big challenges. More than in any other English Region, economic growth is coming up against environmental limits. And in particular, our social and economic well-being relies heavily on good access to clean and wholesome water which we have come to take for granted.

This isn't only a question of public supply. Water sustains many of our environmental assets that underpin economic value. It plays a significant role in defining the essential character of our landscape and countryside, from the North Kent Marshes through to the Oxford Meadows, and shapes a rich diversity of aquatic habitats. And the highly developed nature of the South East and the fragmentation of our countryside by development and agricultural intensification means that often the only possible path for the migration of wildlife populations is via the river corridors.

Regulatory framework

We are also faced with the dilemma in the South East that in many cases the total volume of water legally abstracted, or the potential to abstract, is more than the catchment can sustain. The result is low river flows and a degraded environment. Even without new development pressure, the status quo is simply not sustainable, and I have yet to meet anyone who seriously thinks otherwise.

But even if you did, you would have to recognise coming legal requirements, and I would like to dwell briefly on the Water Framework Directive as this is a very significant piece of European legislation which, I believe, brings together neatly a raft of previous directives and legislation.

Implementing this Directive will be a challenging task. Many of the requirements of the Directive are not new for us but there are several important differences:

- All water bodies, including rivers, coasts, estuaries, lakes, man-made structures and groundwater are included
- New objectives will be set to promote the sustainable use of water. These will be defined and assessed using chemical, biological and physical measures, which will set higher standards than current water quality objectives
- Both point-source and diffuse impacts on the water environment must be identified and a

'Programme of Measures' established to address them

- The costs to each sector created by adopting these measures will be subject to a full economic analysis to ensure charges are fairly apportioned and agreed;

River Basin Management Plans bring all the above together so that 'good status' can be achieved in our river basins by 2015

- Public participation is a core requirement of the Directive and is fundamental to the river basin management process

This process, applied right across the South East, will be challenging enough; but it is also taking place



against the backdrop of a changing water environment.

Our very climate is changing. Weather patterns are becoming more extreme, with potential wetter winters and drier, hotter summers. So what environment should we be enhancing and protecting?

Social aspirations

This leads me on to an equally difficult conundrum: society's aspirations as a whole. We live in a dynamic society with ever increasing desires to improve the way we live our lives.

We demand greater choices in the types of housing we wish to live in; more and more people find living on their own a more attractive option. Also with the opening up of global markets there is much greater labour mobility. Given the region's economic aspirations, this all places growing burdens on our existing housing stock and the demand for housing in the South East far outstrips current availability.

The Government recently announced its intentions for reversing the housing deficits in the South East. Undoubtedly you are already familiar with the plan: Sustainable Communities. This plan concentrates on four targeted growth areas in the South East and indicates growth of an additional 200,000 houses above the 930,000 already forecast in the most recent Regional Planning Guidance. Admittedly all these new households will not be built within the Government Region, but clearly a significant portion of the water requirements for these new houses will undoubtedly come from sources within the boundaries.

In terms of water use, reduction in household size brings less efficiency. A dripping tap wastes the same amount

of water in a single person flat as in a family dwelling.

Furthermore our propensity to use water in our homes and gardens is on the rise. We all prefer the joys of an invigorating power shower rather than standing under a dribble that barely keeps our left shoulder wet. Charlie Dimmock demonstrates ways of improving our gardens with designer water features. These choices pose the real threat of us requiring ever more water; unless of course we can ensure that whilst giving us the choices we desire, new designs are water efficient.

And once again there is climate change. Hot and generally dry South East summers will bring the desire to use more water in our homes and gardens.

All of this places an increased burden on our already fragile water resources.

Society readily insists that we continually better our lifestyle, and increasingly this means a higher quality environment - cleaner air to breathe, our waste to be managed in a more sustainable way, greenhouse gas emissions to be reduced and businesses to be more protective of the environment. And we also demand cheap and easy access to the latest technologies and material assets.

These desires are not necessarily always mutually exclusive; there are very definite cases where we have achieved a better quality of life through the improvement of our environment alongside economic growth. Just look at what has been done over recent years to clean up our rivers. I only wish there were more successes, and it was interesting to hear from Edward Maltby about a potential model to take both social and environmental considerations forward.

Meeting the challenge

The fact remains that if we don't take action now, water consumption in the South East will rise sharply over the next 10 years. Part of our response to this challenge will come through better regulation.

I spoke earlier about the Water Framework Directive. It is a major opportunity to promote the sustainable use of water for the benefit of people and wildlife alike. The Directive rewrites existing water legislation into an overarching programme to deliver long-term protection and improvement of the water environment.

Implementation of the Directive will take place in a series of planning cycles. This will allow plans to take into account long-term environmental trends (such as climate change) and improving understanding of basin characteristics. The first cycle must be completed by 2015. Reviews then take place every six years. Although the 2015 deadline may seem far away, the timetable will be very demanding.

At the same time the Water Bill is a key element of the Government's strategy for the sustainable management of water resources in the 21st century. We very much support the Government's intention that the water abstraction authorisation system should contribute to sustainable development by protecting and, where possible, enhancing the aquatic environment whilst facilitating economic growth and higher living standards.

In particular, there are several initiatives in the Water Bill that will lead to a more flexible regulatory regime than at present and a consequent reduction in the extent of bureaucracy impacting on the Agency's stakeholders:

- Deregulation of small abstractors. Abstractions below an exemption threshold will no longer require a licence
- Measures that will ease the process of renewing time-limited licences on the same terms
- The need for licence applicants to demonstrate a right of access to land rather than 'occupation' will make access to water more flexible
- The requirement to specify the land where the water is to be used is to be removed. This will ease sensible trading of water rights as well as removing some of the administrative burden, as will the proposal for
- Easier arrangements for transfer of licences

The way forward

But of course regulation is only part of the story. We all need to ensure that:

- Sustainable housing construction is a cornerstone of future developments
- There are high standards of water efficient technology in new build

All new households should now be fitted with a water meter. Nevertheless, in the majority of existing households in the South East, water consumption is not metered. Greater increases in metering can be achieved if meters are installed when household occupancy changes, as permitted under current legislation, and for households using garden water sprinklers, rather than only for those asking for one. Unless more widespread metering is installed, we are severely constrained in understanding current domestic water use trends in the South East and are restricted to encouraging more efficient water use behaviours. I fully sympathise with the arguments regarding disadvantaging communities – I have consistently



made them myself – but there are mechanisms already in place to avoid this. Our current short-term view of metering is getting in the way of our future ability to manage what is already a scarce resource.

