



The Association of Directors of Environment, Economy, Planning & Transport

The Role of Local Authorities in Managing Water Resources

6th July 2026



Welcome and strategic context

Carolyn McKenzie

Chair of ADEPT Environment Board

Director of Environment & Planning, Surrey County Council

Agenda



14:00-14:10	Welcome and strategic context	Carolyn McKenzie, Chair ADEPT Environment Board
14:10-14:30	National policy expectations: water, planning and infrastructure	Harry Leeder, MHCLG Emma Donnelly, Clean Waters Deputy Director, Defra
14:30-14:40	Why it matters: pressure on water resources	Meyrick Gough, Water Resources South East
14:40-15:00	Case study: from policy to place	Daniel Johns, Water Resources East Wendy Brooks, Norfolk County Council
15:00-15:30	Panel discussion and audience Q&A	All speakers plus John Curtin (President, CIWEM)
15:30	Close	



Ministry of Housing,
Communities &
Local Government

Water, Planning and Infrastructure

ADEPT Webinar, 6 July

Harry Leeder, Deputy Director - Water and Environment



Department
for Environment,
Food & Rural Affairs

Regional planning

ADEPT workshop, 6 July 2026

Emma Donnelly, Clean Waters Deputy Director

Why it matters: pressure on water resources

Meyrick Gough, WRSE Managing Director

6th July 2026

South East England's water resources



MAP KEY



National Parks

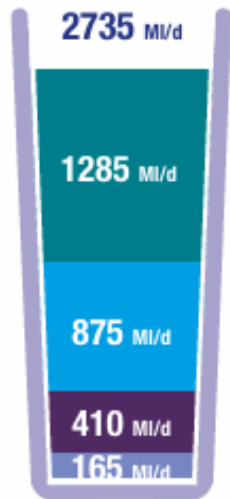


National Landscapes

- A unique environment with numerous designated sites and protected areas
- **32 river catchments** with more than **40 prominent chalk streams**
- **64mm average rainfall** per month compared to 81mm across England and Wales
- The whole region is designated as in **serious water stress**.

The scale of the challenge

Regionally, by 2075 we face a **2.7 billion litre per day water shortfall** – this is more than half of the water currently supplied on an average day

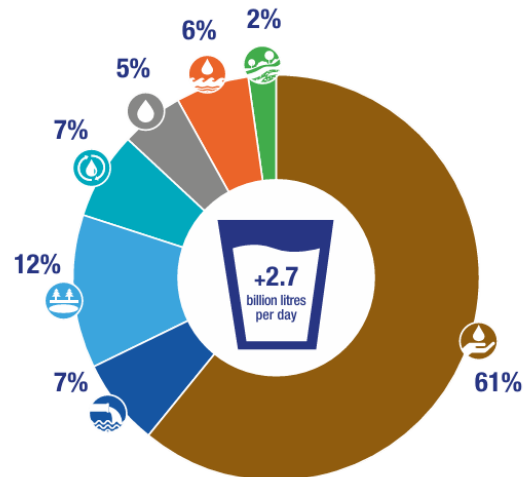


More water is needed to:

- Improve the environment by leaving more water in rivers, streams and underground aquifers
- Supply a growing population (households and businesses)
- Make our water supplies more resilient to drought
- Counter the future impacts of climate change

Data from the current regional plan (reported pathway)

Where the additional water will come from by 2075



-  Demand management - leakage and water efficiency
-  Reservoirs
-  Desalination
-  Transfers from other regions
-  Groundwater improvement schemes (including aquifer storage)
-  Water recycling
-  Other*

* Includes options such as license trading, enhancing existing infrastructure and increasing treatment works capacity

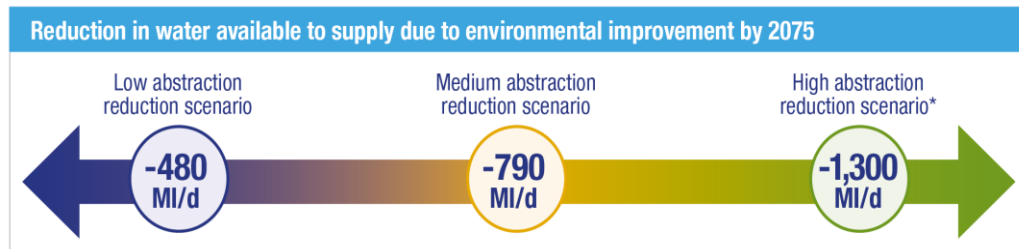
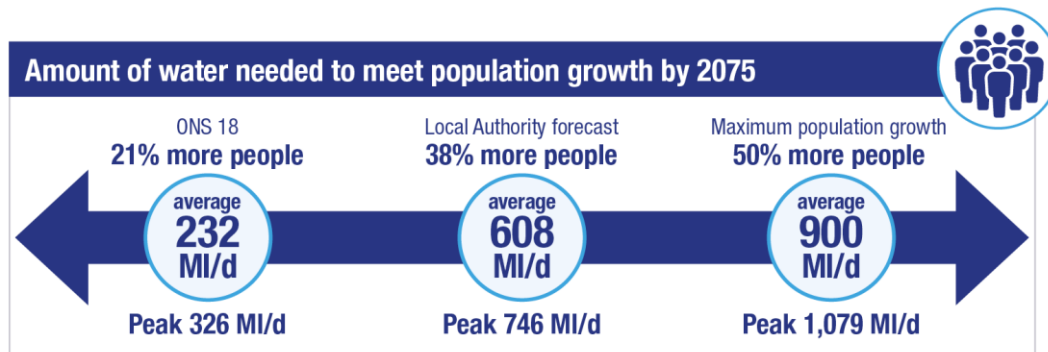
The importance of adaptive planning

- **External factors:**

- **Population growth** forecast ranges from 21% to 50% increase by 2075, with local plan data suggesting a 36% increase
- Results in future water demand increasing by **230MI/d to 930MI/d**
- **Climate change** forecasts project between 35MI/d to 170 MI/d less water will be available

- **Policy drivers:**

- **Increased resilience to extreme drought** (1 in 500-year resilience standard)
- **Environmental improvement** through a programme of abstraction reduction from existing sources
- Abstraction reduction scenarios range from **480MI/d to 1,300MI/d less water available**



Adaptive planning for a range of scenarios identifies core options needed in the majority of scenarios and adaptive options that could be progressed if needed.

