

Strategic Advisory Group Meeting

Water Resources East

11th July 2023

 www.wre.org.uk

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Agenda

Item	Lead
Welcome and housekeeping	Paul Leinster
Update on Consultation Response and finalising the Regional Plan	Ben Fitzsimons
WRE's Drought Group	Katharine Smart
Comfort break	
Managed Aquifer Recharge/Felixstowe Hydrocycle work	John Patrick
Update on Water for Food Group	Harriet Robson
Reflections from role	Kelly Hewson-Fisher
Refreshing WRE's Business Plan	Daniel Johns
Close	

House-keeping

- We will be recording this session
- The recording and slides will be posted on WRE's website
- Please mute microphones unless you are speaking

To ask a question, you can:

- Raise your hand when we come to the Q&A sections)
- Use the Q&A tab to type a question (along the top toolbar)



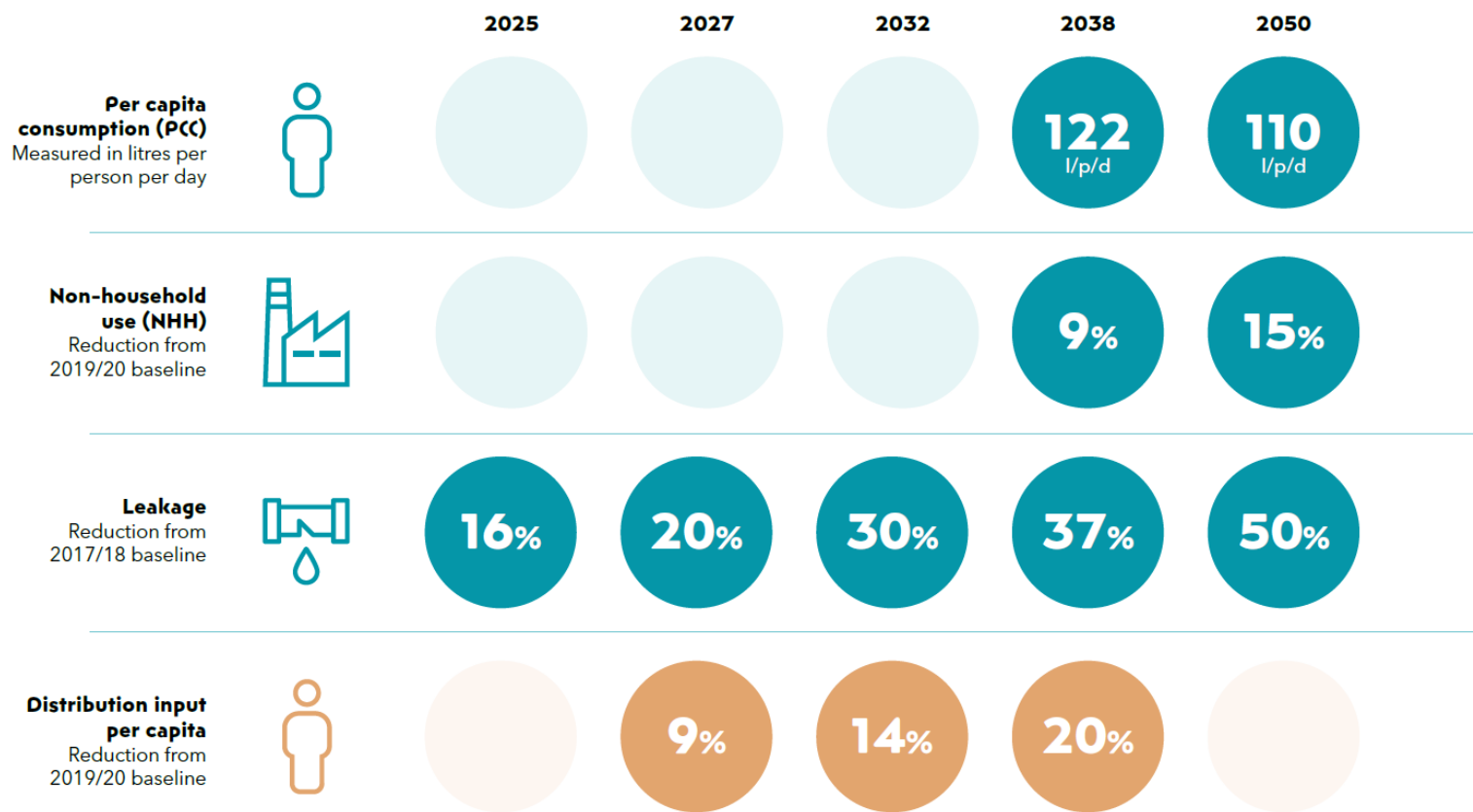
Update on Consultation Response

- Approved by WRE Board today (11 July 2023)
- Consultation response document to be published by 21 July



Demand management targets

- Our final plan will include more ambitious plans for leakage control and demand management.
- This will include lower consumption by non-household customers, although demand for new non-household connections may counteract these.



Summary of long-term and interim targets for water consumption in England



Regional reconciliation Round 3

- WRE-WReN:
 - WReN's water availability has changed since the draft plan stage due to significant uncertainties over its in-region environmental needs.
 - No imports from WReN are currently considered viable for the final plan at this stage, but both regions have agreed to undertake further work in the next planning round.
- WRE-WRW:
 - Smaller scale options were discussed but these are hypothetical at this stage. Unlikely that they would change our plan in the short to medium term.
 - Further work will be considered ahead of next round of planning.
- WRE-WRSE:
 - Our position regarding an additional export to WRSE via Affinity Water remains unchanged.
 - An agreement has been reached in principle for Affinity Water to reduce reliance on current import from AW thanks to earlier implementation of the GUC SRO scheme. In turn AW can provide water to CW prior to the Fens reservoir coming into supply.

An independently produced summary report will be published along with our consultation response document