At the same time, developers have the opportunity to install water efficient measures during the construction of new buildings, thereby helping customers save water and money in the longer term. Such measures include amongst others water efficient tap fittings, flow regulators and restrictors, rainwater collection devices, dual flush toilets, domestic appliances and grey water collection. These devices will minimise water consumption without introducing any practical difference to the user and provide attractive payback periods. At a regional or sub-regional level, this should become a condition for any future planning permission.

- Promote retrofitting of water efficient technology to existing build, and households that are being brought back into use
- Take a strategic view of development needs including spatial planning and water infrastructure covering both water supply and discharges
- Ensure that development is not brought on line until there is a secure supply of water

I've said a lot about water, but there are other important resources that need to be efficiently handled for sustainable growth. Energy and waste spring readily to mind, and government has been getting to grips with some of them:

- Ministers from the Office of the Deputy Prime Minister, DEFRA and DTI are to convene a Better Building Summit

- The Energy White Paper is the first major statement on energy policy for 25 years, placing climate change very much at its heart
- The recommendations of the Waste Strategy 2000 and the Government's recently published response to the COSU report give waste and resource use a greater political significance than has been the case in the past

The way in which we use or abuse natural resources is now centre stage, but it needs action as well as policy statements. The boom in construction that we are to see, particularly in this Region over the next decade or so, will either demonstrate our ability to act sustainably or simply add to the problems we hand on to our children and grandchildren. Decisions are being made now that will make the UK either more or less sustainable. Don't duck them.



Water supply and sewerage – a water company perspective

Stuart Derwent, Managing Director, Southern Water

Key points:

- Water companies in the South East are faced with challenging and competing demands from a wide range of stakeholders and interests, including central government, regulators and environmental requirements.
- Planned growth in the Region over the next three decades will create substantial additional demands for water supply and wastewater services. This is outside the control of water companies, yet there is an expectation from government that water will be available to meet the growth predictions.
- Water and sewage companies will need to plan for and provide additional infrastructure, resources and treatment facilities to accommodate this growth. New facilities such as reservoirs and wastewater treatment works are frequently unpopular.
- Water companies have a duty to provide wholesome water for their customers, who have high expectations and wish to receive a sufficient supply of quality drinking water at all times to meet their needs without restrictions for non-essential use.
- Forecasting the Region's water resources and future water requirements to meet the demands of planned growth has become very complex due to unusual weather patterns, predicted climate change, trends in society and consumer expectations.
- Southern Water has a policy of a twin-track approach to ensure that water shortages do not become a frequent event in future. The two approaches are development of new water resources and continuing water efficiency.
- Effective leakage control programmes and proactive awareness campaigns are used to encourage wise use of water. All new homes have meters and Southern Water offers metering as a choice to customers in existing dwellings.
- The ability to store excess winter rainfall would help to meet future demand without depleting the environment, and there is also scope for re-use of treated wastewater that is currently discharged directly to the sea.
- Sustainable solutions to achieve a balance between customers' needs, environmental criteria and limited resources can be found, but there are implications for cost and who will pay.
- Early planning to meet future demand is essential, since major water supply and wastewater projects take many years to promote, construct and commission.

Address

There are many challenges that face water companies in the South East if they are to meet the demands from a variety of interested parties. These include those from central government for housing growth; the environmental requirements set down by Europe and our own Environment Agency; and also allowance for the companies to play their own strong part in delivering a sustainable future for the South East.

Water supply and waste water

Southern Water is the principal water supply and wastewater undertaker in the Region. We supply drinking water to a population of 2.2 million in Kent, Sussex, Hampshire and the Isle of Wight. Some 600 million litres per day is supplied via 103 water supply works and a network of 13,000 kilometres of distribution mains.

Water resources comprise 70% from groundwater - predominantly situated in the North and South Downs, 24% direct abstraction from rivers and 6% from impounding reservoirs.

Southern Water treats wastewater from a population of 4.0 million. Some 1,300 million litres per day is collected via a network of 21,000 kilometres of sewer and over 2,100 pumping stations. The flows pass to one of 373 wastewater treatment works that treat the waste to a high standard. The final effluent is discharged to river and sea and complies with strict discharge consents set by the Environment Agency.

Southern Water has four impounding reservoirs; Weir Wood near East Grinstead, Powdermill and Darwell near Hastings, and Bewl Water near Lamberhurst in Kent. Bewl is the largest with a capacity of 31,000 million litres. It provides water for

customers in Southern Water's Medway, Thanet and Hastings areas and also to Mid Kent Water Company.

A further water company, South East Water, will make use of this facility via a new pipeline link due to be completed by March 2005. Facilities such as Bewl take decades to promote and deliver, particularly under the current climate where the public do not want such a facility to be built anywhere near where they live.

Growth in the Region is expected to increase dramatically over the next three decades and the provisional figures that affect Southern Water for water supply show an increase in population of 339,000 requiring

occupancy reduction.

Meeting the challenges

Southern Water wants to ensure that water shortages, such as those experienced during the drought of 1995, do not become a frequent event as and when the predicted growth in consumption becomes a reality. Research has shown that customers wish to receive an adequate supply of quality drinking water and do not expect to have hose pipe bans or restrictions imposed on them by the water company for non-essential use. They expect supplies to be made available in sufficient quantity at all times apart from unplanned emergency events.



230,000 properties over the period. Wastewater services will increase by a population growth of 626,000 and require a further 206,000 properties over the same period, giving a total of 436,000 properties over the period. Additional infrastructure, resources and treatment facilities will be required to accommodate this growth, together with the added pressure on water supply from the continuing downward trend in household

However, weather patterns are changing. In the last 14 years, very dry summers have been experienced in 1989, 1990, 1991 and 1995 whilst the winter periods of 1994/95, 2000/01 and 2002/03 have been extremely wet. With climate change or extreme weather patterns taking place, it is very complex predicting the future water requirements, and indeed water resources of the South East.

Increases in housing such as those proposed by the Office of the Deputy Prime Minister bring into question exactly what is sustainable. How will factors such as climate change affect the way we manage our water resources and effluent treatment in the future? What is sustainability and how can a balance be achieved between the environment, growth and water supply when external forces have such an impact? What is Southern Water currently doing to maximise existing resources and ensure that there is minimum waste?

Southern Water continues to drive leakage down and has the best leakage record amongst the water and sewerage companies in England and Wales. Leaks are identified and dealt with quickly. In addition, we offer free leak detection and repair to supply pipes for our domestic customers, and are proactive with our water efficiency campaigns in raising public awareness and encouraging customers to use water wisely.

Current promotions include working with South East in Bloom, The Royal Horticultural Society at Wisley and Brinsbury College near Pulborough in advising gardeners on the efficient use of water. We also continue to support the Face Pack Theatre Company in the production of the play entitled 'The Drips' which is performed to primary school children.

