



NEW MODELS FOR COLLABORATIVE WORKING

WATER RESOURCES EAST

**A guide for innovative, multi-sector,
regional resource planning**

An Anglian Water Perspective



FOREWORD



Anglian Water is immensely proud to be named Business in the Community's Responsible Business of the Year 2017.

We received the accolade for our innovative approach to tackling challenges in the environment and communities and driving sustainable business through innovation and collaboration.

When we received the award we committed to sharing our learning through three guides on key collaborative programmes: Water Resources East (WRE), community regeneration in Wisbech, and our innovation Shop Window initiative.

WRE is a pioneering, collaborative strategy creating a framework for more sustainable catchment level planning, delivery, and management now and in the future. The region faces many challenges and competing demands for water. We're the driest region in the UK but one that is critical in terms of agricultural production and with some of the nation's most important wetland environments. We need to balance the demand for this shared resource across all these vital sectors. Now is the time for new thinking and smarter planning, and WRE has been creating a new paradigm for sustainable water management since 2014, bringing together partners from agriculture, energy, food, environment, community, and utilities.

However, after four years we have reached the point of transition between theoretical planning and research, to practical application so that we can make these changes happen on the ground. Now, more than ever, we need support and commitment from current and new partners to drive WRE forward. We want WRE to become independent from Anglian Water as an entity in its own right – an exemplar of progressive and innovative water resource management in the UK.

We believe that the collaborative approach is the future of water resources planning in the UK, and so we are keen to share the experiences from the front line of WRE. We aim to inspire those who read it, sharing lessons learned, successes, gaps and challenges. Our hope is that others can draw upon these experiences and consider how cross-sector collaboration can deliver improvements in water resource planning across the UK. We welcome readers to engage with the WRE concept and bring their expertise and experiences into the discussion, so future challenges to water users and the environment in the UK can be tackled together.



Peter Simpson

Peter Simpson
Chief Executive
Anglian Water

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EAST OF ENGLAND IN 2018: REALITIES AND CHALLENGES

Realities

The East of England is a unique and diverse part of the UK. The Norfolk Broads and wetlands of the East coast are **internationally recognised** and have more than a quarter of Britain's rarest wildlife and 125 miles of waterways. Bustling cities such as Cambridge, Norwich and Peterborough are growing fast (home to most of the regions 10.5 million population) and vast, fertile agricultural lands provide **40% of England's vegetables worth £2.8 billion a year**. The one thing they all have in common is their need for water to survive and develop.

However, despite the diversity as a region, **the East of England is the driest part of the UK**, with increasing needs for water resources year on year where water demand and water availability are constantly in fluctuation and competition. Simply put: **The East of England will need more water.**



By 2039 the amount of water needed to meet public water supply demands in the UK will be the equivalent of

2,000

Olympic size swimming pools per day.

Challenges

Since Water Resources East (WRE) was formed in 2014, we have been taking an in-depth look at water challenges UK wide, now and in the future, and how they would impact on the 31,000-square kilometre stretch that WRE covers.

Population growth: the Office of National Statistics estimates the population of the UK will rise to 74 million by 2039 and the biggest increases will include the southern parts of the WRE area.





Public water supply: demand will increase and will be an estimated 4,000 mega litres a day (ML/d) in the UK in a high growth, unsustainable future – that's equivalent to an extra 2,000 Olympic size swimming pools every day.

Climate change and drought: These go hand in hand and increases in temperatures means less surface water flows into rivers by up to 30% and possible increases in regional drought.

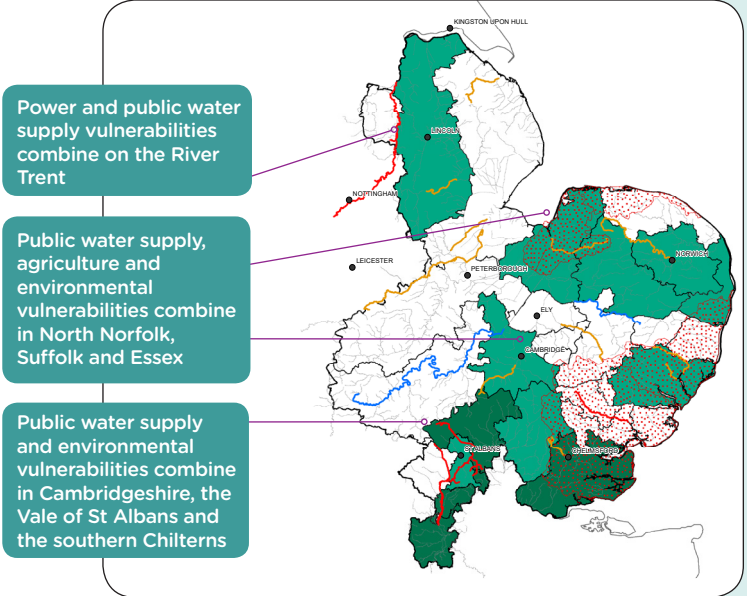
Decrease in environmental health: through rigorous land use change and unsustainable water abstraction rates affect water quality and significant environmental systems such as wetlands and river systems. Good water quality and sufficient quantity rely on a healthy environment. These three factors are entirely dependant on one another.

REGIONAL VULNERABILITIES: A SHARED STORY

Taking both the realities and challenges the region faces, there are many direct vulnerabilities that need to be considered for the future.

-  **Public water supply:** The area served becomes larger and the volume that needs to be provided increases, therefore, a comprehensive and robust 'water grid' is needed. Nevertheless, uncontrolled household demand by 2060 will exacerbate vulnerabilities in other sectors.
-  **Agriculture:** The agricultural sector would see increasing restrictions on water use as climate change, drought and growth increase. With both a large number of irrigated and rain fed crops in the area, insufficient water resources would mean the ability to cope with weather shocks and increasing food demand reduces.
-  **Environment:** Most river systems are vulnerable to climate change and drought - made worse by increased groundwater abstraction to meet future demands for public water supply. Intense water abstraction could disrupt the vital ecology of river and aquifer systems needed to sustain healthy and clean water supplies.
-  **Energy:** The East of England supports approximately 20% of England's power plants, which needs water for cooling. However, energy sector vulnerabilities are limited to the River Trent in a small number of scenarios with severe climate change impacts.