Inter-regional reconciliation 3:
Summary report



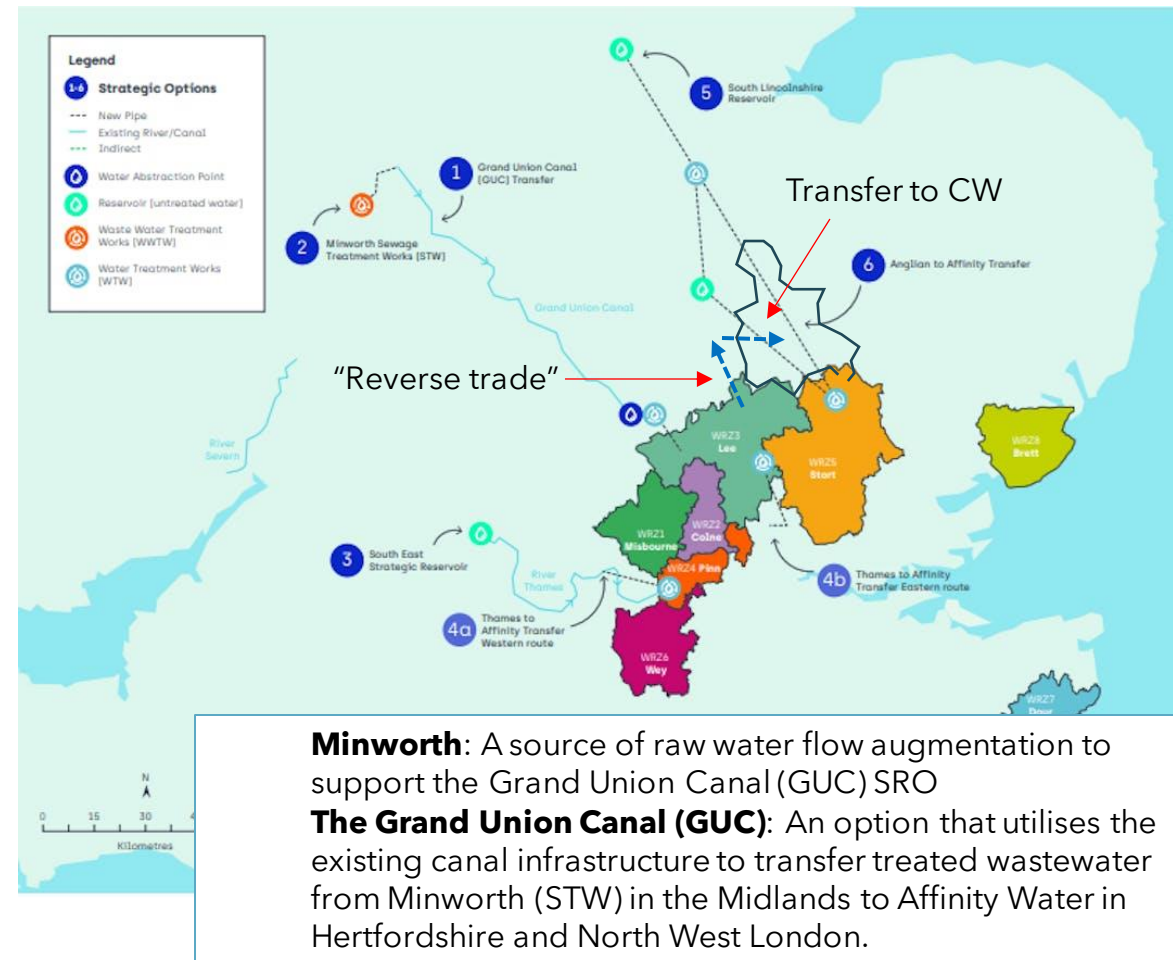
A new temporary strategic option

- The challenge
 - Cambridge Water is currently set to be reliant on a temporary transfer from Anglian Water (15 Ml/d) in the early 2030s prior to the Fens Reservoir coming online
 - The EA have concerns about the use of a drought permit to support this temporary transfer, and a lack of option diversity for Cambridge Water
- Possible solution
 - Use of the “reverse trade” option supported by early full delivery of the Grand Union Canal (GUC) transfer Strategic Resource Option (SRO)



GUC-supported transfer

- Current plan for the GUC resolving WRSE's needs:
 - Scheme deployable output 50MI/d required in 2031/32 supporting Affinity Water
 - Potential requirement for a further 50MI/d from 2040 as a second phase
- New proposal supporting WRE:
 - Bring forward second phase of GUC (100MI/d) - earliest start date 2032
 - Affinity temporarily reduce take from Anglian Water (Grafham Reservoir (27MI/d) - a "reverse trade", freeing up water to transfer to Cambridge Water
 - Scheme ends 2040 or when Fens Res online



Gate 2 decisions on SROs and AID scheme

Figure 5.4: Best value plan to 2030

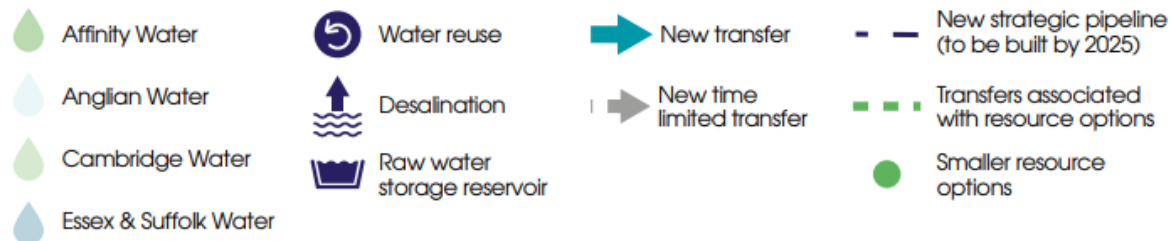
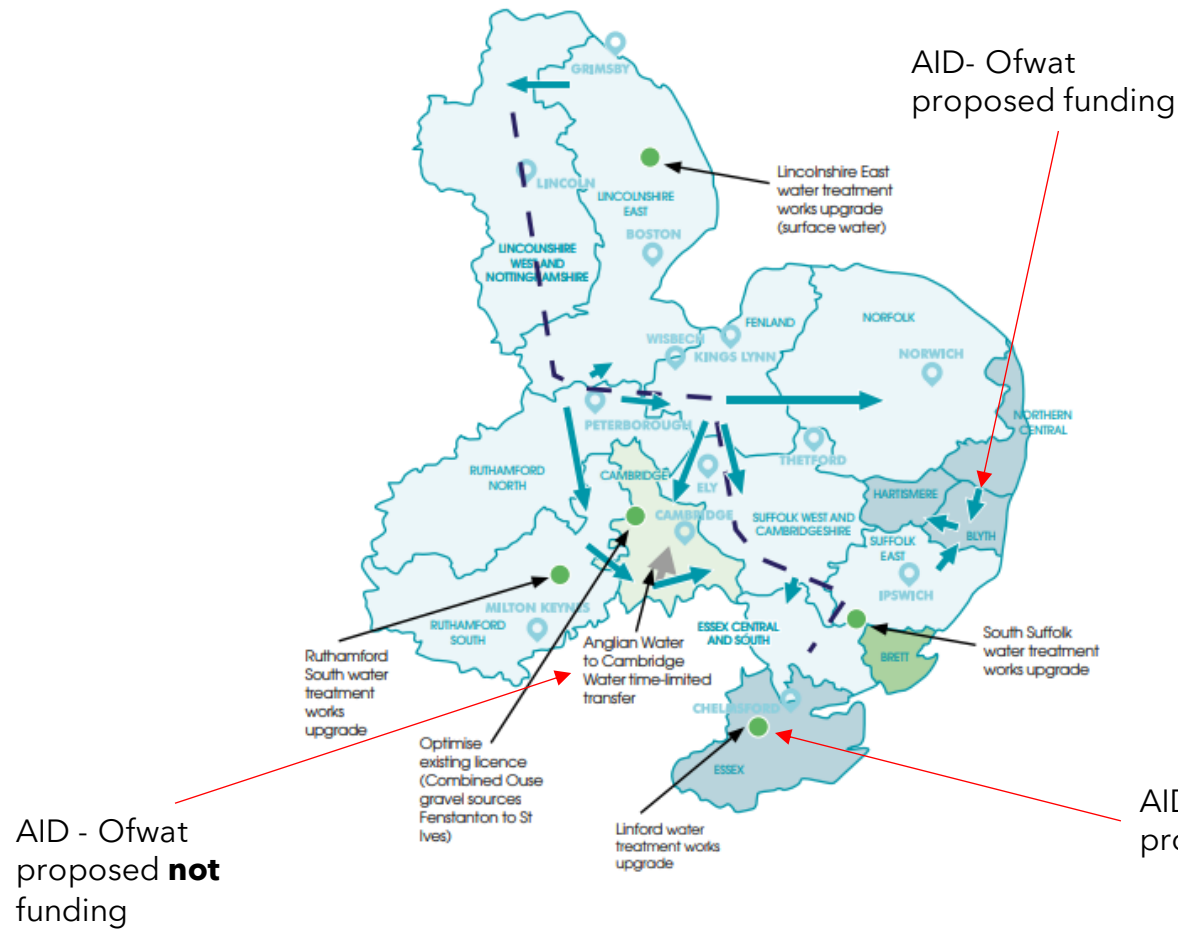