Southern Water has a duty to supply wholesome water for its customers. However, as we are not a statutory consultee we are bound by decisions taken by others with regard to future developments. Water companies appear to be a target for the regulators, with their desire to drive down abstraction and increase parameters for discharge consents as part of environmental programmes. A balance has to be found between the

needs of our customers, environmental requirements and the limited resources available. A solution can be found but at what cost and who is going to pay?

Southern Water has a policy of a twin-track approach: development of new water resources and continuing water efficiency. New resources include additional raw water storage, as it is not a fundamental shortage of rain that is the problem. It is the fact that too much water is lost during the winter months when there is high rainfall and increased river flow over and above that required for the river to prosper, and yet with nowhere to store it for use in the following summer. The ability to capture some of this resource would benefit all.

Metering is a topic that Southern Water has been involved in for many years. The Isle of Wight was part of the original national metering trials in the late 1980s. Also, all new homes are fitted with a meter and existing homes that use a garden sprinkler or unattended watering device are required to have a meter. Southern Water also allows customers to opt to change to a metered supply from the old rateable value method of payment.

The way forward

The possibility of water scarcity status being declared in areas of the South East has been the subject of recent debate. Such status does not reflect the position set out in Southern Water's water resources strategy. Nor does it sit comfortably with the Deputy Prime Minister's announcement of increased development in the South East. There is an expectation that water is available to meet growth predictions.

Some 75% of treated wastewater is discharged directly into the sea as the

majority of the population served live on the coast. There is scope to re-use this effluent and consideration is being given to how this may be introduced in the future. The construction of new or extended works is not popular. With higher levels of treatment being required to meet improved quality standards, early planning of infrastructure additions must be undertaken.



For the South East to prosper in the vision set out by the Office of the Deputy Prime Minister, water resources and wastewater disposal issues need to be adequately addressed.

The challenges are there for all to see. It is up to everyone to ensure that the best options are promoted and realistic objectives set. Southern Water is committed to making the South East Region a successful and prosperous community and we will continue to work with the Regulators and others to ensure that there is a sustainable future for all. However, major water supply and wastewater projects can take many years, and in the case of new reservoirs perhaps 15 to 20 years, to promote. Early planning is essential!

Flooding and Drainage

Bill Cutting, Chairman, Regional Flood Defence Committee, Southern Region

Key points:

- It is now clear that climate change is occurring, although we are unclear as to the rate and extent of change; this will have a fundamental effect on our future planning for flooding and drainage.
- Sea level rise means that the protection offered by existing coastal defences will steadily decrease and that new defences will have to be built higher to maintain constant levels of protection.
- Storminess and damage to hard defences are also predicted to increase. Soft defences are more resilient but require more space, which is not always available in highly populated areas such as the South East.
- Coastal flood defence is going to become more difficult and we will have to look seriously at our ability to provide sustainable solutions along the existing coastline.
- Wetter winters with heavier and more prolonged rainfall are predicted. River defences will need to allow not only for higher flows, but also for more frequent occurrences of these flows.
- The Environment Agency and its partners have produced a series of strategic, long-term plans for flood defence of the coast of the South East. The intention is to integrate them with others' strategies to produce sustainable solutions for each section of the coastline. Similar long-term, strategic plans are now under preparation for river flood defences in the Region, and will be completed in the next two years.
- The South East has a large and growing population; the challenge in flood defence is to provide adequate protection for existing properties, while ensuring that new development is not placed where it increases the problems or is at risk itself.
- Pressure for development land is great, but large areas of land adjacent to the coast and rivers are at risk from flooding. Planning Committees should be rigorous in ensuring that only completely unavoidable development is allowed in these areas.
- Sustainable urban drainage systems and innovative land management techniques on agricultural land could do much to reduce run-off and the risk of flooding, and should be explored further.
- The Environment Agency has two key roles relating to flood defence in the preparation of Regional Spatial Strategies. First, it must ensure that planners take account of its advice on flood defence aspects of new development. Secondly, it must secure much greater investment in maintaining and improving existing flood defences.

Address

In any discussion about sustainable communities it is necessary to look at some of the dynamics involved. The three I want to look at are:

- the atmosphere
- the sea, and
- people

These are the principle players for us.

The atmosphere is the most critical aspect for us because it drives everything – rainfall, waves, surges and even basic sea level. Although still in its infancy, the science of global climate prediction is now sufficiently advanced to tell us that the climate is changing and these changes are beyond mere aberration. We have moved out of the era where the apparent changes were thought to be experimental error, and into the area where we know that change is occurring, but we don't know how much change will occur or how quickly.

During the past five years my Committees have received reports from the South East Climate Change Partnership which have convinced us that designs for future flood defences must take climate change into account.

The most apparent effect of a warming atmosphere is higher sea level. There are numerous estimates of what it will be, and as a precautionary measure we have modified the design parameters to include an annual sea level rise of 5mm per annum. But this is not the only sea level rise we have to take into account.

Moving away from climate change, sea level has been rising at about 3mm per annum since the retreat of the polar ice caps following the last

ice age. This can be quite clearly seen from the records of mean sea level at Newlyn. Adding these two figures together gives us an estimated average sea level rise for the foreseeable future of 8mm per year. This may not sound a lot but what it does do is two things.

Obviously the tides become higher, but just as important, a tide of a given height occurs more frequently and the theoretical return period of existing defences gets lower. Thus, the potential damage is greater if the walls are not raised. Sustainability of the existing flood defence system becomes more difficult to achieve and the construction of new defences on exposed reaches becomes illogical. We will have to seriously look at our ability to continue to defend the existing line.

The sea

However, as the atmosphere warms up it becomes more turbulent, exactly the same as the difference between a kettle of cold water and one that is boiling. This greater storminess is difficult to predict. It produces bigger waves and waves are extremely destructive, particularly against hard defences. We have moved more and more towards what we call soft defences - gravel banks and the like. But they need a lot of space and this is not always available in urban environments. Again, provision of sustainable flood defences along the existing line is going to become more difficult.

The frequency and height of storm surges – localised raising of sea level – is difficult to predict. Big storms have very low atmospheric pressure. If we predict larger storms, it is only reasonable to predict higher surges. This requires higher defences – and once more this will become more

difficult to produce the sustainable solution. We must remember that a large proportion of the population in the south lives by the sea and the future threat of flooding from the sea remains the greatest risk.

Turning to the rivers, it is predicted that climate change will not increase the amount of water in the atmosphere, but we are told that we will have drier summers and wetter winters. The predictions indicate heavier and more prolonged winter rains. Currently we are adopting the precautionary principle, and we allow within the design parameters for a potential increase of 20% in river flows.

The same principle of reduction in standard of defence applies to river walls as it does to sea defences. Thus, whilst we may be predicting the need for higher river defences, we must also accept that these higher flows will occur more frequently.