Addressing the water shortfall - infrastructure

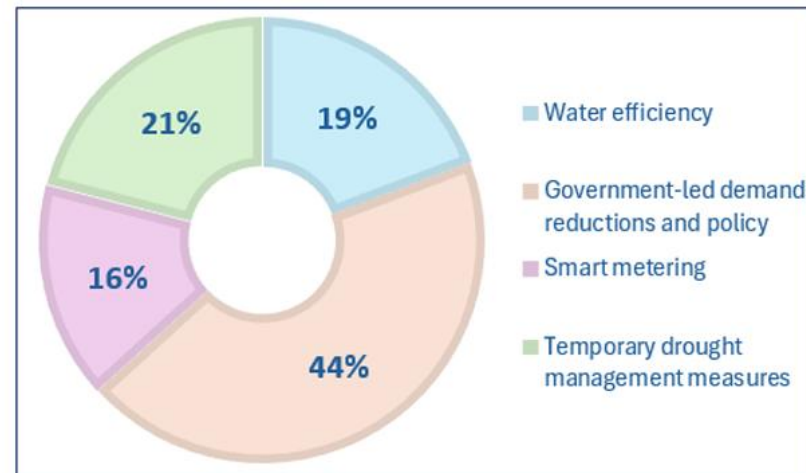
Map of schemes in our regional plan 2025 – 2075



* Further investigations on desalination and water recycling options to determine if more strategic solutions are available in Kent

The importance of reducing water consumption

- Reducing demand is a critical part of building long term resilience
- Our plan requires **830MI/d of water to be saved by 2035** – two thirds of the shortfall in the first 10 years
- How can we solve the challenge through more efficient use of water?
 - ✓ Government Water labelling
 - ✓ OFWAT Water efficiency campaign
 - ✓ Implementing tighter water efficiency standards in new developments
 - ✓ Retrofitting existing homes with water saving devices, including smart meters.
 - ✓ Embedding water efficiency requirements in local plans and planning conditions
 - ✓ Promoting water efficient design e.g. rainwater harvesting and grey water reuse
 - ✓ Mandatory water labelling and minimum product standards



Contribution of demand management schemes in the South East of England by 2050

Regional plan 2030 to 2080 – transition period

An opportunity to increase alignment and integration and to plan ahead collaboratively for growth and changing environmental requirements



What happens if we get it wrong?

"Missing per capita consumption target by just 1 litre per person, per day in the South East of England would require the development of a reservoir the size of Havant Thicket to ensure sufficient future resources."





Role of local authorities in managing water resources

For ADEPT Webinar, 6th July 2026

Daniel Johns

- *Managing Director, Water Resources East*

Introduction to WRE

- Independent, not-for-profit membership organisation
- One of five regional water resources planning groups
- Key sector interests form our board and fund our core costs