Figure 5.5: Best value plan to 2035

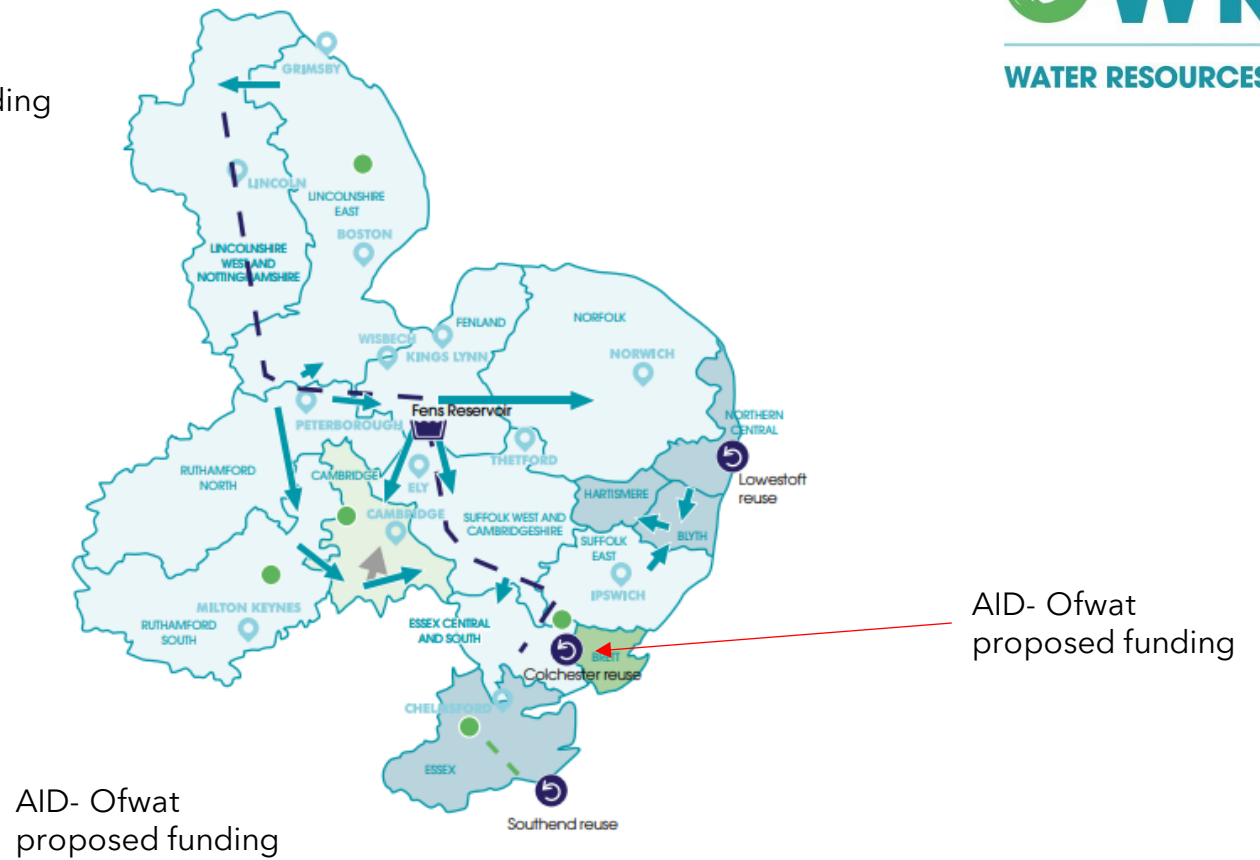


Figure 5.6: Best value plan to 2040

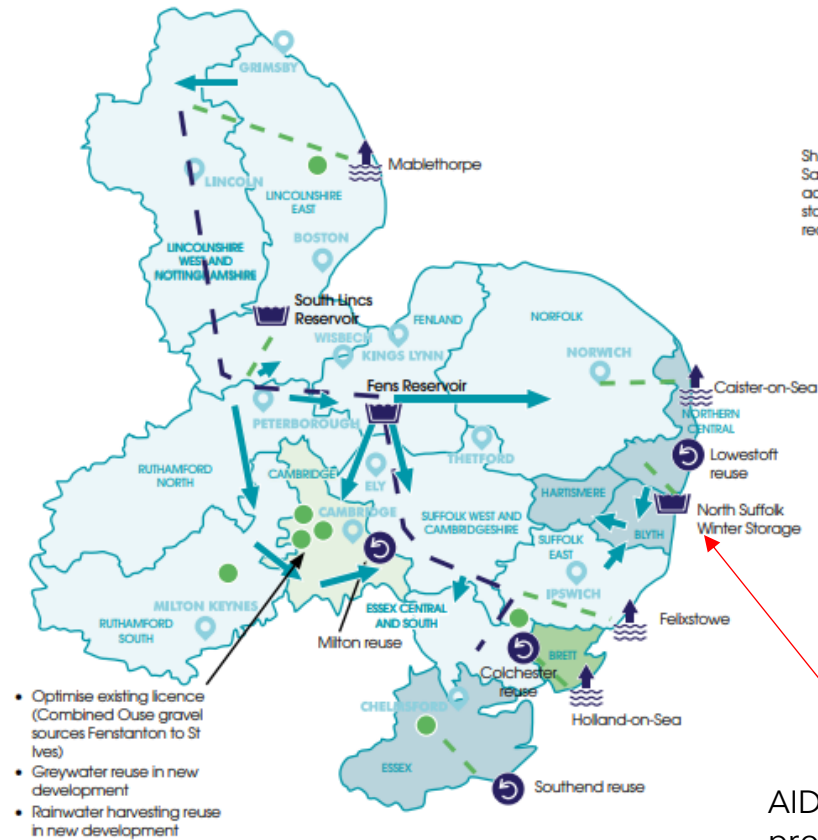
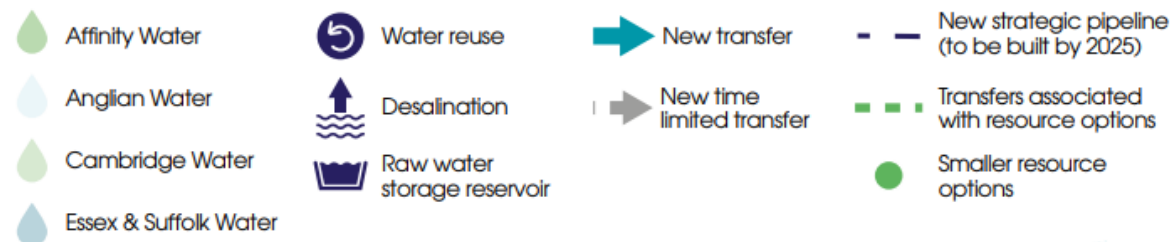


Figure 5.7: Best value plan to 2050





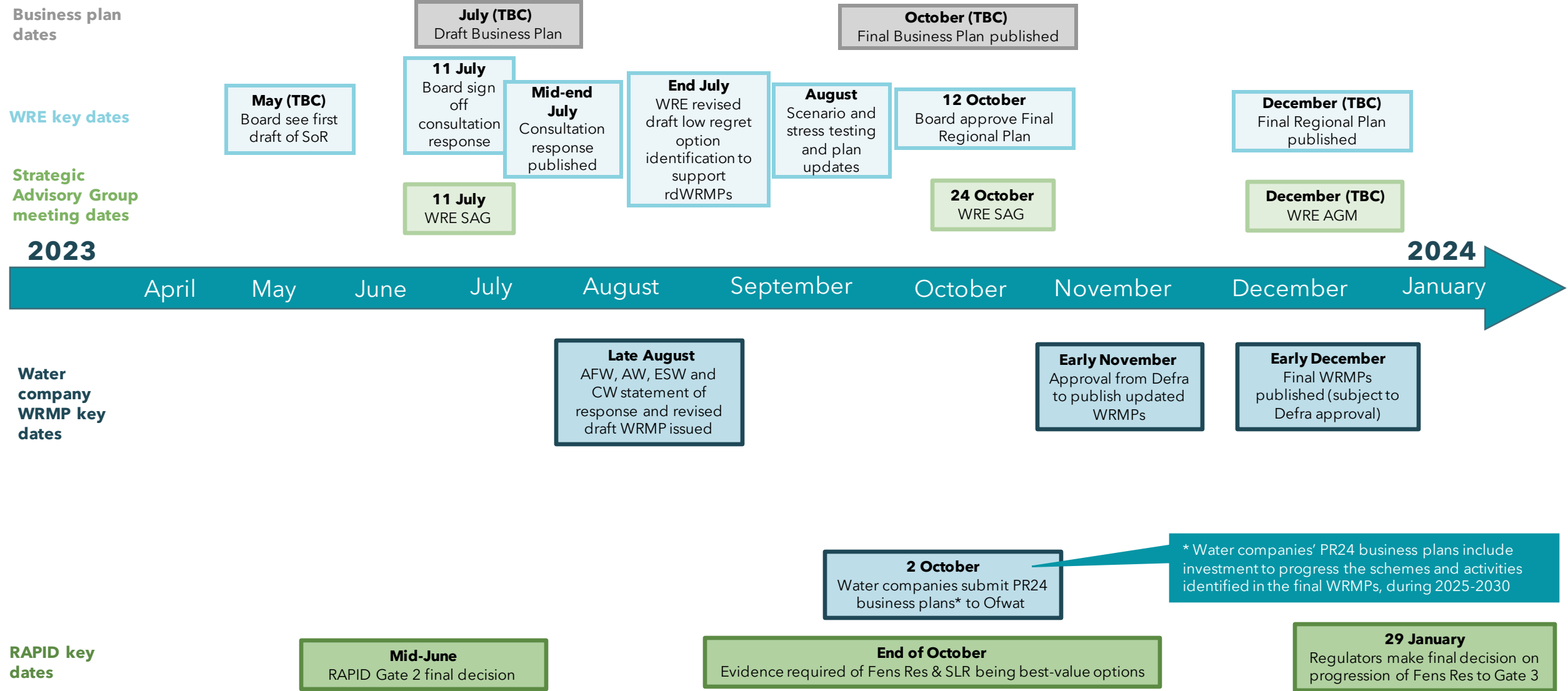
Focus ahead of final plan

Focus ahead of final plan is:

- to confirm a low-regret core option portfolio that is robust to short, medium and long-term challenges, and
- to demonstrate how the plan would adapt (and the key associated trigger points)

- Running our updated regional simulator to confirm low regret, robust strategic options
- Supporting water company revised draft WRMPs by running updated demand and supply scenarios through regional EBSD model – seeking alignment
- Updating environmental assessments where necessary, including in-combination
- Working with EA and consultants to understand broader costs and benefits of the ED scenarios
- Working with the EA and WRSE to properly represent the GUC-supported transfer
- Update and produce a more comprehensive suite of technical documentation
- Working through WRE Environment T&F group to develop approach to ED WINEP programme

Timeline through to the final Regional Plan



WRE Drought Group



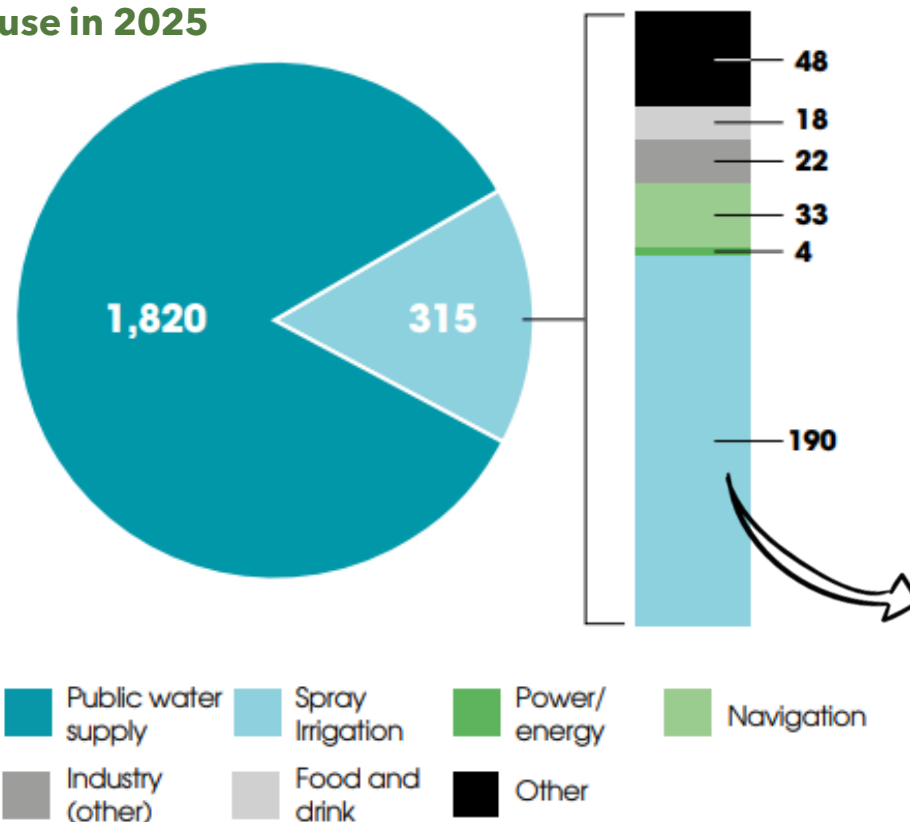
RECEIVES ONLY TWO
THIRDS OF AVERAGE
NATIONAL RAINFALL
(~600MM/YR)

Average daily water consumption in the WRE
region is projected to be:

2,135MI/d in 2025

2,440MI/d in 2050

Baseline projection for water
use in 2025



HIGH SUMMER DEMAND
PEAKS: TOURIST HOT
SPOTS, AGRICULTURE,
ENVIRONMENT



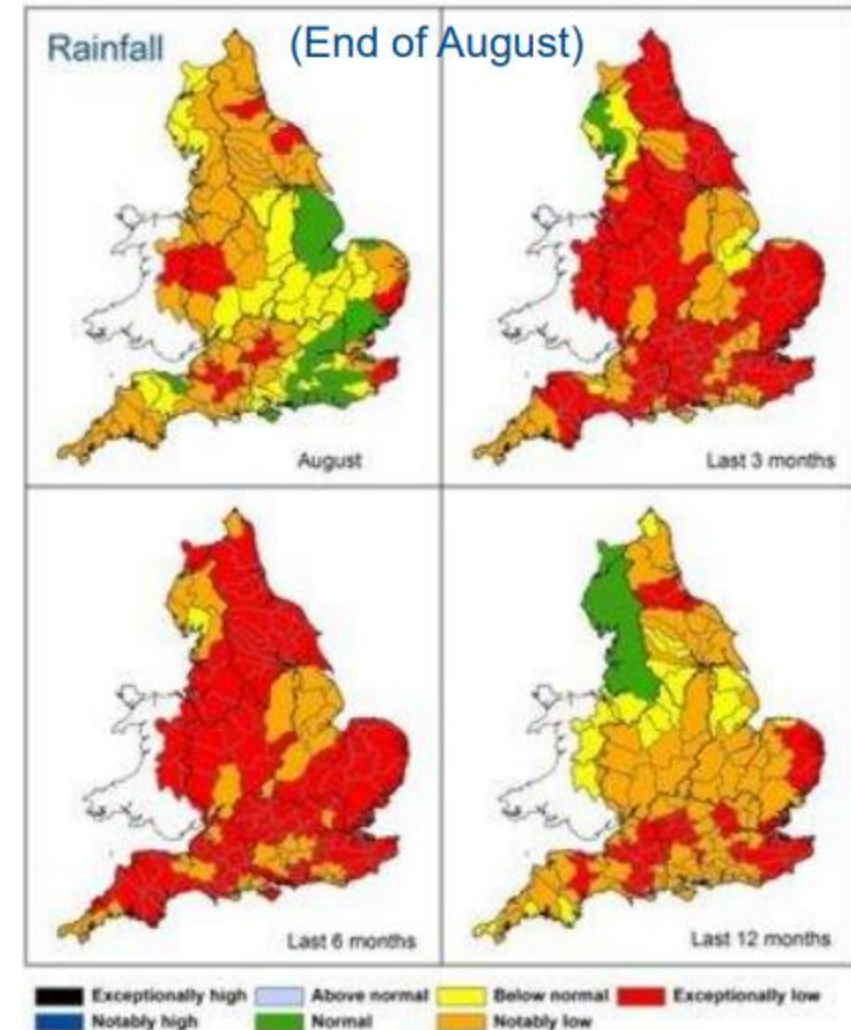
JULY ACCOUNTS FOR
MORE THAN ¼ OF AG
SECTORS' TOTAL
ANNUAL ABSTRACTION

KEY CROP-GROWING
REGION, WITH OVER 60%
OF ENGLAND'S IRRIGATION
LICENCES



Learning from drought

- Group established in response to 2022 agricultural and environmental drought, and continuing drought status in parts of the east
- EA 2022 Drought Lessons Learned:
 - Short term needs: more agility and actions to improve resilience and operational response this summer
 - Medium to long term needs: evolving best practice, collaborating more and improving planning
 - Maximise the opportunities regional groups could offer drought management and response



Terms of Reference

Geographic scope

- Catchments within the EA's East Anglia Area (principally Norfolk, Suffolk, Essex and Cambridgeshire) and Lincolnshire, Bedfordshire and Northamptonshire (depending on the situation).