Taken separately the vulnerabilities may seem small. However, when taken together, as the map shows, there would be widespread water supply difficulties with various vulnerabilities combining and subsequently competing. In the best case scenario where levels of household demand are controlled, **it is predicted that the gap between supply and demand for water could still be at least 750 mega litres a day (ML/d)** if the region carries on the same path - a gap of 40 Olympic size swimming pools.



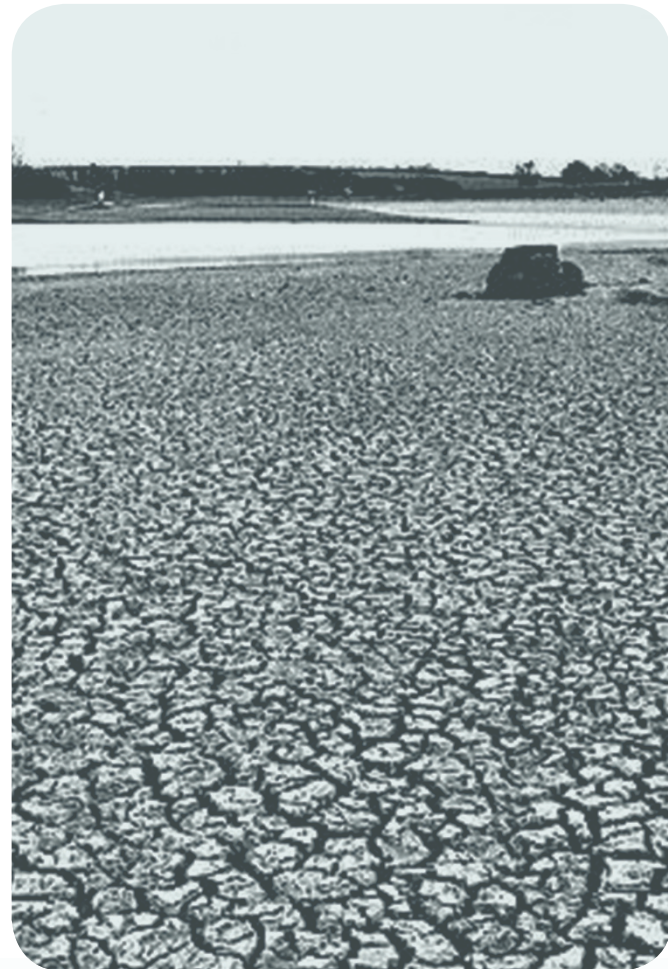
WATER RESOURCES EAST: MEETING CHALLENGES HEAD ON

These scenarios and modelled projections for the future were created by Water Resources East (WRE) after it was founded in 2014. It was clear that the future success of the region depends on providing enough water for people and businesses while simultaneously protecting the environment. **This is a serious challenge and one thing that became evident early on was that, with a problem of this scale, it could not be tackled alone.**

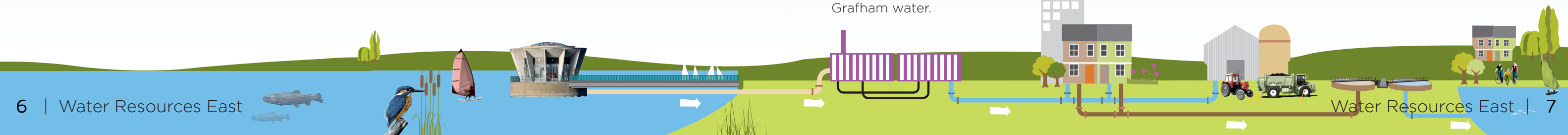
The uniqueness of the WRE approach is committed to finding the best management frameworks, governance models, financial direction, and infrastructure in order to meet the realities and future challenges the region faces.

The challenges and vulnerabilities faced by the region can't be ignored and it is vital that long-term, resilient, and sustainable solutions are found.

WRE is a pioneering, multi-sector water resource planning strategy. Using the first application of shared vision planning and robust decision making in UK water resources, **it is creating a more integrated approach to long-term water resource management and planning.** Strong stakeholder support is driving WRE forward, delivering key building blocks for resilience, economic growth, and environmental gain in the East of England.



Grafham water.



HOW IS WATER RESOURCES EAST DIFFERENT?

In looking to create a more sustainable governance model for how water resources are managed, Water Resources East (WRE) works across sectors and collaboratively with all interested parties – those who use, have an impact on, and are affected by future water resource change.

Collaborative investment:

Managing trade offs between industry sectors that will be able to balance the needs of all partners. While this is easier said than done, by having an awareness that trade-offs must always be considered and managed, the long-term advantages will be realised.

Facilitating multi-sector investment: Ensuring water resources are resilient to future challenges (particularly from those who otherwise would struggle to raise capital).

Encouraging collective ownership of the many future challenges faced by abstractors. This will deliver better economic outcomes for the East of England, more efficiently, and at a lower environmental cost than would otherwise be possible.

Efficient and affordable:

Enhanced efficiency: More efficient planning, provision and use of infrastructure (both financially and in terms of water use and allocation). Planning from a whole basin/catchment level to ensure integrated and robust solutions.

Affordability: More affordable investment programmes and consequently lower bills for industry as well as customers. Customer approval is vital for WRE success and for tackling our demand side management deficit head on.

Sharing of ideas, expertise and best practice between sectors:

The strategy will be jointly owned and delivered, taking into account the needs of all those in the WRE region with an interest in the management and use of water.

Making environmental benefit a priority: An explicit emphasis on the water demands and protection of the environment has been brought to the forefront of planning – exploring ideas for green infrastructure, wetland restoration, and aquifer recovery.