AffinityWater

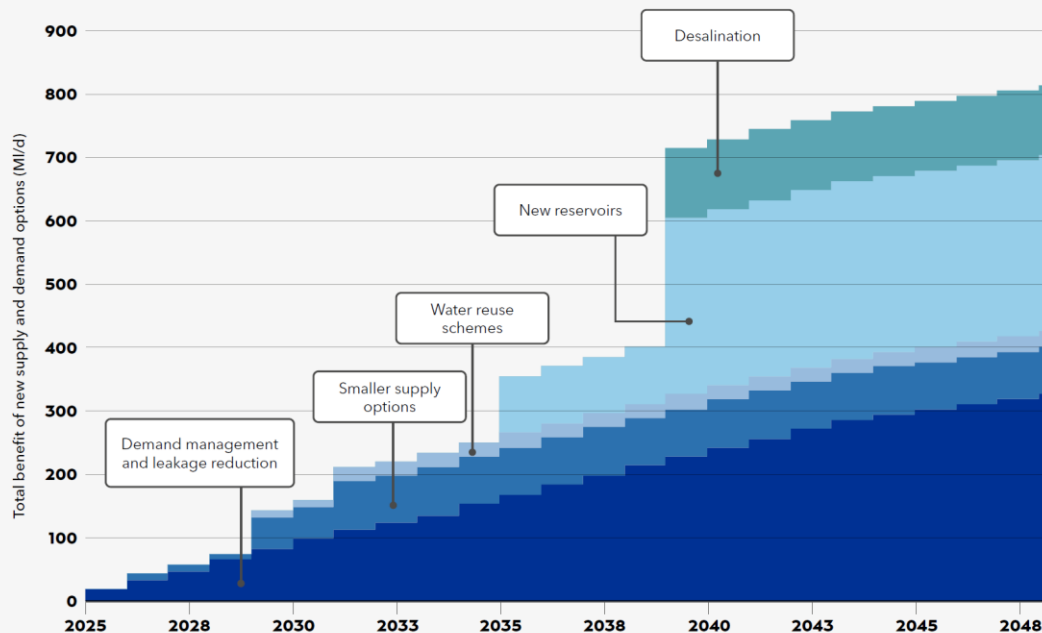


Urban&Civic plc

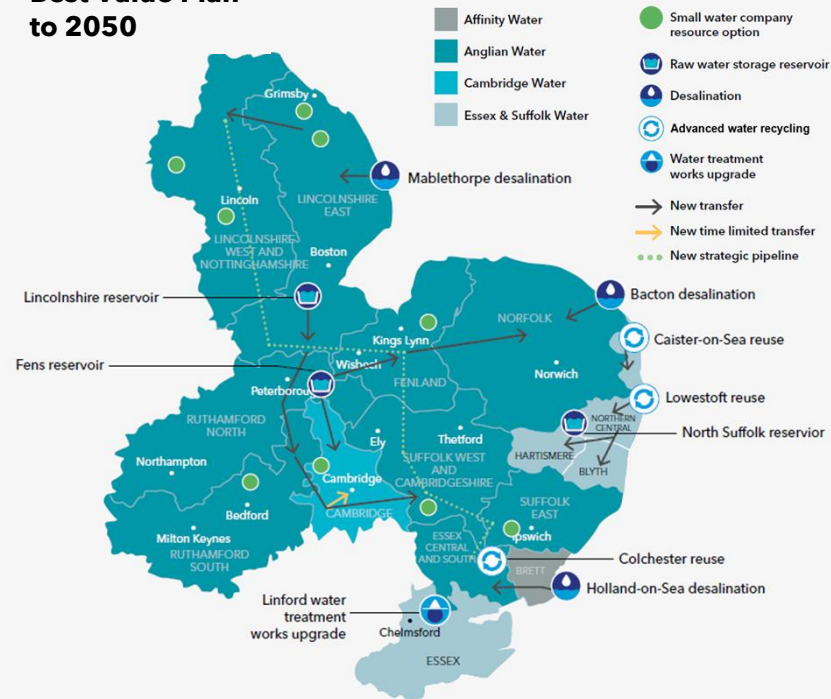


WRE's Regional Water Resources Plan

Bridging the projected public water supply deficit over time



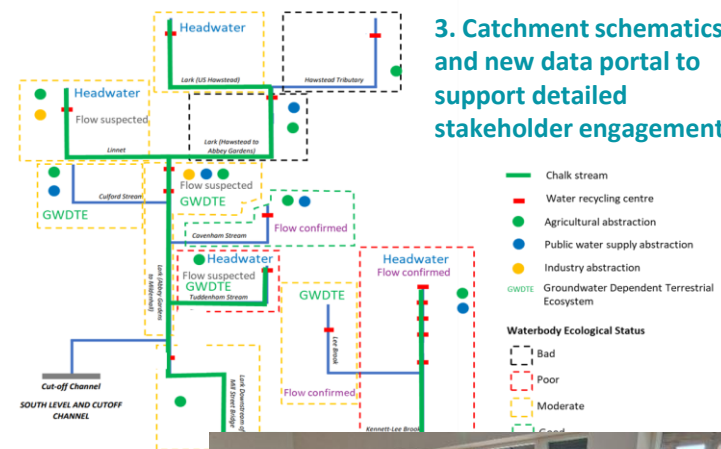
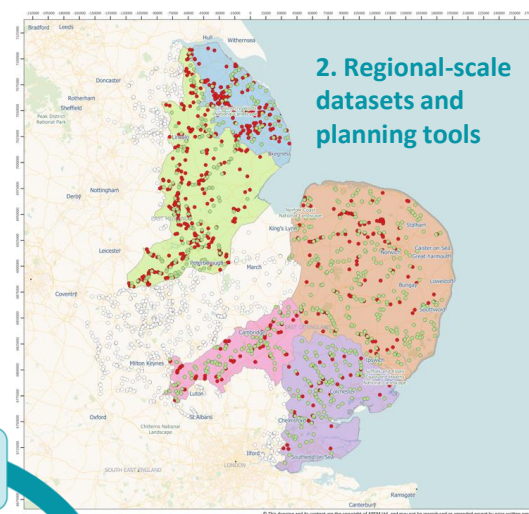
Best Value Plan to 2050



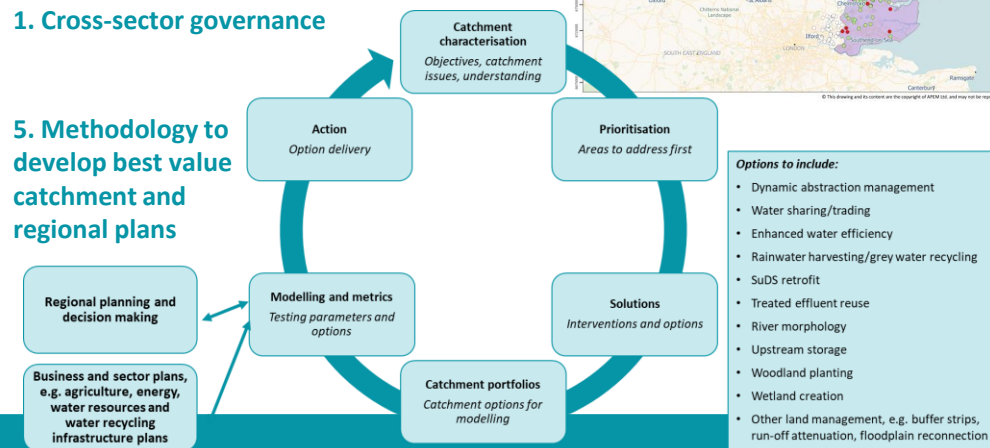
Developing WRE's Regional Plan 2.0



1. Cross-sector governance



5. Methodology to develop best value catchment and regional plans

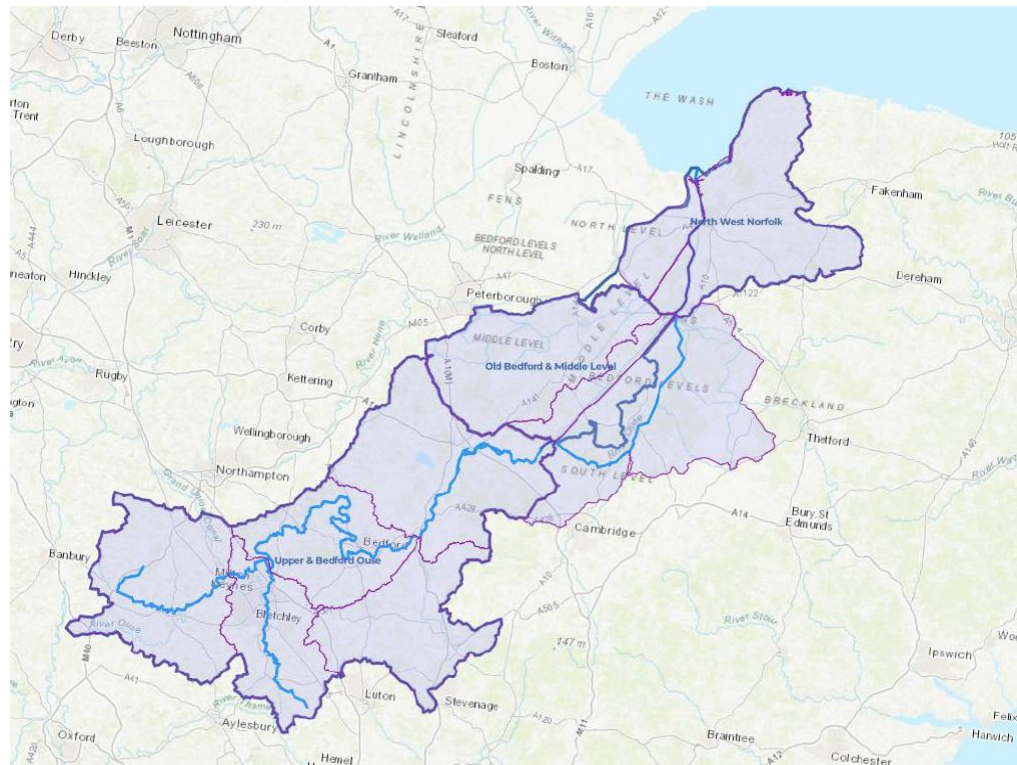


LARK
(CAM AND ELY OUSE)