Invited representatives

- Water companies, sector representatives (energy, agriculture, food and drink manufacturing, navigation, leisure industry eg. golf), ADA and relevant IDBs, Defra, EA, NE and CCW.
- Organised and chaired by WRE

Standing agenda items

- Update on current water situation and latest projections, potential for abstraction restrictions
- Update on sectoral water availability (PWS, agri, other abstractors)
- Drought comms
- Knowledge sharing of relevant projects

Aims & Objectives

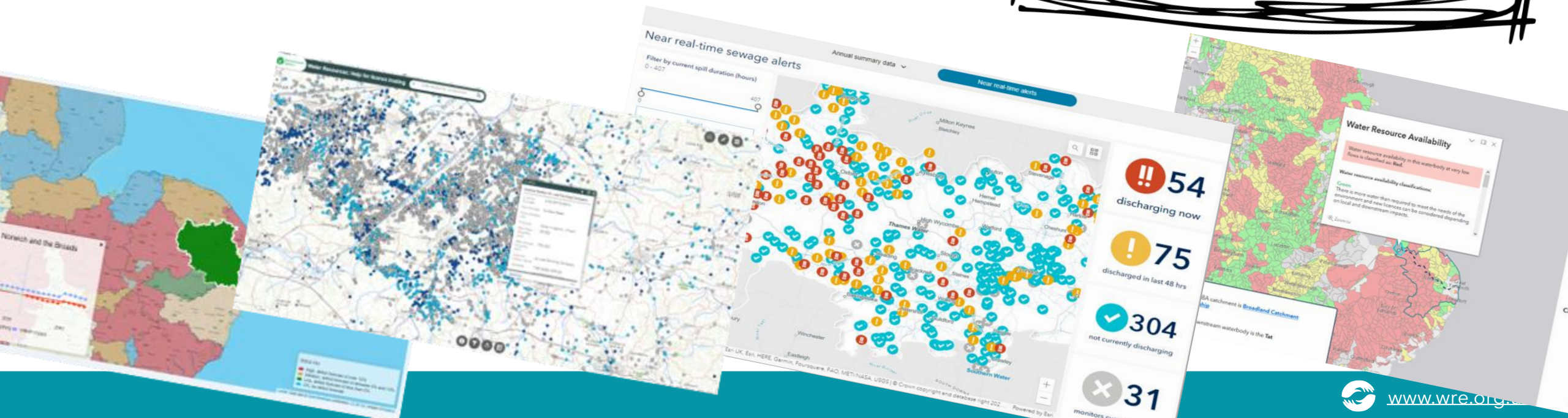
1. Increase shared understanding, preparedness and response across sectors for short term water scarcity challenges within at-risk catchments
2. Identify and facilitate water sharing options to alleviate short term water stress between abstractors
3. Enhance WRE's multi-sector working, developing shared options on a short-term scale

Current areas of focus

1. Exploration and identification of potential water sharing options
2. Drought risk mapping
3. Developing regional drought comms strategy

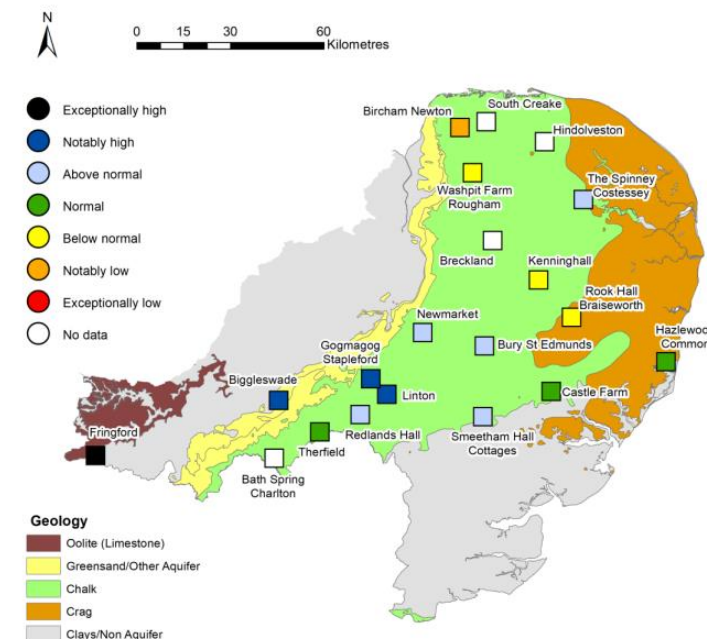
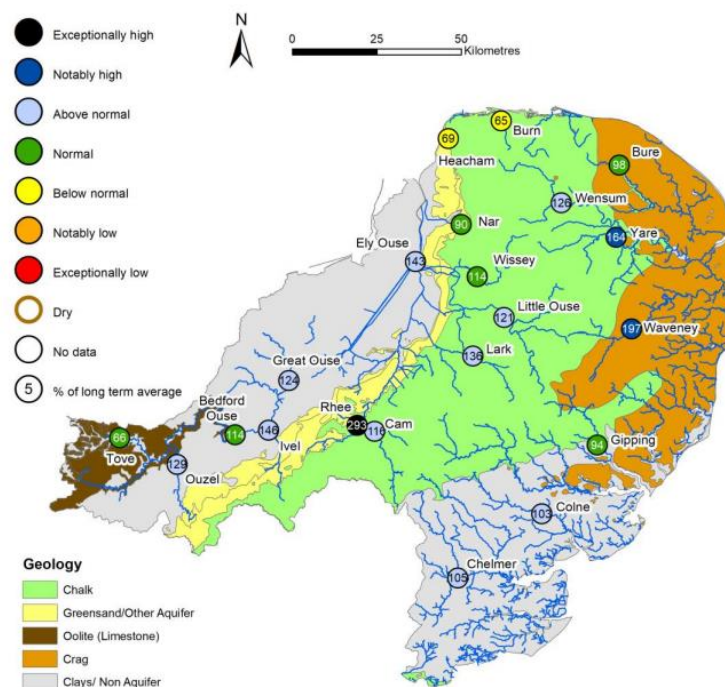
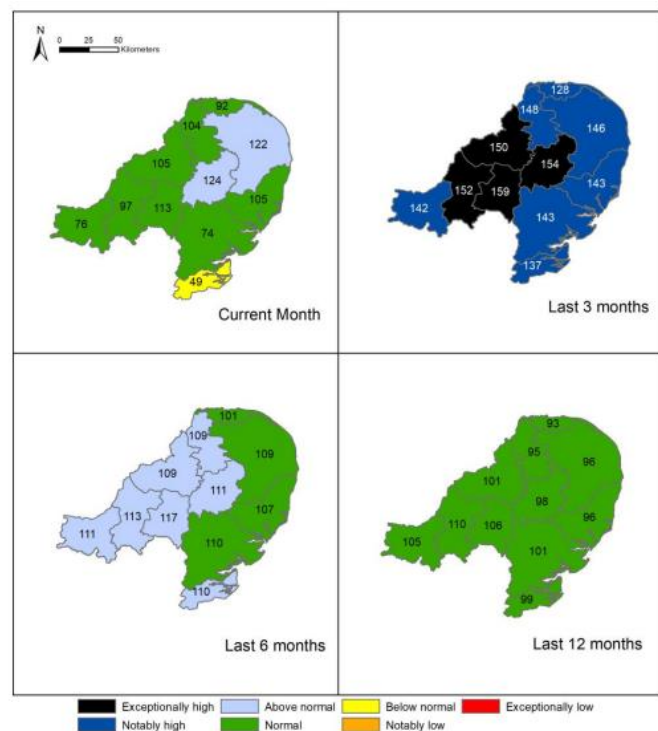
WRE Drought Group's comms role

- Provide a cross sector perspective on drought and dry weather issues, joining up stakeholder activities
- Share early visibility of drought situation
- Offer an 'independent' voice