SPHERES OF INFLUENCE: ALL VOICES MATTER

For Water Resources East (WRE) to be truly accountable it **involves and considers the views and actions of all water users and those who are, or would be, affected by changes in water resources management**. All users influence how water resources are managed and, rather than seeing it as a hierarchy where water needs are ranked, **it's a circular system, where the actions of one water user will eventually impact on others and the environment**. WRE puts this thinking at the forefront of all planning and management for the regions water future.

WRE **aims to bring together partners from a wide range including water utility, energy, retail, environmental groups, land management, agriculture, local and national governments, community groups and domestic consumers** - to name a few. Through this, WRE is working collaboratively to manage these challenges, building on the areas unique opportunities for sustainable future growth, and pioneering a new approach to managing water resources. **Some of our partners include:** National Farmers Union, Natural England, Affinity Water, Local Councils, Cranfield University, and the Environment Agency.



GOVERNANCE AND STRUCTURE

Stakeholders work in various groups, structured according to the requirements of WRE and stage of work. While governance models are open to change and flexibility as the strategy develops, there are currently four groups central to WRE.

Leadership Group:

This group includes representatives from a range of industries across water, the environment, drainage, agriculture, irrigation, retail, food production and energy, as well as regulatory bodies. The group sets the terms of reference and is responsible for overall governance. It considers and agrees responses to the recommendations brought by Water Resources East (WRE) sub-groups. The Leadership Group are the main external spokespeople for WRE and have an important role to play in helping to influence policy changes and conducting high-level stakeholder engagement.

Delivery Group:

The Delivery Group is the co-ordinating working body of WRE. It brings together all the work streams to support their delivery and co-ordinate communication and policy recommendations. The WRE has a broad, complex scope and involves multiple stakeholders across diverse sectors. The Delivery Group engages with members to seek ways to align their activities with the agreed WRE strategy ensuring it does not conflict with participating organisations' statutory duties.

Technical Steering Group (TSG):

This group includes technical representatives from all the water companies in the region, agriculture, the environment, energy, and regulatory bodies. The core team of WRE contractors are also represented at the TSG meetings. Responsible for guiding the delivery of the technical elements of WRE, the group contribute to the development of the

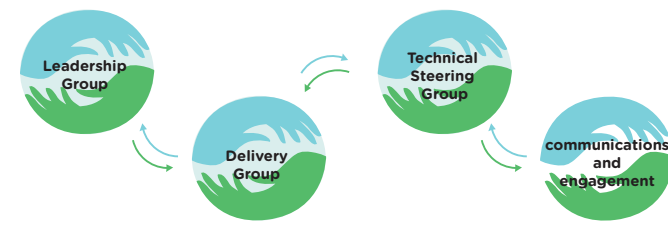
strategy specification and review outputs produced by WRE contractors

Communications and Engagement Group:

The group develops WRE visibility as a strategy, ensuring strong relationships are maintained and new ones are cultivated. As a strategy which supports local collaborative actions by a multitude of actors, the Communications and Engagement Group helps to set the precedent that WRE is an enabler of action by others and a supportive entity, led and driven by local and regional partners. Through traditional channels such as websites and publications, as well as an on-the-ground presence at county shows and conferences, there is a concerted effort to spread the word of WRE.

Task and Finish Group:

WRE has complex, long-term objectives and requires activities across a large number of diverse partners at all levels. In addition to four other groups there are partnership groups looking at modelling new ways of working, exploring policy recommendations and piloting integrated approaches at a catchment level. Some of these groups operate on a 'task and finish' basis, depending on the nature of their work.



INNOVATIVE THINKING



Following years of collaboration, Water Resources East (WRE) is spearheading some key conceptual solutions and initiatives for the region which take full advantage of the regional opportunities in the East of England. These are still at the consultation stage, with the commitment that one day some of them will be realised.

Coast line: The WRE landscape in East Anglia has a coast line measuring roughly 1,000 miles stretching from below The Humber at Grimsby down to Southend-on-Sea in Essex. Having access to this much coast means that desalination of sea water could be a possibility given the future challenges to water demand. However, due to it's lack of energy efficiency there are other more favourable options to be explored first.

Desalination plants (such as the one pictured below in Tampa Bay) extract water from the sea and filter out the salt through a separation process called 'reverse osmosis'. The clean water is then pumped into the water system for distribution.

Industrial water recycling: Industry in the East uses large amounts of fresh water. The water is needed for purposes such as washing, cooling, or diluting and gets pumped back into the water cycle as 'grey water' to be picked up for water treatment further down the line or carried into the sea. By reclaiming this water after it's been used, it can be stored and reused again for the same purpose, for agricultural irrigation or even for domestic purposes such as in toilets or outside taps.

Trading water: As part of WRE supply side management, we are planning for a network of strategic transfer pipelines in order to share and transfer surplus water resources between companies and across sectors. This will create a more equitable distribution across the region to deal with deficits in the system and increase connectivity and resilience.



Tampa Bay, Florida

INNOVATIVE THINKING

Uniting flood control and water supply:

One of the most innovative approaches WRE has proposed is uniting flood control with water supply needs. This involves working with drainage authorities and boards to change procedures which originally seek to pump away excess water to instead capture it and use it in the public water supply system.