4. Stakeholder workshops to identify priorities and develop options

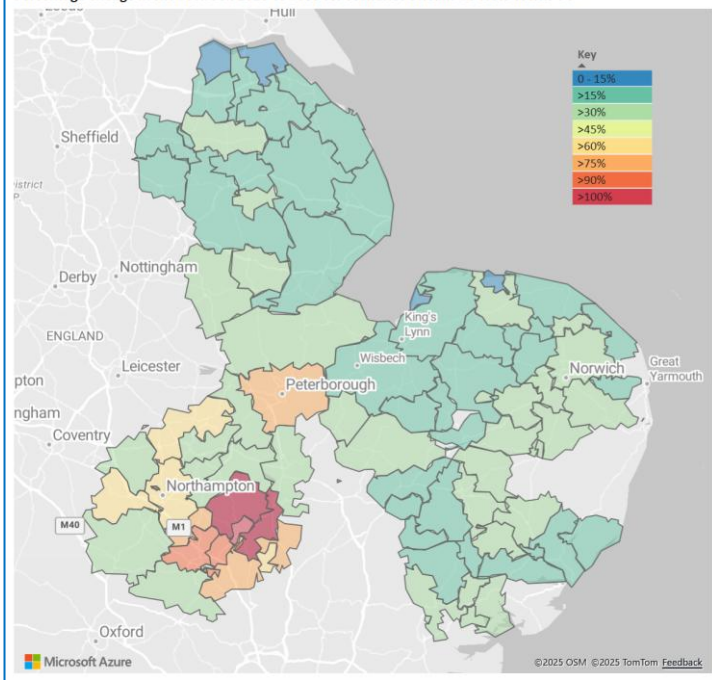


- The sustainability of groundwater abstractions from the chalk aquifer
- Nitrate levels in the Bedford Ouse, which are affecting abstraction into Grafham Water
- Capacity to accept further water recycling discharges from future growth due to high phosphorus levels in waterbodies
- The quantity (notably water levels in Spring) and quality of water undermining conservation objectives for the Ouse Washes
- The quality of raw water for abstraction and level of treatment needed for the proposed Fens Reservoir, affecting yield and costs



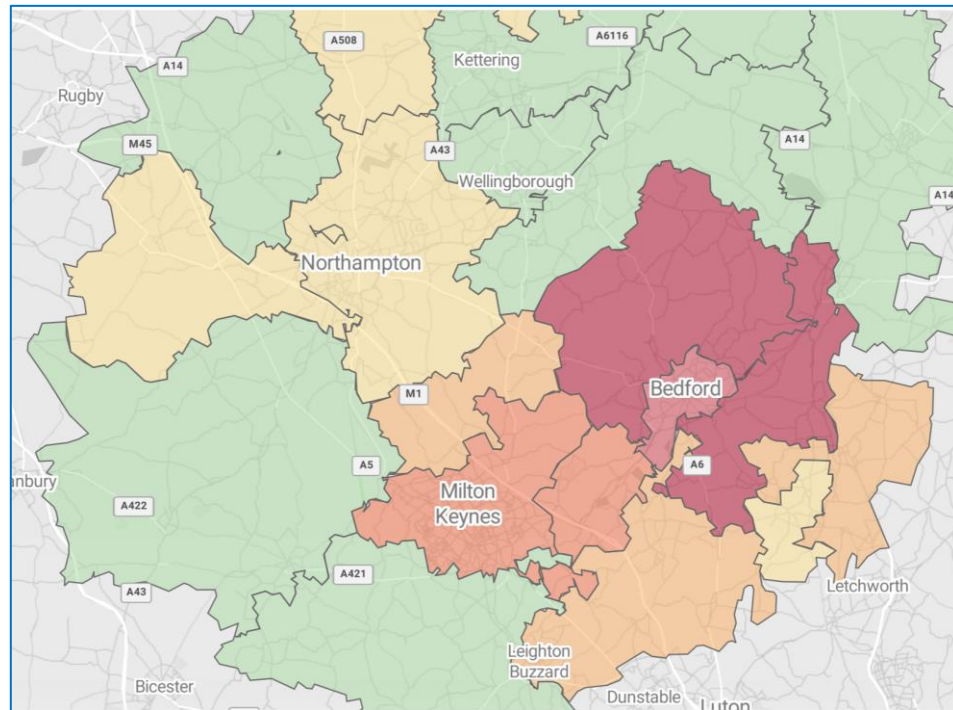
Infrastructure-led growth planning

Percentage change in HH between 2025 vs 2055 for scenario: OxCam-2b-New Towns-r-P



Key regional growth scenario – showing growth distribution across AWS (planning zones) – includes theoretical uplift for strategic growth and new towns