I am pleased to say that we in the Southern Region have been addressing these problems for about five years. In conjunction with our partners and principle stakeholders we have been producing a series of strategic plans for the coastline.

Some have been managed by the Agency, some by the relevant local council. These strategy plans - as far as possible – include all current knowledge, but because they themselves are dynamic they will be updated hopefully on a five-year cycle. They will form the basis for future flood defence programmes and they themselves are based on sustainability and economic viability. There are some 25 strategy plans for the south coast from west of the Solent to the Thames Estuary. Each plan sets out the currently identified sustainable defence line for that section of

coastline and proposes a long term, greater than 25 year, solution. In some parts it is to hold the current line and in others they advocate a retreat to a defensible position. Adding the plans together gives a clear strategy for the future. The next step will most certainly be to integrate these strategies with others, such as tourism and transport and dock development, into a strategic study for the use and defence of the coastline.

Within the past year we have started on the production of strategic plans for our rivers – referred to as River Catchment Flood Management Plans. These plans will provide us with a 30-year plan for works on the rivers, and will again be constructed in conjunction with our partners and principle stakeholders, and will be the sustainable plan for the rivers. They will be similar in concept to our Coastal Strategies, identifying weak points in the defences and what action should be taken to improve them. I anticipate that this work will be completed within the next two years.

The people

The last of my dynamics is people; people want to move and live here in the South.

All through history people have wanted to live near water; it has a sort of fatal fascination and has been the life-blood of progress and the generator of power and wealth. It also has the unfortunate habit of getting into the wrong place at the wrong time. What is more, because people want to live in our region this puts immense pressure on land space.

The problem we now face is to continue to provide adequate protection to existing properties, whilst ensuring that new properties don't make matters worse and that



A flood defence

they are built where they are not at risk.

Looking at land pressure, the area 'available' is surprisingly small. If we look at the map of the Southern Region and take out of the equation environmentally designated areas and designated flood plains, the choice becomes somewhat more limited than at first view.

In PPG 25 there is a presumption against further development on the flood plain. And let's be clear here, a flood plain is where the land adjacent to a body of water can be flooded, including areas alongside rivers and the low lying area along the coast. Much of this land has pretty good flood defences, but as we always say, we have to regard these areas as 'at risk' because a storm can overwhelm

the defences. Looking at the indicative flood plain maps we can see that large areas of coastline and alongside rivers are at risk of flooding. What has to be understood is that the risk of flooding in most areas is small but we must avoid it getting bigger. Hence, we are very pleased that PPG 25 directs that only unavoidable development should take place.

Flood defence does not seek to obtain a veto on development, and decisions should continue to be taken by elected members. We are relying on Planning Committees to be rigorous in their approach to development in the flood plain and to follow the sequential approach. Only where it is completely unavoidable should such development be allowed and only after undertakings have been given to

provide adequate protection for the proposed development and to pay for any other works that may be needed to prevent the new work from making matters worse elsewhere.

The Agency has published its Sustainable Urban Drainage System (SuDS) which aims to reduce runoff from developments to as close to greenfield as possible. Soft reinforced grass areas instead of tarmac, soakaways instead of surface water sewers all reduce flood flows. There may be the need to revisit existing developments in the same way.

But in my view it cannot be allowed to stop there. Modern farming practices have led to greater run-off from fields. We only have to look at the South Downs to see a virtual total loss of grazing land, which is good at holding back water, to intensive arable production where even a moderate late autumn or early winter storm can wash huge quantities of soil down the slopes and into housing. I am convinced that all the present 'schemes' of assistance and subsidy to the farming community and in some way, flood defence money, will have

to be used to create a form of management that minimises problems of this type. I fully understand the difficulties; the farming community is well represented on our flood defence committees and this gives me ample opportunity to discuss these matters with them. They understand the problems. I understand their need to improve farm incomes. We must find a way of bringing these requirements together. I believe it will be by using SuDS and innovative land management that we will help prevent this sort of thing happening.

The conclusion

There is no doubt that we will have to do two things in parallel as we play our role in the preparation of the Regional Spatial Strategies.

The Agency will advise on the flood defence aspects of new developments and here we will be looking for support from planners to ensure that the Agency's views are taken into account. The Flood Defence Committee regularly monitors the reaction to the Agency's submissions and we are pleased that most of the advice is now accepted.



Planning to meet the water challenge – the environmental perspective

Chris Corrigan, Regional Director for the South East, RSPB

Key points:

- People need water, and the amount we use is increasing due to social trends and changes in consumer habits and expectations.
- But wildlife also needs water. Wetlands are among our Region's most valuable assets and include many of the most important wildlife sites in Europe. They support some of our rarest species such as the bittern, which depends on reed beds and wetlands and has been extinct in the Region in recent years.
- We need water to maintain these wetlands, indeed we need more water to create and improve habitats on a large scale in order to make up for losses in the past.
- There are real and competing demands on our limited water resources, and we need to make better use of them than we do at present.
- Wetlands are facing the double pressures of drier summers due to climate change and increased demands for people and development. Unfortunately some of the best wetlands are situated in some of the driest parts of the Region – the annual rainfall of the North Kent Marshes is similar to that of Beirut.
- If we are to be more sustainable and meet the needs of people and wildlife we need to be more radical in our approach; tinkering with our existing approach cannot deliver this for the long term.
- Radical solutions need not be seen as problems. There are big opportunities in the environmental technology sector for businesses to exploit.
- Other countries have shown what can be done, and we should learn from their examples of best practice. Between 1991 and 1998, Germany reduced its household water consumption by 8.5%, while the amount of water abstracted from the environment declined by 11.4%. Over the same period we have seen year-on-year increases in the UK; if they can do it, why can't we?
- Reservoirs are often seen as being good for wildlife, but open water is not a habitat in short supply. New reservoirs, or even raising the level of existing ones, can drown more important wildlife habitats, and there are real examples of this in the South East.
- Reservoirs are not the best environmental solution, and should therefore be the solution of last resort. Looking at evidence from elsewhere there is much we can do in terms of efficiency measures and design, for instance universal metering, before we need to start building expensive and potentially damaging reservoirs.

2003 – Delegate Feedback

The purpose of the question and discussion sessions at the Conference was to offer delegates the opportunity not only to question the speakers, but also to give feedback on the Forum's direction and priorities.

The subjects for the programme had been deliberately chosen to cover a wide range of water issues. It became clear throughout the presentations and the open sessions that there are a few recurring themes, and that the issues are invariably linked and cannot be considered in isolation. This reinforces the argument for the Forum to take a holistic and integrated approach to tackling our water challenges.