Natural infrastructure:

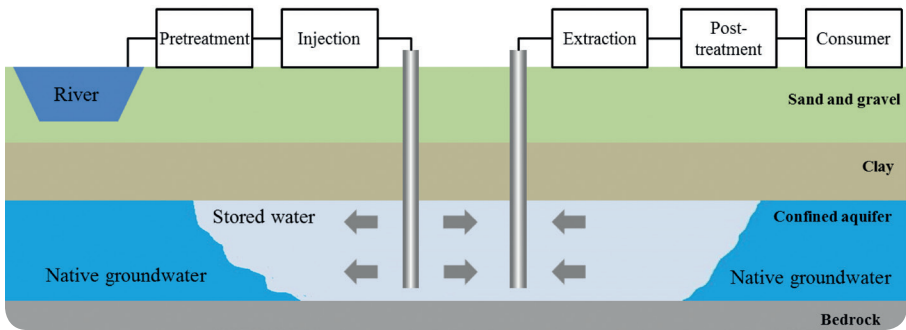
Aquifer storage and recovery. The region has ancient aquifers which have provided water for

generations of people, but some of the once most prominent aquifers have either run dry or are too low in level to be used. Used alongside new and existing dams and reservoirs, Water Resources East (WRE) wants to capture flood water and overflow, if environmental considerations allow, during the wetter months before it returns to the water cycle. As the below schematic shows, by directing this water to the aquifers as underground storage, in times of drought or high demand, these recovered aquifers would provide water for

domestic, industry, and agricultural use. It will also take pressure off existing aquifers and cuts down on groundwater abstraction rates elsewhere.

Effective demand management:

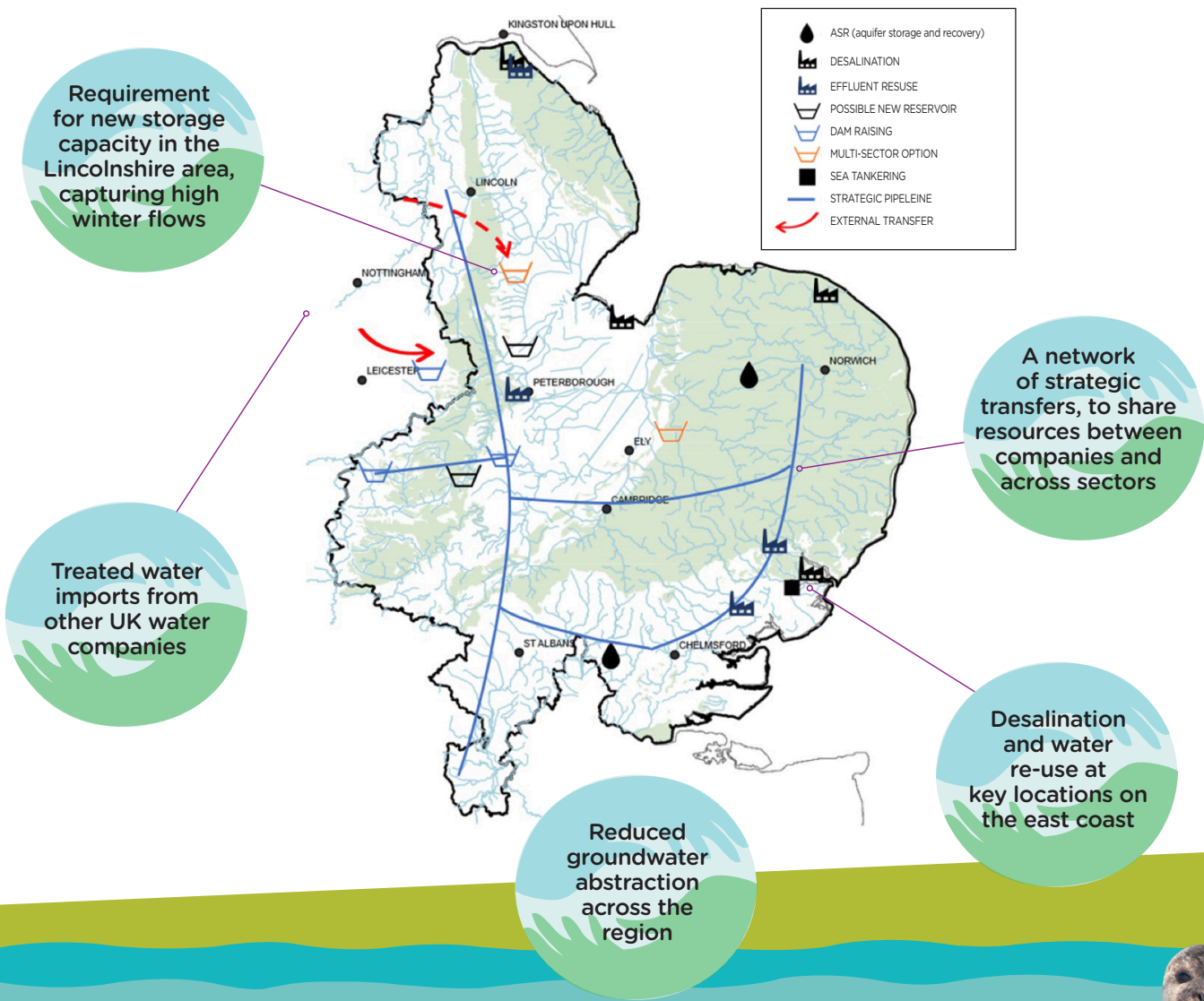
Water customers (whether domestic or industrial) are becoming more and more aware of the importance and value of water. Changing social behaviours and approaches to water use is an emerging but long-term strategy, which is integral to be used along side more supply side strategies such as infrastructure development. Demand management approaches include water conservation, using grey water, and the availability and use of water saving equipment all add up. However, the effectiveness of this relies on loyal and enthusiastic customers who see the benefits of such actions. Therefore, cultivating strong relationships and communication is vital.



Schematic of aquifer storage and recovery.

EMERGING STRATEGY

This diagram is for illustrative purposes only. All locations and projects are subject to change and further consultation.



TURNING THEORY INTO PRACTICE: ENSURING FUTURE RESILIENCE

In conversation with Steve Moncaster, Anglian Water.

Hi Steve. So, you're very much the mastermind behind Water Resources East (WRE), focusing on the many technical aspects – but what actually is your role and how have you developed the WRE approach?