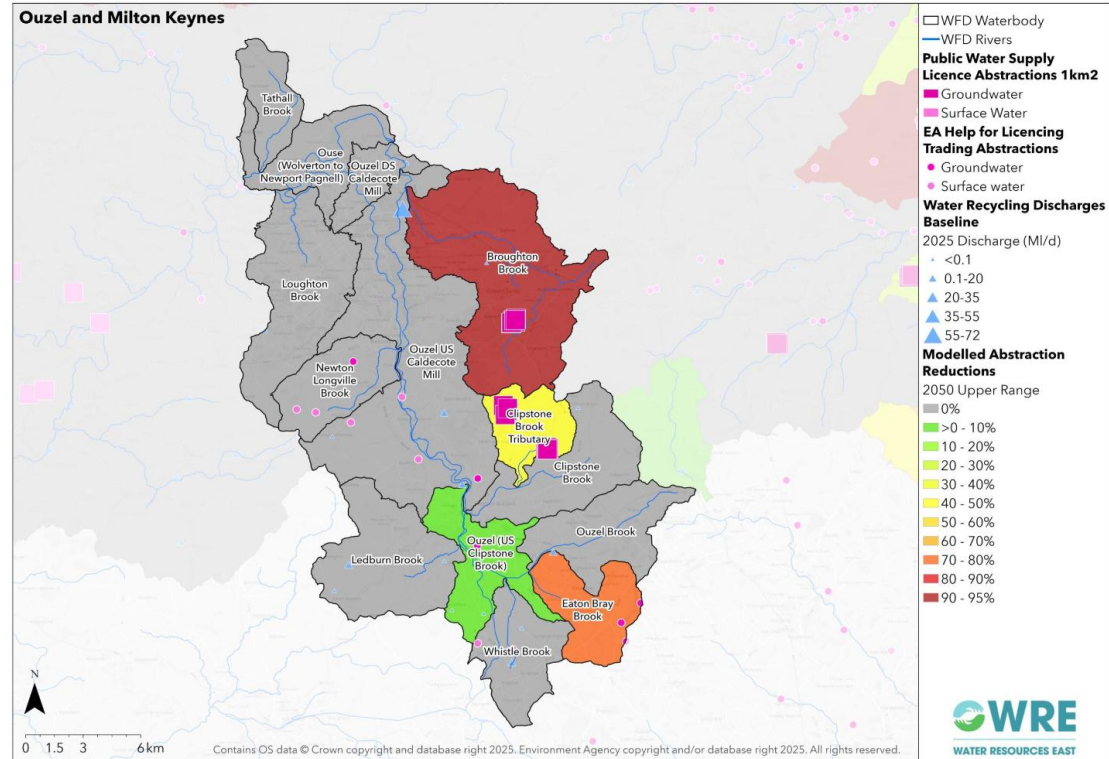
Detail



Key regional growth scenario – detailed view by AWS planning zone map for strategic growth and new town uplift

Challenges to growth: abstraction reform

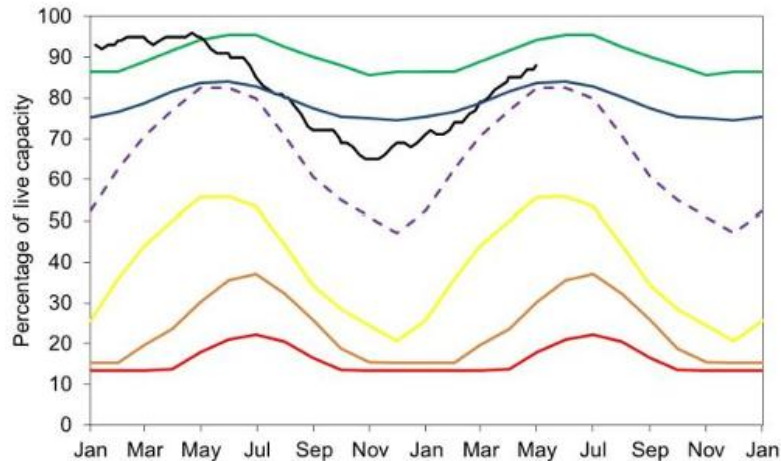
- Significant abstraction reductions likely by 2040 depending on the waterbody
 - See Ouzel and Milton Keynes (right)
- WRE is working with water companies, agricultural and other sector abstractors, catchment partnerships and the Environment Agency to explore alternative options
 - Increasing local water capture and reuse
 - Moving abstraction points downstream, and discharges upstream
 - Catchment and Nature-based Solutions



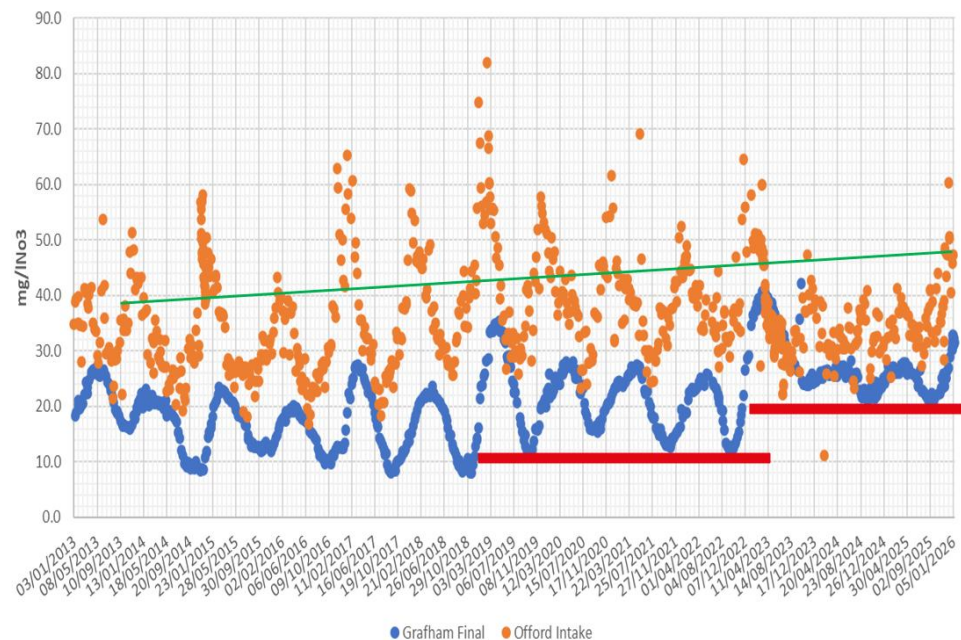
Challenges to growth: nitrates

- Grafham Water unable to be fully refilled this winter due to high nitrate levels at the abstraction point in the Great Ouse
 - Grafham strategically important for Anglian Water, Affinity Water, and from 2032, Cambridge

Grafham - AWS



Grafham Final & Offord Nitrate Levels
2013-2026



Challenges to growth: water recycling capacity

CAM, RHEE AND GRANTA (CAM AND ELY OUSE)