A topic that created significant interest was the potential to re-use treated water that is currently lost through coastal discharges. This would increase the water available for supplementing river flows, recharging aquifers and feeding wetlands, and is an opportunity that is referred to in the Regional Water Resources Strategy. This in turn raised the issue of the chemical and biological quality of treated water, and the strict quality parameters needed for public, environmental and recreational uses. A proposal was made that the Forum should consider commissioning research into water quality issues so that there is a firm knowledge base on which to take decisions about moving water within or between catchments. A further suggestion was that there is a need for greater awareness and education on effluent issues, and the impacts of the chemicals contained in water reaching sewage works.

A second area that generated debate was the question of water efficiency and demand management. Leakage rates in the South East are comparable to levels in many other countries, and the cost of reducing leakage

significantly below present levels is likely to be extremely high. It will be a question for society to decide if it wishes to pay more to reduce leakage because of its importance to the environment. Several delegates focused on public desires and expectations in relation to domestic water consumption, and the fact that efficient use of water is not at the forefront of consumers' minds. It was however noted that metering does have a measurable effect on consumption. Although the demand for new housing in the South East was frequently referred to, it is the habits of consumers in both new and existing dwellings that dictate overall use. The efficiency of new appliances and effective labelling was raised as a means both of reducing consumption and of raising consumer awareness.

While attaching considerable weight to incentives and encouragement for consumers to use water wisely, delegates also emphasised the importance of planning and regulation to drive the process. This included establishing industry standards and promoting best practice examples of water efficient design, but also a challenge to local authorities to sign up to the highest design standards and to grant planning permission only where these are met. Strategic

planning was also thought to be a process that the Forum should influence. There is a clear role in seeking policies that enable the Region's strategic development priorities to be delivered in a sustainable manner, though concern was also expressed as to whether housing targets could be achieved within the limits of environmental capacity.

Finally, the Conference offered advice to the Forum as to how it should work. There was encouragement that it could prove to be an effective mechanism, and that a useful starting point would be to ensure that the Regional Water Resources Strategies are deliverable, particularly in relation to demand management. However, the Forum's resources are limited and it should therefore be careful to identify opportunities where it can add value, and not try to take on too many priorities.

The Forum's Executive is grateful for all the contributions of the Conference delegates. Taken together with the formal presentations of the speakers, there is a wealth of valuable feedback that will now be used to inform our future priorities.



section 3

report back

Report Back

How the Executive Committee has responded to the Forum's advice

The Report of the Forum's first Annual Conference in 2002 included a summary of the issues raised in discussion by delegates and members. This was the Forum's first opportunity to offer advice to the Executive on how the Forum should operate and where it should deploy its effort for maximum impact.

For its part, the Executive was delighted with the interest shown and for the knowledge and experience that was offered. A few simple messages emerged about what the Forum's priorities should be and how to approach the task:

- There are many different organisations addressing different aspects of the water regime, and the Forum must add value to what is already being done, and avoid duplication of effort.
- A clear role was identified in relation to influencing long term strategic planning, where there was perceived to be a lack of coordination between the actions, views and initiatives of key players.
- The Forum has a broad membership, and is therefore well placed to bring differing interests together to seek holistic, integrated solutions to our water challenges.
- Because of its regional focus, the Forum is well placed to disseminate best practice from a range of sources.
- The Forum should have an educational role, creating widespread awareness and understanding of water issues, especially in relation to demand and consumption.
- Above all, a recurring theme has been for the Forum to concentrate on action, and not to allow itself to become merely a talking shop.

Reflecting on this advice, the Executive Committee recognised that if there is a clear consensus across the membership on any issue, then the Forum can use that critical mass to add weight to the views of individual members. But that will not be sufficient to solve all the region's water issues. The real value is more likely to come from identifying the differences between members, acknowledging and understanding the conflicting demands, and striving for constructive and creative ways forward.

Taking these factors into consideration, along with the emerging opportunities and the Forum's limitations, the Executive put together a set of priority actions in a Work Plan:

- At a strategic level, the major issues and opportunities in the short term arise from the preparation of Regional Spatial Strategies, implementation of the Water Framework Directive and the implications of the Water Bill.
- The whole area of water conservation and efficiency is recognised as a topic that must be addressed, with particular emphasis on domestic use in both existing and new housing.
- River catchments have been highlighted as the appropriate level to study and implement integrated water management.
- If the Forum is to communicate effectively with its members and put its messages out to a wider audience it needs to adopt a range of methods including a website or web pages, and an Annual Conference or other events.

The Executive believes that it has now established a realistic set of priorities that reflect Forum members' advice and the main opportunities and challenges in the immediate future. Over the next year, the task is to turn these priorities into actions that begin to make a difference to water issues in the South East.

section 4

looking forward

The Next 12 Months

What the Forum will be doing to deliver its priorities

Having established its priorities with the help of the Forum's membership, the Executive's task is to translate those priorities into actions that make a real difference for the Region. The Forum does not have a dedicated staff resource and the Executive only meets quarterly, therefore progress depends on members making time within their existing work schedules. The approach that has been adopted is to set up Working Groups led by a member of the Executive for each of the priority areas.

Each group comprises a small number of members drawn from the Executive and the wider Forum, and will take forward its actions through a simple project plan. The timescales vary according to the detail of each plan, but the action so far and progress anticipated in the coming year is as follows:

Regional Spatial Strategies

Leader: Edward Dawson, CPRE

The South East England Regional Assembly has invited the Forum to contribute to the development of the Regional Spatial Strategies. Policy development will take place in the first half of 2004, and the Forum will be working with the Regional Assembly to ensure that the Strategy contains appropriate policies covering the full range of water issues including water resources, flood risk management and environmental quality.

Water Conservation and Efficiency

Leader: Rob Harrison, Thames Water

The Working Group has identified that domestic use offers the greatest opportunities, and that both new and existing housing should be addressed.

Influencing consumer awareness and habits is recognised as a long-term process, but the Group is proposing a twin-track approach of promoting best practice, while also lobbying for regulation changes to drive water efficiency. Key areas that will be targeted include metering, efficiency of appliances, and the role of planners and house builders in leading change.

Water Framework Directive

Leader: Wanda Fojt, English Nature

Implementing the Water Framework Directive in the UK will have a major impact on management of water bodies in the Region. As part of the process, Defra has indicated that it wishes to consult stakeholders, and has identified the Forum as a relevant body representing a wide range of interests in the South East. Over the next few months the Forum will set up a dialogue with Defra and establish how the Forum's membership can contribute most effectively.