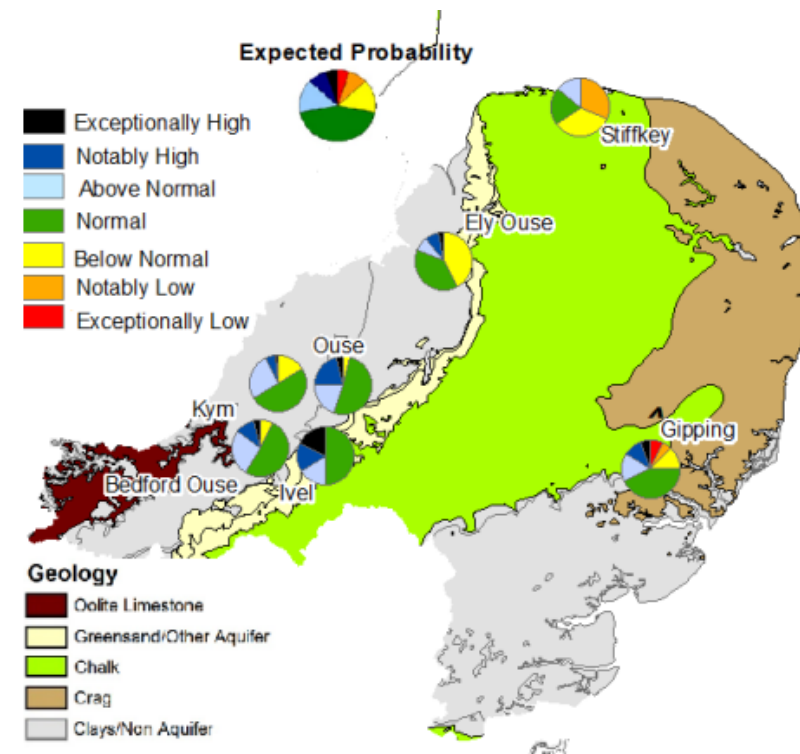
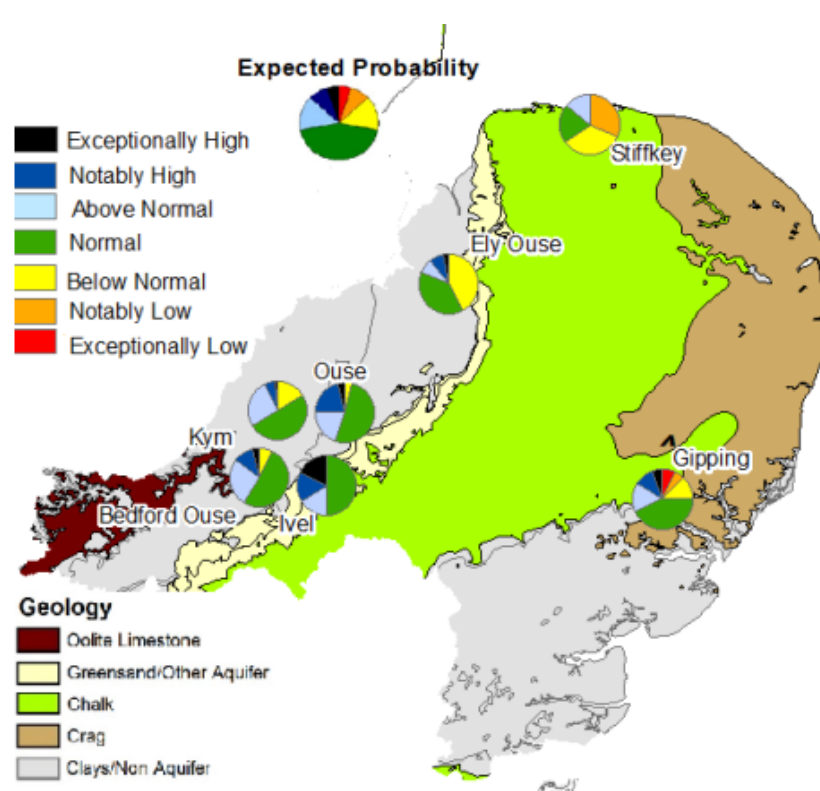
Drought situation – May 2023

- Unsettled, rainy start moving to more settled and drier weather. Rainfall totals within 25% of the LTA in most catchments
- Flows, soil moisture deficit, groundwater all started the month in healthy position, but moving into recession
- All reservoirs sitting at normal or above levels.
- Drought status:**
 - Broadland, North Norfolk and North-West Norfolk catchments remain in **drought status**.
 - Upper Bedford Ouse, Cam and Ely Ouse, East Suffolk and Essex catchments are in **recovery status**.



Forward look – Sept 2023

- Most sites showing an increased probability of normal or above flows, except Stiffkey
- Most groundwater levels projected to be normal or above, except North Norfolk sites



Comfort break

Managed Aquifer Recharge

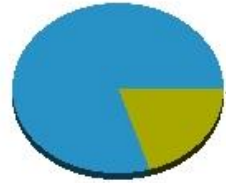
A new storage option for Agriculture ?



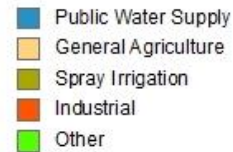
7. River Ore & confluence with the Alde

Groundwater abstraction is impacting on river flows and needs to be reduced

To restore surface water flows to levels that can support the environment the Fix-it tool* shows groundwater abstraction across all sectors combined would need to be reduced by:



Total licensed groundwater abstraction across all sectors:
4264 m3 per day



Current Status:

If all abstractors used their full licensed volumes flows could be as much as:

50% below

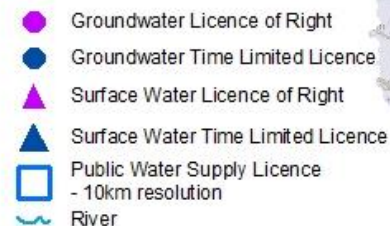
the flows needed to support the river,
 its habitats and species

Current Water Availability

Surface Water: New winter abstraction may be licensed at medium to high flows with an all year reliability of at least 30%

Groundwater: No new groundwater abstraction

Legend



River Ore

↓ 3977 m3 per day ↓

reducing current groundwater licensed volumes by 93%

Capping time limited licences to peak use levels will reduce abstraction by:

↓ 1527 m3 per day ↓

Alde-Ore (d/s confluence)

↓ 696 m3 day ↓

reducing current groundwater licensed volumes by 66%

Capping time limited licences to peak use levels will reduce abstraction by:

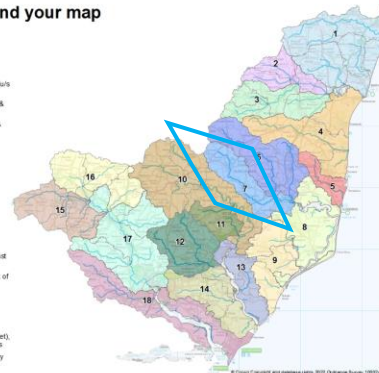
↓ 96 m3 per day ↓

Alde - Ore (d/s confluence)

Total groundwater licensed abstraction across all sectors:
1053 m3 per day

Map Coverage - Find your map

Map coverage
 Map 1 - Lotherland Hundred & Easton
 Map 2 - Chediston Watercourse & Blyth (to
 Halesworth to estuary)
 Map 3 - Blyth (southwest of Halesworth) &
 Wainthorpe Watercourse
 Map 4 - River Yeo, Minemere Old River &
 London Beck
 Map 5 - Hundred River
 Map 6 - Rivers Fromus & Aids
 Map 7 - River Ore & confluence with the
 Alde
 Map 8 - Alde-Ore estuary
 Map 9 - Black Creek, Tang & Bulley River
 Map 10 - River Deben & Earl Soham
 Watercourse
 Map 11 - Blyth & Putland Brooks
 Map 12 - Rivers Lark & Fym
 Map 13 - Shotisham Old River & northeast
 bank of the Deben estuary
 Map 14 - Mill River & the southwest bank of
 the Deben estuary
 Map 15 - Hottisham River, Great
 Farnborough & Wainthorpe Watercourses
 Map 16 - Gipping (to Stowmarket),
 Jordan & Hargrave Watercourse
 Map 17 - River Gipping (d/s of Stowmarket),
 Coddington & Somerton Watercourses
 Map 18 - Beeston Brook & Orwell estuary
 River



Managed Aquifer Recharge (MAR) Trial

The aim: to evaluate MAR as an alternative to reservoir storage.