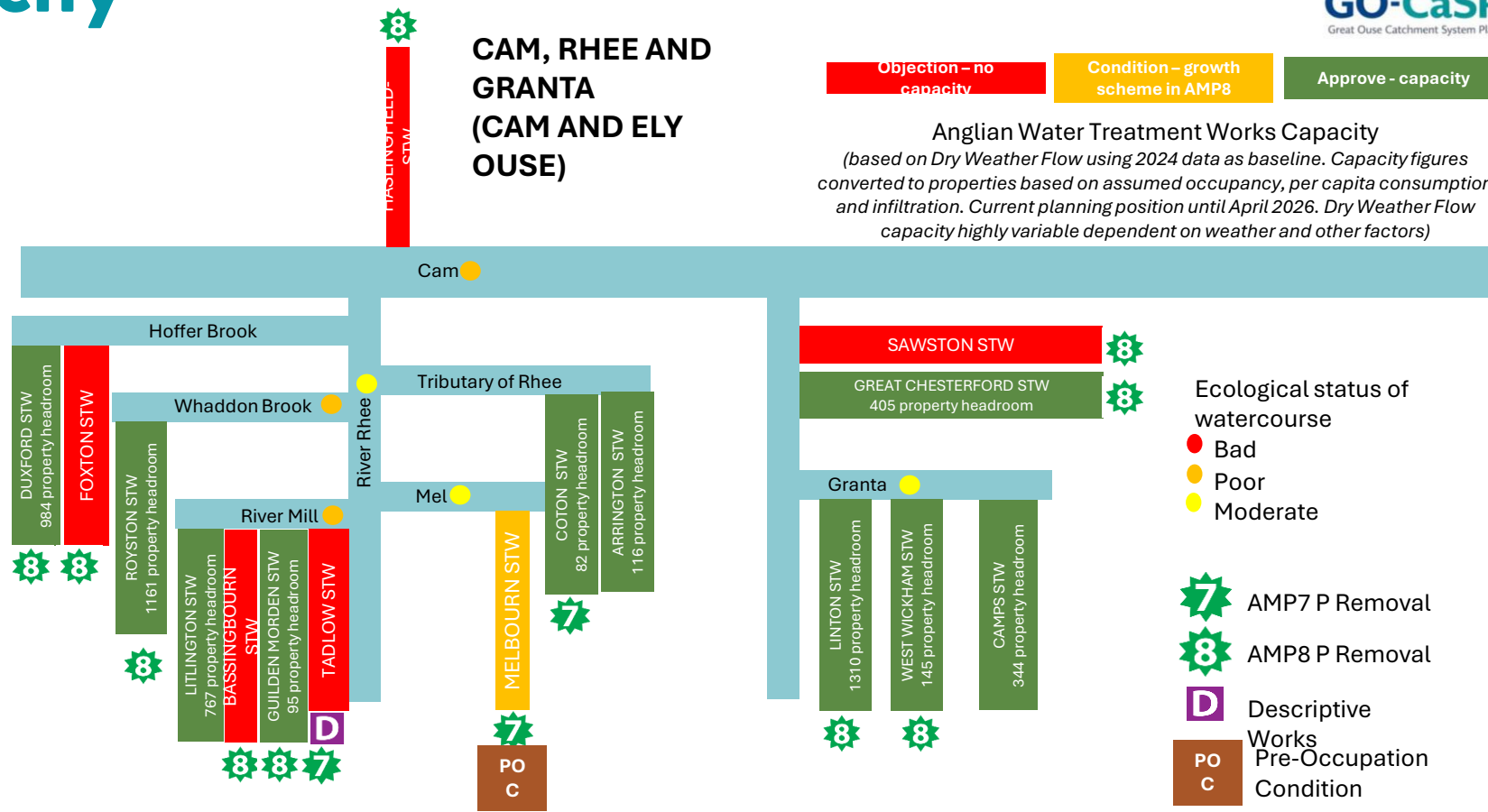
Objection – no capacity

Condition – growth scheme in AMP8

Approve – capacity

Anglian Water Treatment Works Capacity

(based on Dry Weather Flow using 2024 data as baseline. Capacity figures converted to properties based on assumed occupancy, per capita consumption and infiltration. Current planning position until April 2026. Dry Weather Flow capacity highly variable dependent on weather and other factors)

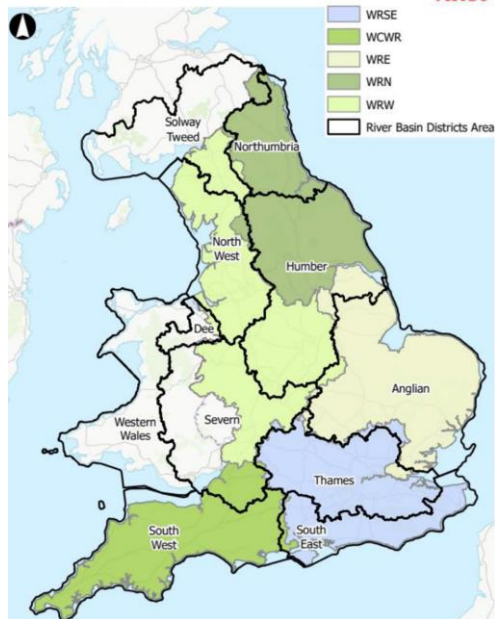


WRE is already a regional system planner

- WRE's aim is to **pioneer collaborative, integrated approaches to water and environmental management**

River Basin Districts + RG

ARUP



Regional system planning requirements	WRE
Regional-scale	Y
Hydrological boundaries	Y
Independent organisation, independent chair	Y
Multi-sector and strategic authority representation on board	Y
Tied in with local growth plans and LNRs	Y
Scope: Water supply planning	Y
Water environment planning, including C&NbS	Increasingly
Relationship with catchment partnerships and farm clusters	Y
Able to direct funding to catchment pilots and delivery projects	Y
Can coordinate consultation and engagement regionally	Y
Statutory body/planning function	N
Core costs currently funded by government	N
Team size	11

Role of local authorities in managing water resources

For ADEPT Webinar, 6th July 2026

Wendy Brooks

- *Head of Environment, Norfolk County Council*
- *Non-Executive Director, Water Resources East*



Where is Norfolk?



Norfolk
County Council

Norfolk Growth Plan



It is our firm belief that developing our infrastructure, investing in public transport, joining-up education, skills and jobs, providing support for our businesses, managing our land and water resilience, and looking after our environment, will enable our county to grow and our people to live well.



Digital connectivity, energy and water management are vital and are big constraints on the future economy.

Norfolk and Suffolk Integrated Water Action Plan (I-WAP)



Norfolk
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Suffolk
County Council



Purpose

Located within the driest region of the UK East Anglia, Norfolk and Suffolk face significant and growing water related challenges including:

- limited water availability
- declining water quality
- physical changes to water systems
- increase in salinity in coastal areas
- an increased risk of flooding
- declining natural environment



These issues are compounded by competing demands for water from public supply, business, agriculture, and the natural environment.

The Integrated Water Action Plan (I-WAP) looks to deliver an action plan for Norfolk and Suffolk that supports

- sustainable economic growth
- environmental resilience
- climate adaptation
- Also aligning infrastructure, policy, and innovation with future water demands and risks.