I chair the Technical Steering Group (TSG) for the WRE project and over the past couple of years we've been responsible for scoping and delivering the technical elements of WRE. We have a great team within the TSG including colleagues from Anglian Water, water resource planners from other water companies and other sectors and our consultants.

Our technical approach is based on the new Decision Making Under Uncertainty (DMUU) methods emerging in the US, including Robust Decision Making (RDM), Multi-Criteria Search (MCS) and adaptive planning. RDM and MCS involve simulating the future performance of our water resource and water supply systems, identifying combinations of factors which make them fail and then selecting schemes that will help us to ease the related risks and meet future demand. **At the heart of the process is a collaboration between the different abstractors and users of water.** In many respects, this has been more important than the innovative technical work since it appears to have driven a serious improvement in the quality of our overall decision making.

How did you come across these new methods?

Back in 2014 I was fortunate to spend a few weeks

"THE DAYS WHEN WATER COMPANIES COULD MAKE WATER RESOURCE MANAGEMENT PLANS IN ISOLATION FROM OTHER ABSTRACTORS AND USERS OF WATER ARE BEHIND US. THERE ISN'T ENOUGH WATER TO GO ROUND AND ANY DECISIONS THAT WE MAKE WILL INEVITABLY IMPACT ON OTHERS."

travelling in the Western United States to look at how these new methods are being applied, and what advantages they offer over more traditional planning techniques. The work was made possible by a grant from the Winston Churchill Memorial Trust and a report summarising the results is due to be published very soon.

You've been working to develop plans for a multi-sector water sharing reservoir which will bring the theory and planning of WRE into reality. What is this and how will it work?

Key stakeholders in the WRE project including, among others, Lincolnshire Wildlife Trust, the Environment Agency, and the Association of Drainage Authorities are working to develop an integrated water resource management plan in areas prone to seasonal flooding with a lack of water storage capacity. As part of this we're looking at how a future winter storage reservoir for public water supply could benefit the environment and the local, as well as regional, economy. Key elements include improved flood risk management, wetland and environmental conservation and restoration, increased drought resilience, enhanced productivity for the agricultural and food sectors, and improving waterway navigation for the tourism and leisure industry.

How has the WRE multi-sector collaborative approach benefited this strategy and what is the future of the development for a new reservoir in the region?

The days when water companies could make water resource management plans in isolation

from other abstractors and users of water are behind us. There isn't enough water to go round and any decisions that we make will inevitably impact on others. The potential for conflict is huge – a key lesson learnt from the Churchill Report. **WRE enables planners from different sectors to work together, with our regulators, to look at the issues we're facing and then to decide how best to manage them.** It's early days, and we still have a lot to learn, but collaboration is the future of water resource planning and management.

In terms of a reservoir, the WRE shows that we will definitely need more storage capacity in the Eastern region by the 2060s and a reservoir is one of the options. Work we have done for our draft Water Resource Management Plan 2019 confirms this. We're planning a programme of work at the moment to answer these questions, one being where the ideal location would be to take full advantage of the multi-sector water use option.

What lessons from WRE do you think other organisations or projects could learn from and adopt?

The key lessons from the WRE is that **water resource management and planning is as much about people and relationships as it is about technical work and analysis.** It's clear that the best results are gained when the two are combined.



TURNING THEORY INTO PRACTICE: MULTI-SECTOR WATER SHARING EXAMPLE

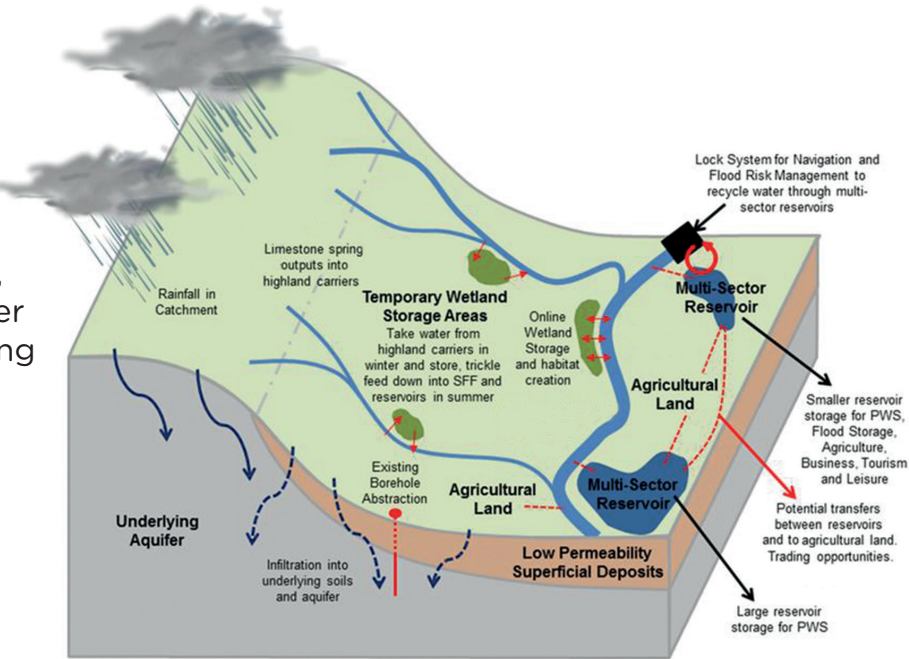
This diagram shows how a multi-sector water sharing scheme would operate and the possibilities for expansion. **As an integrated water resource management initiative (IWRM)** the reservoir aims to deliver practical benefits at a local and regional scale such as economic growth, environmental gain, food security and public water supply resilience.

It works by capturing some of the over spill from high winter rainfall and seasonal flood waters before they are expelled to the sea, captured by the environment, or infiltrated into the underlying aquifer. These captured waters are then transferred to multi-sector reservoirs

or to temporary wetland storage areas. **The multi-sector strategy comes from the fact that different investors will have a stake in the captured water.** Rather than looking to dividends or monetary returns it will look to water rights and equitable access, with transfers being made between sectors depending on needs and the environmental considerations which are constantly in flux and vary from year to year.