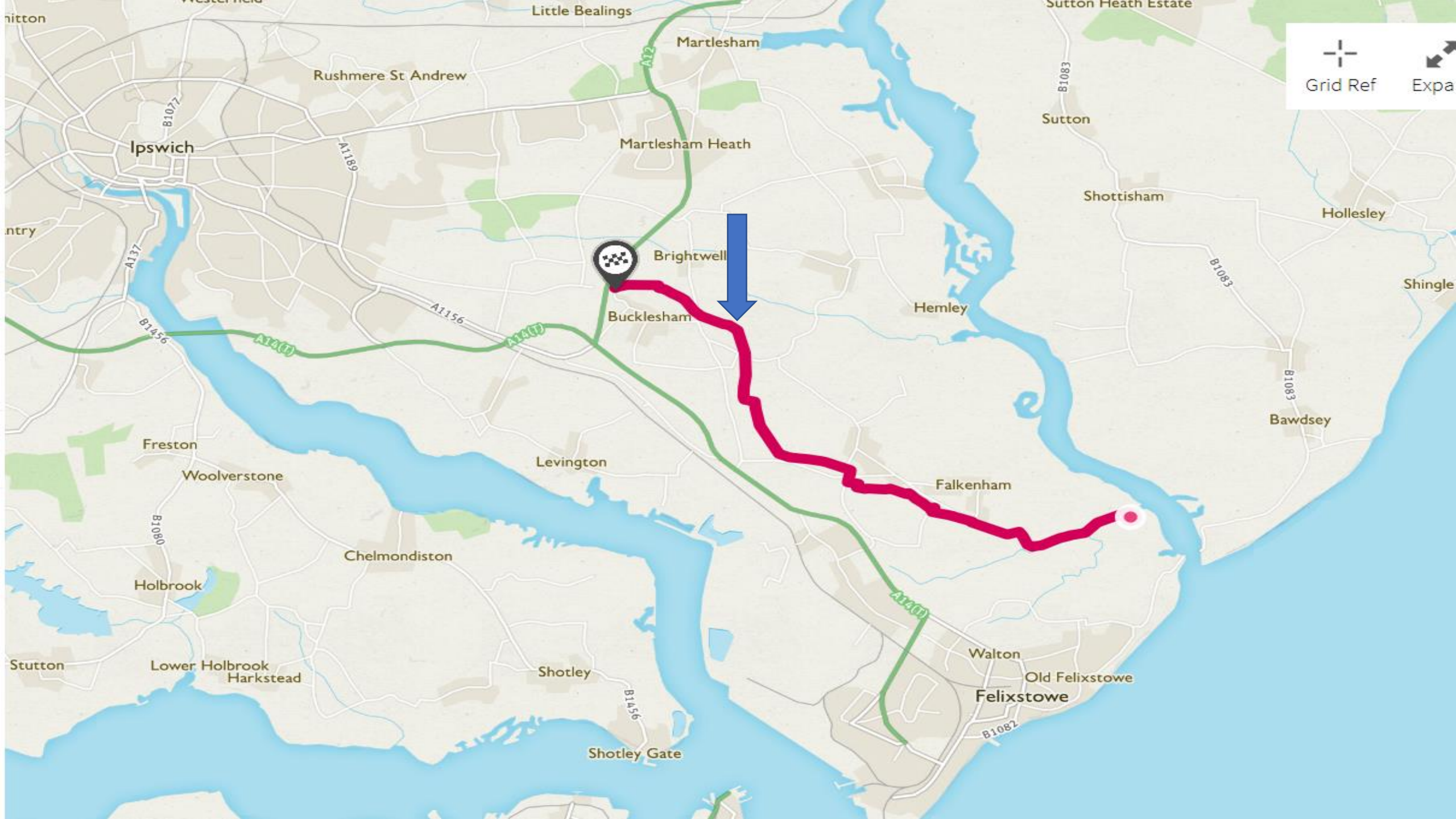
Purpose: To use natural underground aquifer storage, rather than build reservoirs.

The challenges:

- Source water quality suitable to meet the standards required by EA.
- Getting the water into the ground/aquifer.
- Proving that the water stays there.
- Getting the water out of the again !

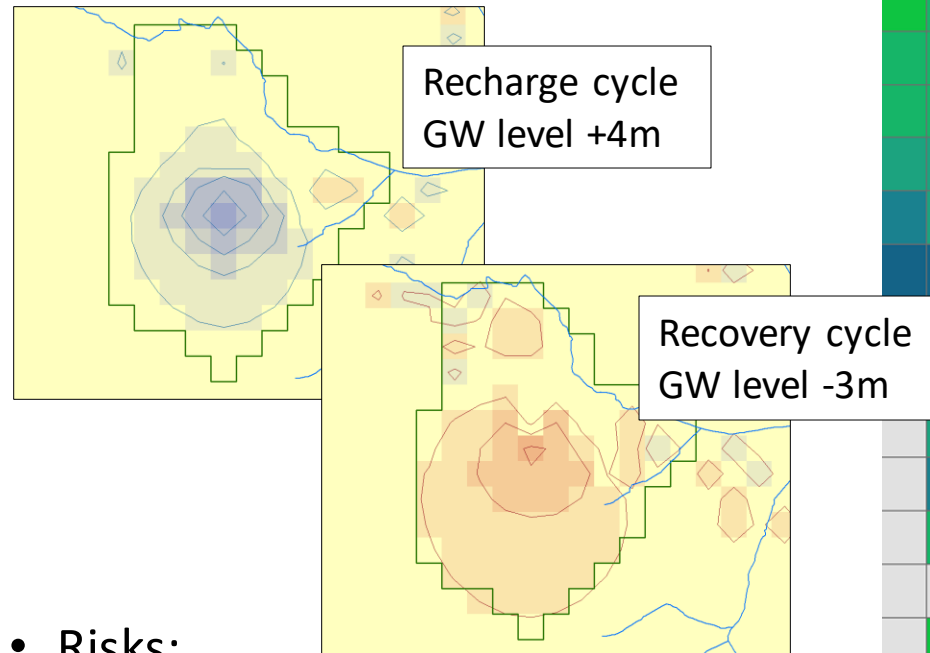
Outcome:

- To demonstrate a fully operational system that the EA can licence
- To provide a “road map” to help develop commercial MAR schemes in the future.