Water Bill*

Leader: Graham Setterfield, Forum Chair

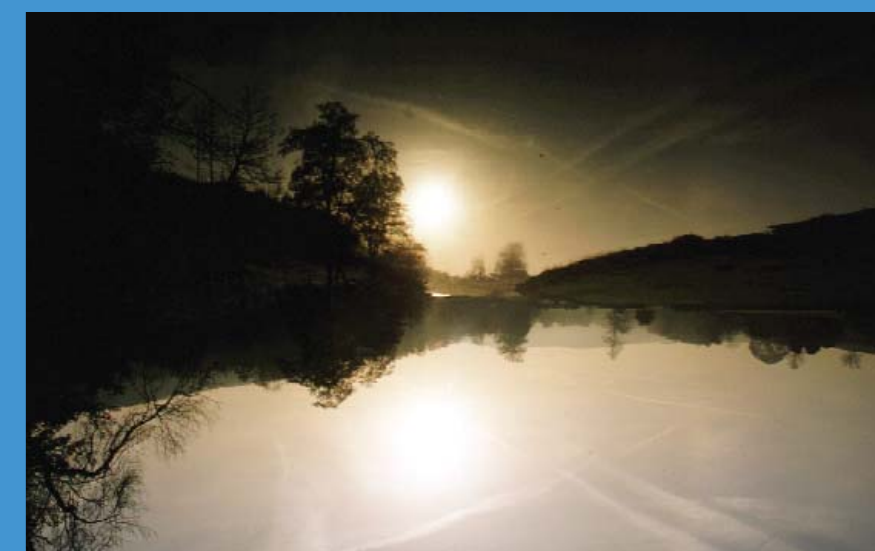
This will be important legislation for the South East, focusing on water

abstraction, licensing and regulation of water companies. The Forum has recognised that it is not in a position to influence the Bill during its passage through Parliament, but is monitoring its progress and development, and will identify the implications for the Region and any opportunities for the Forum arising from it.

Sustainable River Catchment Management

Leader: Ed Maltby, Royal Holloway Institute for Environmental Research (RHIER)

RHIER, with support from the Environment Agency, SEEDA, English Nature and Southern Water, has carried out a scoping study on the catchments of the Rivers Kennet, Darent and Kentish Stour. The study identifies opportunities for economic, social and environmental benefits from sustainable management of the water regime. The results have been used to prepare a bid for EU LIFE Environment funding, which, if successful, would allow the project to be implemented in the three catchments from late 2004.



*Please note that the Water Bill has now been enacted (November 2003) since the time of writing.

Forum Web Pages

Leader: Simon Richardson, SEEDA

The Forum is developing a series of web pages that will be hosted on SEEOnline, a website that provides access to regional information and networks contributing to the delivery of the Regional Economic Strategy. The pages will give information about the Forum, its work and membership, news, progress reports and best practice case studies, and will enable feedback between the Forum and its partners. The pages will be piloted in early 2004.

Annual Conference 2004

Leader: Elaine Hayes, Sussex Wildlife Trust

After two positive Annual Conferences, the Executive is considering a different format for the 2004 event. Early discussions indicate the need to offer delegates challenges and networking opportunities as before, with more time for dialogue and fewer formal presentations. The programme will need to highlight progress and examples of best practice, and could include an exhibition of partners' contributions to sustainable water management.

Any queries or feedback on the activities of the Working Groups from members of the Forum will be welcome. The Executive will expect to give a full report on progress at the 2004 Conference.



section 5

since the conference

The Regional Spatial Strategy

What is the Regional Spatial Strategy?

- The Regional Spatial Strategy (RSS) will replace current Regional Planning Guidance (RPG), and will provide a vision for the long-term spatial development of the Region
- When the Planning Bill receives Royal Assent in summer 2004, there will be a statutory basis for review of RPG and its conversion to an RSS
- The review will provide up to date long-term regionally specific spatial policies for the new South East Region within the context of the Sustainable Development Framework for the South East, adopted in 2001
- Water resources will have to become an integral part of the new RSS, and one of the draft themes will be the prudent use of natural resources such as water

What has happened since the Water Resources Forum Conference?

- The South East England Regional Assembly (SEERA) has already begun preparatory work with guidance from the Office of the Deputy Prime Minister (ODPM) and the General Office for the South East (GOSE), and the Water Resources Forum has been invited to participate in the process
- The Environment Agency has provided SEERA with data and information on water resources and flooding issues
- Draft policies will be developed during the first half of 2004

What is the timetable?

Key stages for the RSS through to its approval by the Deputy Prime Minister are:

Stage	Date
• Initial draft RSS for public consultation - Approval by Regional Assembly - Consultation	July 2004 October – December 2004
• Revised Draft - Approval by Regional Assembly - Submission to GOSE	spring 2005 late spring 2005
• Formal Consultation	summer 2005
• Public Examination	late 2005
• Approval by the Deputy Prime Minister	mid 2006

What are the implications for the South East?

- The RSS will be the most influential strategic plan for development in the South East over the next 20 years
- At the Water Resources Forum Conference several speakers and many members identified RSS as a key issue where the Forum could add value
- Critical water issues for the RSS include the availability and distribution of water resources, the extent of land liable to flooding, water quality in rivers and maintenance of wetland habitats
- To ensure that growth is achieved in a sustainable manner, effective long term spatial planning is essential and must incorporate consideration of water resources, flood risk management and environmental quality of wetlands and watercourses

The key RSS themes are likely to include:

- The interface between urban and rural areas and its evolution;
- The impact of demographic change and migration;
- Making urban living more acceptable through physical and social regeneration, improved design and a broader renaissance of our towns and cities;
- The maintenance of vibrant rural communities and a well managed countryside;
- Enhancing biodiversity and reducing waste, reflecting the principles of sustainable resource management;
- Celebrating cultural diversity through facilitating cultural expression and sporting prowess, conserving heritage and promoting tourism;
- Bringing communities to life by engaging the spirit and diversity of local communities and reducing social exclusion;
- Improving the health of the region's people and workforce;
- The prudent use of natural resources such as water, minerals and energy;
- Ensuring sustainable economic growth while reducing social and economic imbalances in the region, including those related to geographical isolation and skills;
- Growing the supply of housing with improved access in terms of affordability, type, size, location and tenure;
- Improving accessibility to work, services and leisure, recreational and cultural activities, tourism and sports facilities, while altering travel patterns away from reliance on the car and lorry;

- Addressing climate change and its spatial implications;
- The changing context set by national and European policies.

What Action should the Forum be taking?

- Provide SEERA with early advice that enables it to draft sound policies on water-related issues
- Engage with the Forum membership to establish common views and add weight to the arguments of individual stakeholders
- Participate in the consultation on the Initial Draft RSS, scrutinise all policies and their implications for water issues, and advise SEERA on any desirable changes

- Consider the Revised Draft and represent Forum members' views in the Formal Consultation and Public Examination stages

Useful sources of information:

- Office of the Deputy Prime Minister website: <http://www.odpm.gov.uk>
- South East England Regional Assembly website: <http://www.southeast-ra.gov.uk>
- Government Office for the South East website: <http://www.go-se.gov.uk>



Sustainable Drainage Systems

What are Sustainable Drainage Systems (SuDS)?