This is a true multi-sector project and includes partners from conservation, government, local councils, private sector, academia, agriculture and other water utility companies.

Example concepts, infrastructure, water transfers and trading for multi-sector option



THE JOURNEY SO FAR: HEARING FROM OUR STAKEHOLDERS

Lincolnshire Wildlife Trust: Paul Learoyd, Chief Executive, and Tammy Smalley, Head of Conservation

“The main objective of the Water Resources East, and its connected projects such as the South Lincolnshire Water Partnership (SLWP), is shared responsibility. It has shared delivery and shared costs which will lead to a greater collective impact and more effective and efficient use of resources. This will reduce the burden on the public and improve the quality of life for people and nature now and in the future.

We recognise that to achieve this in an area which is so important for food production, and where there are challenges to water resources, that both WRE and SWLP have to be multi-functional. **One of the problems with the fens in Lincolnshire is that they get rid of water during the winter but they need it during the summer, but that doesn't necessarily suit every water user,** and that water can be a very valuable asset in summer. So the role wetlands and natural water bodies can play in managing that is integral.

As an environmental conservation organisation I think we've been quite influential in steering towards different approaches in the catchment system. For example, the multiple benefits of flood alleviation, improving water quality, and doing it in an innovative way while using some basic and low intensity methods. We've helped by applying some very practical solutions to the ideas that are being put forward by WRE and the SLWP.

In the future, we **would love to get a site established in Lincolnshire that can be used as a pilot for the multi-sector water sharing option**

WRE is working towards. If we could get it off the ground it would be very impressive from a nature conservation point of view and could in the near future influence water strategy for many years to come.”

"WRE AND SLWP DEMONSTRATE AN INTEGRATED APPROACH TO SUSTAINABLE RURAL DEVELOPMENT IN A RELATIVELY DEPRIVED AREA WHERE WATER SUPPLY, DROUGHT, AND FLOOD RISK ARE CONSTRAINTS ON ECONOMIC DEVELOPMENT. STAKEHOLDERS HAVE COME TOGETHER TO DEVELOP INNOVATIVE STRATEGIES FOR INCREASING RESILIENCE, WHILE SIMULTANEOUSLY ENHANCING THE NATURAL CAPITAL THAT UNDERPINS MUCH OF THE LOCAL FOOD, FARMING AND VISITOR ECONOMIES."



Photograph by Dave Lavash

Henry Cator OBE DL FRICS: Independent Chairman of WRE Leadership Group

"I'm the independent chair of the leadership group helping to bring together different stakeholders. To start with, as we all know, we live in the driest regions in the country – the demands on water from more and more people combined with the environment, agriculture, and industry, means that we have to manage our water a lot better than we are at the moment. Changing weather patterns also make periods of

flood and drought more likely so the pressure on water is more acute.

I think in any group of stakeholders the biggest challenge in solving problems is to get people to think outside their own area of work – making them appreciate what the problem is and what they can do collectively rather than individually. More importantly,

we're getting away from a reaction where single interest groups tend to say they think a certain way because of the organisation they represent to thinking how do we collectively solve it and raise the whole idea of water being a precious resource.

For me, communication and transparency are key. It starts with trust, which is earned by working together and understanding each other's view-point rather than only reflecting on your own. **From now, I think we need to demonstrate that delivery is not just a vision.** We will do that by selecting various pilot projects to demonstrate how we can work together to create the solutions that we need to solve the challenges we have. These include the SLWP Black Sluice Reservoir and the River Deben Project in East Suffolk."

"FOR ME, COMMUNICATION AND TRANSPARENCY ARE KEY. IT STARTS WITH TRUST AND TRUST IS SOMETHING WHICH IS EARNED BY WORKING TOGETHER AND UNDERSTANDING EACH OTHER'S VIEW-POINT RATHER THAN ONLY REFLECTING ON YOUR OWN."



Simon Cocks: Chair of Water Resources South East. (Former Chief Executive of Affinity Water)

"It's the emphasis on the long-term horizon – looking out for the future and trying to focus on realistic steps, to get high quality water reliably to all customers in the future.

Input from other sectors is crucial because in the end water companies alone can't solve all water resource problems and capitalise on all opportunities as before – it is going to take a broader group of stakeholders.

Initially for Water Resources East (WRE) the main challenge

was about getting everybody engaged and understanding – talking about the same thing in the same way.

Overall, it's been about working out how we take all these great ideas and transform them into integrated thinking and most importantly tangible and investible propositions.

It may sound obvious but this is about keeping an open mind to the different perspectives around the table and not getting too fixated, too early, on what

we think the solution is. We are trying to create a culture where we're embracing everyone's ideas and everybody's perspectives, while also doing that in a way that seeks consensus towards agreed goals and outcomes.

Inevitably that means compromises that different stakeholders can embrace, adapt to, and will want to be involved in.

I think we've learnt an awful lot from WRE in this period and we need to continue and build on the stakeholder engagement that has been done to date.

We need to ensure that we start to deliver tangible outcomes and exemplar projects for the future turning stakeholder engagement, and all the convening power of the project, into something that delivers benefits for our customers and the environment."

"THE CONVENING POWER OF WRE HAS BEEN VERY STRONG IN TERMS OF GETTING THE RIGHT PEOPLE INTO THE ROOM AND IT HAS MAINTAINED A GOOD FOCUS AND CONTINUITY THROUGHOUT. I THINK IT'S ALSO CAUSING SOME OF THE STAKEHOLDERS, BOTH WITHIN AND OUTSIDE THE INDUSTRY, TO START THINKING DIFFERENTLY ABOUT WATER AND THE ENVIRONMENT."





"WHAT WRE IS DOING IS LOOKING AT THE DEMAND FROM AGRICULTURE, FOOD, HOUSING, DOMESTIC AND PUBLIC WATER SUPPLY AND ALSO LOOKING AT THE AMOUNT WE NEED TO KEEP IN RIVER FLOWS AND THE ENVIRONMENT, TO MAKE SURE IT'S CLEAN AND HEALTHY."