Key Themes

- Planning objections
- Residential access to water
- Inward Investment and Business retention
- Business access to water
- Nutrient Neutrality
- Water Neutrality
- Visitor Economy

Housing and
Economic
Growth

Environment

- Surface and ground water depletion and pollution
- Biodiversity decline
- Pollution
- Change in landscape
- Salinisation
- Water capture and Storage



Energy and
land use

Human and
Health

- Desalination
- Hydrogen
- Balancing reservoirs, food, housing, energy and environment
- Increase in flood risk zones

- Cost and access to clean water
- Flooding linking to loss of homes, valuables and increase in insurance and mental health challenges
- Visitor economy, recreation and well being
- Water usage efficiency and storage



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County Council



Outcomes

Sustainable Economic and Housing Growth

Understanding the economic value of water scarcity

Infrastructure planning aligned with water availability

Inward investment and business retention improved by addressing water capacity constraints.

Agricultural sector better supported through sustainable abstraction and irrigation planning.

Improved Water Resilience

Better ability to manage water scarcity, drought, and flood risk.

Smarter and increased availability of water storage, reuse, and efficient use across sectors.

More reliable water supply to support agriculture, housing, and industry.

Environmental Restoration and Protection

Enhanced biodiversity through better water quality and wetland resilience.

Reduced pollution from agricultural and highway runoff and combined sewage overflows.

Ensure that the impacts of development do not have a detrimental impact on the water environment.

Strengthened coastal and riverine ecosystems against erosion and salination.

Health and Wellbeing Protection

Reduced exposure to waterborne diseases through improved wastewater management.

Better flood protection for communities and infrastructure.

Enhanced public access to clean water for recreation and mental wellbeing.

Cross-sector Collaboration and Integration

Stronger partnerships with water companies, regulators, agriculture, local government and businesses.

Unified and evidence-based advocacy to government and private funders.

Streamlined innovation delivery through coordinated project mapping and funding.

Climate Adaptation Readiness

Regionally and locally coordinated response to changing rainfall, sea level rise, and droughts.

Long-term land use planning that balances housing, agriculture, and conservation needs.

Outputs

Comprehensive Water Data and Evidence Base at County and District level

Water demand and wastewater forecasts.

Mapping and modelling of water quality, availability, flood risk, and capacity for growth.

Evidence base to inform district Water Cycle Studies

Economic analysis of water scarcity and its financial impact.

Integrated Action Plan for Norfolk and Suffolk

Prioritized actions across four key themes

Defined roles and responsibilities for stakeholders (e.g., councils, water companies, developers, private sector and communities).

Timeline for implementation and progress monitoring

Stage 1 Water Cycle study reports for each district in Norfolk and Suffolk. Scoping brief to be agreed if relevant.

Innovation and Project Pipeline

Catalogue of current and future water projects

Coordination of nature-based and engineered solutions.

Cross-sector innovation opportunities, especially in Agri-tech, tourism, digital and manufacturing.

Investment Strategy and Funding Pathways

Strategies to attract private and government investment

Portfolio of business cases for priority water-related interventions

Nutrient, Water, BNG, Carbon Credits, Natural Capital – interlink and engagement

Portfolio of Case Studies

Real-world examples of successful water solutions

Lessons learned and transferable practices.

Constraint and Opportunity Mapping

GIS-based overlays showing where environmental, energy, water, and growth priorities align or conflict.

Support credible evidence-based planning and influence land use decisions.

Stakeholder Engagement Reports

Documented outcomes of engagement with residents, businesses, water companies, and sectoral experts.

Communication and education strategies to drive public behaviour change.

Introduction to the Norfolk Water Fund



© Water Resources East



Norfolk
County Council

The Nature
Conservancy



NORFOLK WATER
STRATEGY PROGRAMME



Norfolk's exceptional water environment is at risk from a range of chronic pressures



These pressures lead to serious environmental and economic consequences for the county



Tackling water security threats to Norfolk's environment and economy since 2021



NORFOLK WATER
STRATEGY PROGRAMME

Scan QR code
for more
information



NbS for water security



Runoff attenuation features

Edge-of-field measures to attenuate and store runoff under high flow events, these may include scrapes, sediment traps and ditch blocking efforts.



Riparian restoration

Re-planting and restoration of habitats along riparian areas to buffer runoff before it enters stream or river networks. May include grassland or woodland dependent on location.



Soil management practices

In-field measures to decrease runoff and encourage infiltration consisting of: minimum tillage practices, buffer strip creation, introduction of cover crops.



Arable conversion to grassland

Conversion of arable land to native, species-rich grassland. Priority species and grassland type depend on the location of implementation.

Our approach:

1. Targeting NbS

We have identified where NbS could provide the **greatest environmental benefits** through **opportunity mapping and modelling**.

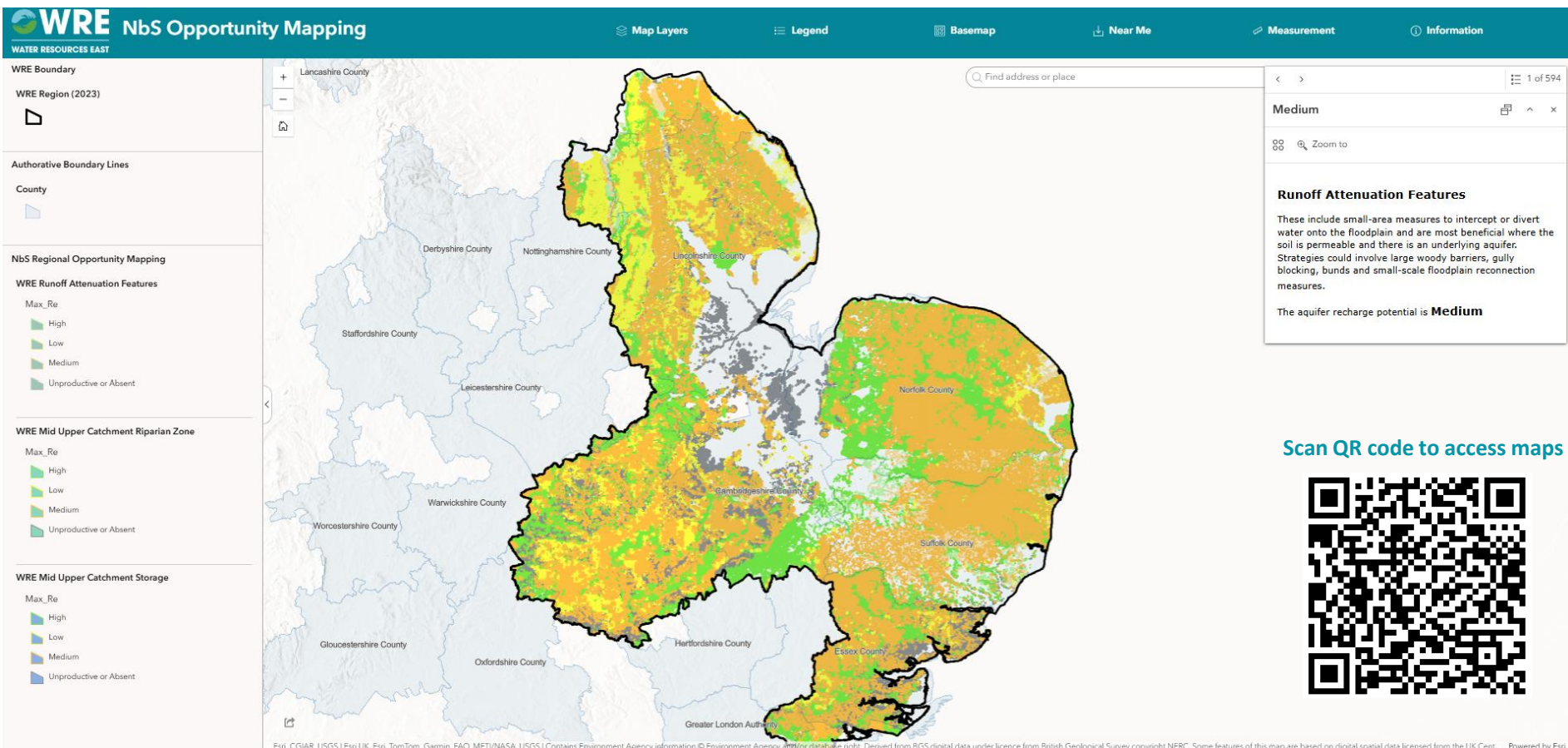
Modelling shows NbS could support aquifer recharge and mitigate low flows in chalk streams.