- Sustainable drainage systems are an alternative approach to the control of surface water run-off near its point of origin. Surface water runs off from properties, roads, pavements and hardstanding. Instead of directing such run-off towards sewer systems, SuDS promote such techniques as porous pavements, drainage ponds, swales and lagoons.
- Sustainable drainage is an important feature of development. Almost all our towns and cities have combined drainage systems. Historic and current drainage practice is to pipe combined surface and foul water drainage away from development, and discharge it downstream. This method is not a sustainable solution because the inclusion of surface run-off into sewers increases the problems of flooding and pollution.

Is there a timetable?

- In 2001 the national SuDS working group (NSWG) formed and in 2003 published a SuDS framework consultation. This document set core standards and agreements, leading to a Code of Practice between relevant bodies and organisations. The main matters dealt with include; planning, regulation and consents, design standards, design details, legal issues, and ownership, maintenance and funding principles.
- Promotion of SuDS has been slow due to a large variety of legislative, guidance and practical problems. Greater progress has been made in Scotland.

What does it mean to the South East?

- The South East already has the highest existing density of housing and development in the UK. This combined with the proposed additional housing plus the extra housing proposed under the Sustainable Communities plan means that SuDS has particular potential and benefits for the South East.
- SuDS is an integral part of sustainable development but the legislative and practical problems hinder its application in development in the South East.
- The potential benefits of the SuDS approach to drainage includes reducing flood risk, minimising diffuse pollution, maintaining or restoring natural flow regimes, improving water resources and enhancing amenity.

What action should the Forum take?

- Support DEFRA in the promotion of sustainable drainage systems
- Encourage DEFRA to include SuDS within the regulatory framework
- Encourage guidance for a SuDS maintenance framework agreement
- Promote and encourage the uptake of SUDS by planners and developers
- Promote best practice

Useful sources of information:

- Environment Agency web site: www.environment-agency.gov.uk
- CIRIA web site: www.ciria.org.uk/suds

The Sustainable Communities Plan

What is the Sustainable Communities Plan?

- Several speakers at the Water Resources Forum Conference referred to the Government’s Sustainable Communities Plan, and the implications for water resources in the South East
- Published in February 2003, “Sustainable Communities: Building for the future” set out the Government’s national plans for meeting future housing needs while integrating social, environmental and resource objectives
- “Sustainable Communities in the South East” is an Action Plan for meeting housing need in the Region, and includes targets for an additional 200,000 homes over and above existing plans, including four growth areas centred on the Thames Gateway, Milton Keynes-South Midlands, London-Stansted-Cambridge and Ashford

What has happened since the Conference?

- In July, ODPM published “Creating Sustainable Communities: Making it happen: Thames Gateway and the Growth Areas”. This progress report outlined plans for new developments in the growth areas, confirmed levels of government investment and announced the setting up of delivery vehicles
- A new strategic partnership, ecoSE, has been set up by the Environment Agency and a range of partners to promote high standards of water, waste and energy efficiency in new housing in the South East
- SEEDA has launched the Sustainability Checklist for Developments in the South East, which encourages planners, developers and land owners to

adopt best practice in new developments, including water efficiency measures

- Specific energy, water and other environmental targets were proposed in the Better Building Summit organised by ODPM, Defra and DTI in October

What does it mean to the South East?

- There will be an increase in demand for water as a result of the Sustainable Communities Plan
- The major growth areas are all in the driest parts of the country and abstraction levels are already at unsustainable level in some locations
- In order for the Sustainable Communities Plan to be delivered successfully in the South East, management of water supply and demand will have to be improved significantly

What action should the Forum take?

- Provide input to regional strategies to ensure that water issues are fully taken into account in long term development planning
- Work with planners, developers and manufacturers to encourage the take-up of water efficient technology in domestic situations
- Promote awareness and understanding amongst consumers of the need to use water more efficiently

Useful sources of information:

- Office of the Deputy Prime Minister website: <http://www.odpm.gov.uk>

The Water Act 2003

Why a Water Act and what does the Act contain?

- The original proposal for the Act was first proposed by Government as part of the Utilities Act in 2000, but the section relating to water was dropped. It re-emerged in the Queen’s Speech in November 2002 as the Water Bill. The Government set out its thinking in the DEFRA policy publication “Directing the Flow” in 2002.
- The Bill proposed
 - to reform the licensing regime for water abstraction
 - to reform industry regulation
 - to provide a framework for competition
 - other matters are also included which have more or less relevance depending upon one’s interests, including reservoir safety management, fluoridation and land drainage administration arrangements

What was the timetable for the Act?

- The Bill had its first reading in the House of Lords in July 2003 where there was a well informed debate
- The second reading was in September 2003 in the House of Commons
- Standing Committee stage was completed in October 2003
- Report stage and 3rd Reading took place on 10 November
- The Bill became an Act in November 2003
- It is fair to say that the Government anticipated a non-controversial passage but the various amendments that were proposed

and the addition of fluoridation to the Bill complicated progress

What does it mean to the South East?

- There are many challenges facing us in this part of England, not least through development and the pressures this puts upon sustainable water resources and land drainage. The Act proposes that water abstraction licences will cease to be unlimited in terms of time. This has potential impacts on a wide range of organisations, including water companies, breweries, paper mills and farm businesses.
- There will be some simplification in small abstraction licence administration .
- The Act proposes that Health Authorities have the power to instruct water supply companies to fluoridate water supply for dental reasons. Before such an instruction can be issued, local consultation by the health Authorities has to be carried out.

- The Act includes provisions that aim to increase the opportunities for competition in the supply of water services. The provisions include a licensing system to license new entrants who wish to supply water and new regulatory powers cover the administration of competition. There will be a threshold above which any developing competition applies which means that initially this competition will only apply to business premises that are relatively large users of water
- The changes to regulation are to introduce Consumer Councils that are independent of the sector regulator and to amend the role of the Director General at Ofwat.

- The principal beneficiary of changes to the licencing regime will be the environment.

What action should the Forum take?

- The Forum comprises a wide cross section of stakeholders with an equally wide interest in water related matters so different aspects of the Act will interest different groups
- The Forum Executive has chosen not to contribute publicly to the discussion over the Bill but many member organisations have lobbied MPs
- Where the Forum may be of more value is to ensure that we are able to assist those who have to implement the Act by sharing our wide stakeholder views with them and assisting in the process of consultation

Useful sources of information:

- The Bill and Act: www.publications.parliament.uk/pa/pabills.htm
- Water UK website: www.water.org.uk
- NFU website: www.nfu.org.uk

The Water Framework Directive

What is the Water Framework Directive?