Martin Collison: Chair of the Communications Group, involved in WRE financing and sits on the WRE Leadership Group.

"My view is we're not short of water, we're short of water management. The critical issue is making sure that everyone works together so that we have the water we need for growth. The only way we can do that is to manage water on a holistic basis at a landscape scale. It requires us to work in new ways with different groups and types of business being involved in that process. The big challenge I think we face is that working together in this arena is new. We want all stakeholders to be involved and play an active role. **What I have been very impressed with is how enthusiastic most people are about WRE and believe it is the right thing to do.**

My experience is that partnership building is an art not a science; it takes time, commitment, and a thick skin. You need to work together to agree how things can work successfully and the role each

person is going to play. **If you don't take time building strong working relationships you won't succeed. The key issue is not to underestimate the amount of time this takes.**

What WRE is doing is looking at the demand from agriculture, food, housing, domestic and public water supply and looking at the amount we need to keep in river flows and the environment, to make sure it's clean and healthy. I believe we really can meet everybody's needs while also respecting and enhancing the environment.

Now, we need to move rapidly to start delivering projects on the ground. The Black Sluice South Lincolnshire Water Partnership is critical and the best chance we have to move things along. However, we'll need a number of schemes in the future to meet the needs across the whole of the East of England. **If we want stakeholders to invest in WRE, in both the physical and financial sense, and give us the support we need, we must now demonstrate it is more than a concept."**

Paul Hammett: National Farmers Union National Water Resources Specialist

"I represent the farming sector on the WRE Technical Specialist Group and chair the Water for Food Group of agri-food sector organisations. The food and farming sector in the East of England makes a significant contribution to the region's economy and to the nation's food supply. A secure supply of water is a vital ingredient for food production and manufacturing and it has become increasingly clear that, in the longer term, a more strategic approach will be needed to cope with water shortages at the catchment level.

WRE offers the prospect for all interested parties to work in partnership, exchange views and expertise, and collectively agree the best way forward in managing water demand and supply for all. The debate so far has been dominated by the public supply sector with the long-term solutions identified

being consistent with those typically found in company water resources management plans.

Through WRE, the different needs of each sector and different ambitions and ways of working have been successfully exposed. However, the use of technical language can be an issue – farmers tend not to think in terms of mega litres per day! Also through necessity, farmers need to be very responsive to rapidly changing business pressures while the water companies operate within a statutory 25 year planning cycle.

Even in the East of England, where irrigated cropping dominates the farmed landscape, farmers are still small players in terms of allocated water. Sustained, effective and long-term engagement will be needed to persuade farmers that water companies can be partners and not competitors for scarce water supplies.

By involving all the sectors from the first day of WRE, joint

ownership of what we are trying to achieve has been encouraged.

My hope is that the successful delivery of local schemes can be used as case studies to inspire farmers across the East of England to get involved with their own local 'joined up' water management projects."

"THROUGH WRE, I HAVE LEARNED THAT THERE IS A REAL AND GENUINE DESIRE AMONGST ALL THE SECTORS TO WORK TOGETHER AND SHARE INFORMATION AND IDEAS IN AN ATTEMPT TO FIND A SOLUTION TO OUR FUTURE WATER CHALLENGES. THE STRENGTH OF WRE LIES IN THE WAY IT WORKS TO BUILD TRUST AND SOCIAL CAPITAL."



THE JOURNEY SO FAR: STAKEHOLDERS VOICES



ACADEMIC VIEWPOINT

Anne Ramsey: Natural England

"I sit on the WRE technical Steering group. Natural England is the Government's statutory adviser for the natural environment in England working to protect nature and landscapes in support of Defra's ambitions for the environment.

Natural England's aim for the WRE strategy is it to help improve not just arrest the decline in biodiversity associated with changes as a result of abstraction, growth and climate change but to restore wetland habitats and, where possible, to provide net biodiversity gain.

Water Resources East has been an excellent example of co-creation of a strategy which is in line with NE's 'Conservation 21' ambitions, developing innovative ways of working, collaboration and solutions which aim to develop natural capital.

Overall, project partners better understand Defra's aspirations for creating resilient landscapes and growing natural capital. These outcomes are now regarded as integral to sustainable water management for all sectors rather than just for environmentalists.

The Baseline Vulnerability Assessment (BVA) has shown that business as usual in terms of abstraction of ground and surface water is not acceptable for the environment and there needs to be a significant shift in the ways of working to ensure innovation and improvements in efficiencies to reduce water resource requirements. The water industry already works in this way through water resource management plans, for example, but we will need to work together with agriculture and energy sectors to look for further efficiencies.

A key lesson from WRE has been the importance of a collaborative approach, building trust within the working group to share



NATURAL
ENGLAND

"WATER RESOURCES EAST HAS ENABLED NATURAL ENGLAND TO HAVE A BETTER UNDERSTANDING OF THE WATER REQUIREMENTS AND BUSINESS NEEDS OF THE OTHER STAKEHOLDERS AND OUR UNDERSTANDING OF THE ROBUST DECISION MAKING PROCESS HAS DEVELOPED OVER THE YEARS."

knowledge, expertise and data. Enabling the development of a plan that aims to meet the needs of all stakeholders."

Dr Rosalind Bark: Lecturer in Ecological Economics, School of Environmental Sciences, University of East Anglia

"Water Resources East (WRE) is a prime example of a multi-sector water strategy which is working to achieve a positive and sustainable future for all water users. I see many comparisons to WRE in examples I have studied throughout my career.

For example, the asset sharing initiative of the South Lincolnshire Water Partnership echoes initiatives in the USA, such as the Northern Everglades Payment for Environmental Services programme in Florida (a partnership between water managers and private landowners to store excess water on ranch land).