We have developed a **NbS Prioritisation Tool** that estimates NbS potential and benefits for specific sites, and alignment with LNRS etc.

This enables us to compare and prioritise projects for feasibility and funding approval.



New NbS opportunity maps for the entire WRE region: free to access and download



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Our approach:

2. Funding and financing NbS

We developed **a business case** for a £30 million Norfolk Water Fund to tackle water challenges threatening the county's wildlife and economy.

Every £1 invested in NbS yields £6.70 in benefits: better water resources and quality, enhanced wildlife habitats, and sustainable housing growth.

The economic analysis shows how emerging **nutrient and biodiversity markets** and specific **ELMs SFI and Higher Tier options** could create new income streams for landowners.



Our approach:

3. Delivering NbS

We are building our understanding of NbS through **pilot projects** in partnership with delivery partners.

By applying NbS, we can **test different approaches** and assess their effectiveness, gathering lessons learned and **building capacity**.

This hands-on learning helps improve future NbS initiatives and ensures they deliver maximum impact.



Floodplain reconnection, River Yare

- Funded by Environment Agency, WWF Finish, Anglian Water, NWSP. Delivered by NRT and IDB. Located at Coston.
 - Created a 651m meandering river channel, six scrapes and two ponds.
 - Aerial photograph of the completed restoration project taken on 16 October 2024, when the cut-through from the main river was made.
- © Josh Jaggard



Nature for Norwich



NORFOLK WATER
STRATEGY PROGRAMME

Funded by WWF through their global NbS Accelerator programme, delivered by Swallowtail Consulting. Feasibility completed January 2025.

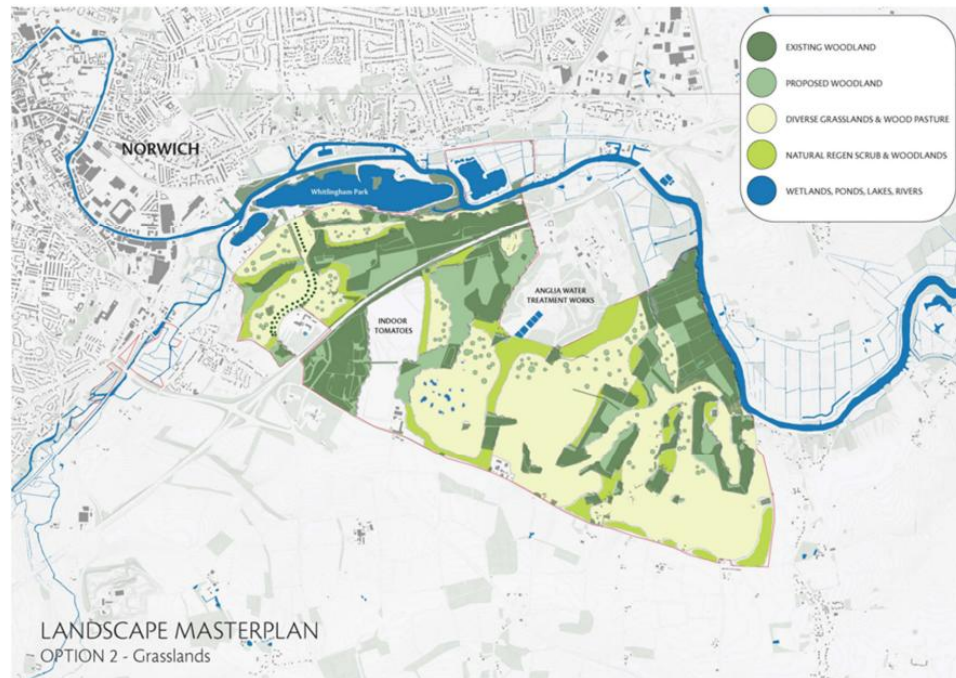
- **Land use transition planning:**

Final land use change masterplan for Crown Point Estate produced and fully costed.

Comprehensive baselining carried out.

Whitlingham Country Park (WCP) social impact work by Norfolk Wildlife Trust.

Follow up NbS project implementation at WCP to be funded by DS Smith trust.



WORLD
RESOURCES
INSTITUTE



Keswick Mill floodplain re-connection



NORFOLK WATER
STRATEGY PROGRAMME

Following **feasibility** studies carried out in 2023, this was **implemented in September 2025**.

Part funded by Royal Bank of Canada (£30k) through NWF, alongside AW's Get River Positive and EA's WEIF.

- **Interventions:**

Ditch side berms (a flooded ditch margin created by excavating a step which is 2m wide and 0.3m deep, along one side of a ditch).

Four shallow scrapes.

Two ponds at dyke junctions.





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Thank you for listening

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 [Water Resources East](#)



Panel discussion and audience Q&A

All Speakers and John Curtin, President, CIWEM



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For more information visit www.adeptnet.org.uk