- The WFD has been described as the most significant piece of environmental legislation ever to be enacted. It applies across Europe and was passed in December 2000
- It is based upon integrated river basin catchment systems and sets out to ensure that water bodies reach “good status”
- It will have implications for water resources, flooding, development, industry, farming and wastewater treatment, and many other water related topics
- It sets out to ensure that the condition of rivers, streams and groundwater are improved in line with ecological objectives
- It ensures that where good ecological conditions are already achieved, these must remain
- The cost for England and Wales has been variously estimated as being between £1.6 billion and £8 billion. It is not clear on whom these costs might fall

What has happened since the conference?

- The second and third consultations have been issued and DEFRA has progressed the work necessary to have the Directive transposed into English and Welsh legislation by the end of 2003 as required under the Directive
- The EA will be declared the “competent authority” under the terms of the Directive in December 2003
- No definition has yet been announced as to what the “good” ecological status means in practice

What are the implications for the South East?

- The implications are widespread and the report of the SEWRF Annual Conference 2002 contained an excellent summary. This will be placed on our website in the very near future
- For the first time stakeholders across the South East can be assured that they will have the opportunity to be involved in the consultation process regarding water policy issues
- The objectives that are set for our water bodies and the timetable for improvements over the next 12 years will place pressures on development, industry and agriculture

What has the Forum done and what should it do?

- The Directive requires that stakeholders must be consulted when considering management of river catchments in terms of the Directive. The Forum is ideally placed to play a major role in this process and is one of only a few similar bodies in the UK. Contact has been made with DEFRA who have expressed enthusiasm and have suggested they might attend an executive meeting and discuss the mechanisms that might be used to ensure effective stakeholder involvement
- The Executive decided not to respond to the Defra consultation directly, as individual members were submitting their own responses, but it has followed progress of the Directive closely. The Executive is keen to encourage other members of the Forum to participate in the stakeholder consultation and hence in the process of delivery of the Directive

- The Forum can influence strategic plans and seek sustainable solutions
- The Forum website can become a helpful point of information for those who wish to follow progress of the Directive

Useful sources of information:

- DEFRA web site is very good, under WFD, “frequently asked questions”; www.defra.gov.uk
- Water UK web site; www.water.org.uk
- EA web site: www.environment-agency.gov.uk
- RSPB web site; www.rspb.org.uk

appendix

Appendix

Executive Committee

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Head of Environment Strategy
Hampshire County Council

Fenella Collins
CLA South East Regional Surveyor
Country Land and Business Association

Edward Dawson
Regional Director CPRE South East

Wanda Fojt
Area Team Manager Hants and Isle of Wight English Nature

Mike Gwilliam
Director of Planning and Transport
South East England Regional Assembly

Rob Harrison
Asset Management Director
Thames Water Utilities Ltd

Elaine Hayes
Director Sussex Wildlife Trust

Stuart Homann
Water Resources Planning Manager
South Environment Agency

Richard Lemon
Senior Planning Officer, Thames Valley
Government Office for the South East

Prof. Edward Maltby
Director & Head of WERG Royal
Holloway Institute for Environmental
Research

Chris Pleass
Director of Business Planning
South East Water

Simon Richardson
Environmental Resources Manager
South East England Development
Agency

Miss Sandra Ryan
Water Resources Planner (Southern
Team) Environment Agency

Graham Setterfield
Forum Chairman South East Water
Resources Forum

Ian Shrubsall
Managing Director – Berkeley
Community Villages The Berkeley
Group Plc

Member Organisations

Adams Hendry Consulting Limited

Ashford Borough Council

Association of Councils of the Thames
Valley Region (ACTVaR)

B&Q

BAA Gatwick

BAA Heathrow

BABTIE Group

BAE Systems plc

Barratt South London

Basingstoke & Deane Borough Council

Beacon Press

Bellway South East

Berkshire Joint Strategic Planning Unit

Blake Laphorn Solicitors

Brighton & Hove City Council

British Chambers of Commerce

Buckinghamshire County Council

Buckinghamshire Economic
Partnership

Business Link Kent

Cap Gemini plc

Chiltern District Council

Civic Trust South East

Confederation of British Industry (CBI)

Countryside Agency

Crawley Borough Council

Dartford Borough Council

Department of Trade and Industry
(DTI)

DHSC South: SE Public Health Group

East Kent Spatial Development
Company

East Sussex County Council

Eastbourne Borough Council

Eastleigh Borough Council

Ecosys Environmental Management &
Education

Enviros

Envirowise

Federation of Small Businesses (FSB)

Folkestone & Dover Water Services Ltd

Friends of the Earth

GlaxoSmithKline

Government Office of the South East
(GOSE)

Guildford Borough Council

Guildford Environmental Forum

Hampshire & Isle of Wight Business
Environment Forum

Hampshire and Isle of Wight Local
Authorities

Hartlake Developments Ltd

Horsham District Council

Institute of Directors (IOD)

Isle of Wight Council

Isle of Wight Economic Partnership

Kent County Council

Langmead Farms

Medway Council

Mid Kent Water plc

Mole Valley District Council

National Farmers Union

Natural Step

Office of Water Services (OFWAT)	Tandridge District Council
Oxford Brookes University	Telecommunications Industry Association
Oxfordshire County Council	Thames Valley Chamber of Commerce
Oxfordshire Economic Partnership (OEP)	Thames Valley Economic Partnership
Peter E. Firth and Company	Tomorrow's Technologies
PHA Group	Tunbridge Wells Borough Council
Portsmouth Water Ltd	Unilever Bestfoods UK
R.J. Smith Environmental Historian	University of Brighton
Ramblers' Association	Univerisity of Oxford
Reigate & Banstead Borough Council	University of Kent at Canterbury
Royal Society for the Protection of Birds (RSPB)	University of Portsmouth
Seeboard plc	Vivendi Water Partnership
Shepway Chamber of Commerce & Industry	Vosper Thornycroft
Society of British Aerospace Companies Ltd	Water UK
Society of Maritime Industries	WaterVoice
Sony United Kingdom Ltd	Waverley Borough Council
Southern Water	West Berkshire Council
South East Climate Change Partnership	West Burgess Hill Company
South East Forum for Sustainability (SEFS)	West Sussex County Council
South East Regional Technical Advisory Body for Waste (SERTAB)	West Sussex Economic Partnership
Southampton City Council	Wey and Arun Canal Trust
Surrey County Council	Wiggins Group plc
Sussex Enterprise	
Sussex Local Flood Defence Committee	
Sutton & East Surrey Water plc	
Symonds Group	

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