Other examples of new approaches to water management funding is the voter-funded bond to support the Flagstaff Watershed Protection Project in Arizona, and closer to home the Somerset Rivers Authority's Council Tax code, designed to secure long-term funding for additional flood protection in the county.

Looking beyond our region to examples of success throughout the world will only help to strengthen these initiatives as lessons and inspirations for future projects can be drawn from them.

With a multi-sector, collaborative water resource management strategy such as this, there are always significant aspects that need to be considered. For example, **making sure water quality issues are taken into account just as much as water quantity, will only help to boost the resilience and longevity of the project.** Additionally, making sure that water users are partners in water resource planning and visioning exercises (looking towards the future). This is not only best practice but could ensure that plans are more creative and resilient. From my experience as an academic studying water

"WRE IS A STEP IN THE RIGHT DIRECTION. IT IS A BOLD PROPOSITION FOR THE REGION AND IT HAS HAD A LOT OF COURAGE TO TAKE RISKS AND COME THIS FAR ALREADY."



resource management, in times of change and integrating ecosystem services in decision-making I can see that WRE is a step in the right direction. It is a bold proposition for the region and it has had a lot of courage to take risks and come this far already. What is needed now is more commitment from stakeholders to take it to the level where outcomes can start to be seen. Like the many successful water resource projects I have studied around the world, WRE has the potential to join them as an example of sustainable and resilient water resource planning."

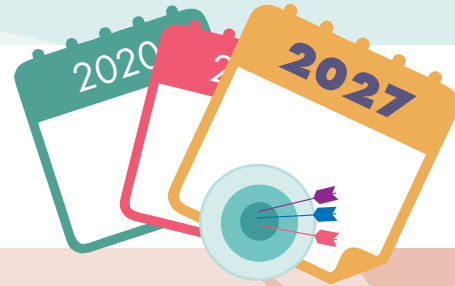
LESSONS SO FAR

A SUMMARY OF WHAT WE'VE LEARNT:



The importance of collaboration:

The success of Water Resources East (WRE) initiative rests on the strength of the collaboration we have. Involving and working with vital stakeholders and partners who fully believe in how WRE works will help to produce sustainable, long-term results.



Plan long term, think small term:

Any decisions, actions, or plans made need to be done with the long-term future in mind, on a whole basin scale (not in geographical isolation or striving for quick results). Breaking down aims into short-term achievements or deadlines is a realistic way of managing water resource management of this scale.



Time and patience:

Building strong, trusting, and worthwhile partnerships takes a lot of time - not months but years! Getting to the delivery stage takes even longer, so patience and understanding of the challenges faced and being able to manage expectations is vital.



Breaking down barriers:

The importance of bringing stakeholder knowledge, experience, and backgrounds to the forefront of conversation is changing the way that people think and talk about water - sectors are beginning to understand each others water needs.

LOOKING TO THE FUTURE



COMMUNITY:

WATER RESOURCES EAST (WRE) CHAMPIONS

- Live, active networks of small and medium sized enterprises (SMEs) and agricultural businesses, demonstrating best practice.
- Case studies and 'grassroots' guides to responsible water management.
- Annual Stewardship Conference and awards ceremony - bringing together like-minded people and celebrating micro-projects that contribute to the overall vision of holistic water management in the WRE region.

WRE STEWARDSHIP MARK:

- Demand management campaign for the agricultural sector and industrial SMEs.
- Web resources to help design and deliver on-site demand management systems and techniques.
- Formal accreditation to be awarded by WRE to organisations demonstrating sustained reductions - allowing businesses to market themselves as responsible water users.



ENVIRONMENTAL:

- Focusing on restoring or creating new areas for wildlife to thrive.
- Plans include restoration of the Fenland Waterway Link, creating navigable canals connecting key towns in the East and the restoration and creation of larger wetland habitats to support flood risk management and a healthy environment.



ASSET SHARING/TRADING:

- Establishing collective ownership of water resources in the region is vital to the success of WRE.
- In the South Lincolnshire Water Partnership (SLWP), looking at financial and governance models which would allow multiple businesses from different sectors to invest in water infrastructure collaboratively. They then have access to a percentage water allocation from that water source.
- Work has also been undertaken to look at new business and finance models allowing multiple investors to jointly own water assets and to get their return through a 'right to water' rather than as a dividend.

THANK YOU.

To all our partners and contributors who have made Water Resources East (WRE) possible so far and have given their support, expertise and commitment to making it work. We always welcome others to join the challenge and become part of WRE now and in the future.

To find out more please visit: www.waterresourceeast.com

Abstractor Groups

ADA **ADAS** Affinity Water **Agri Tech**
East Anglian Water **Angling Trust** APPWG
BITC Water Task Force Black Sluice Drainage
 Board **British Sugar** Broads Authority **Cambridge**
Water Cambridgeshire County Council **Campaign for the**
Farmed Environment Canals and Rivers Trust **CBI** Chambers
 of Commerce **CISL** CIWEN **CLE** Committee on Climate Change
Consumer Council for Water CPRE **Cranfield University** Defra **DWI**
 Energy UK **English Heritage** Environment Agency **Essex and Suffolk**
Water Farmers in WRE region **Fenland Waterways** Fish Legal **Food**
and Drink Federation Friends of the Earth **GARD** Greater Lincolnshire
 LEP **Hertfordshire** LEP Historic Buildings and Monuments Commission
Horticultural Trades Association IBD **ICE** IDBs **Institute of Grocery**
Distributors Keep Britain Tidy **Lincolnshire County Council** Local
 Retailers **Media outlets** MPs **National Trust** Natural England **NFU**
 Ofwat **Parish Councils** Rivers Association **Rivers Trust** RSPB
Sainsbury's Severn Trent Water **Thames Water**
 UEA **UKIA** UKWIR **Water Company Customer Challenge**
Group Water company customers **Water UK**
 Waterwise **Wildlife Trust** Woodland Trust
WRSE WWF