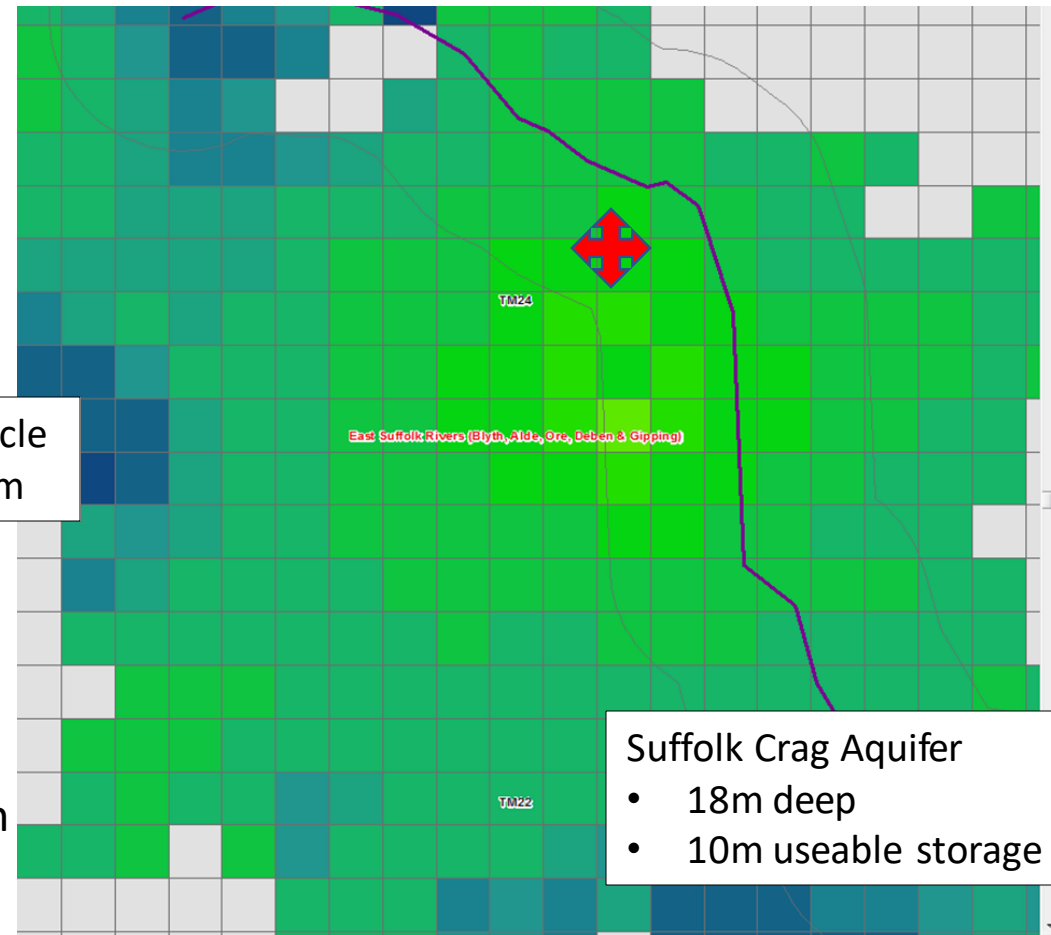


Quantity

- Environment Agency Modelling
100,000m³/yr. 1,000m³/d

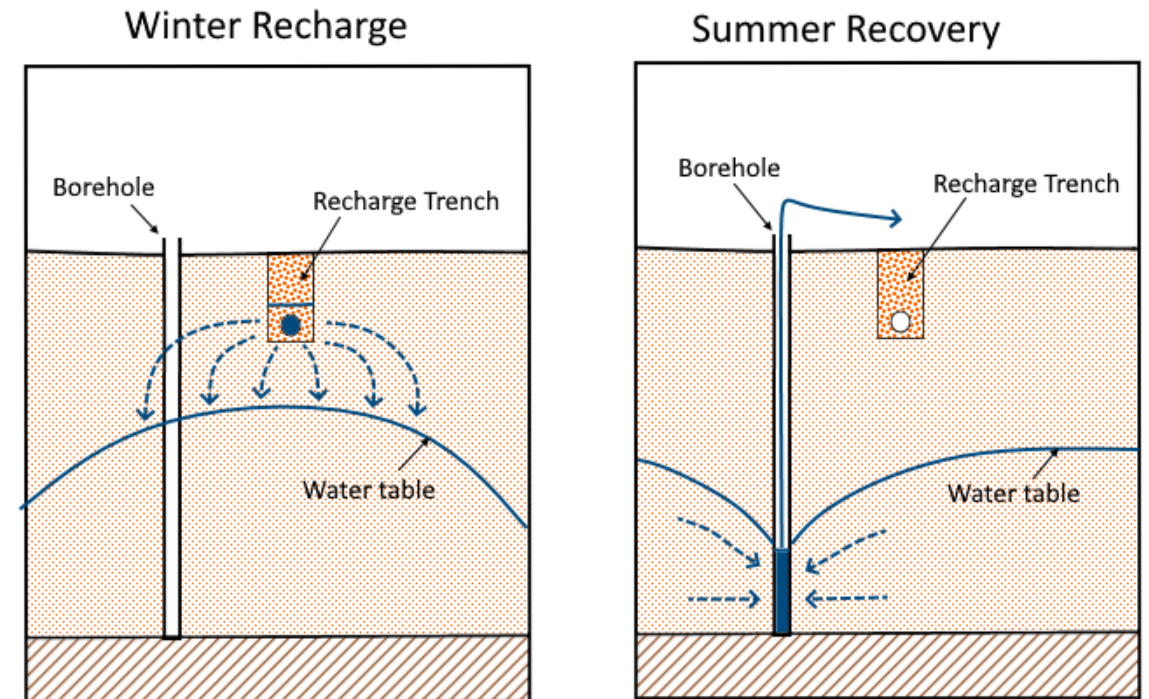


- Risks:
 - Performance of closed trench system
 - Clay lenses in aquifer

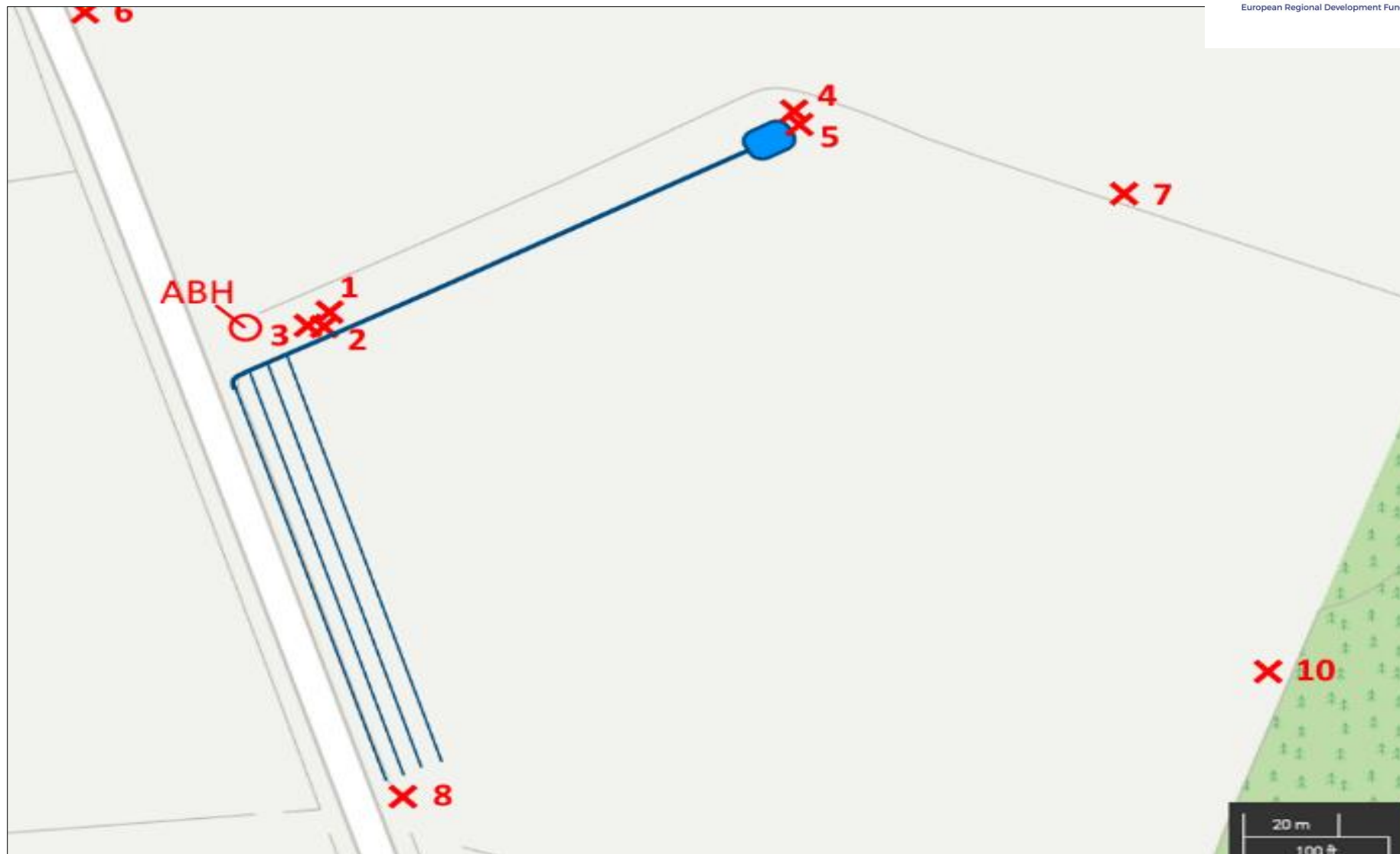


Managed Aquifer Recharge and Abstraction Trial

- Recharge 15,000m³ April
- 500m of reverse land drainage
- Re-Abstraction 15,000 May July
- 2 boreholes
- Two Key Questions for the EA
 - Quantity
 - Quality (aquifer protection)



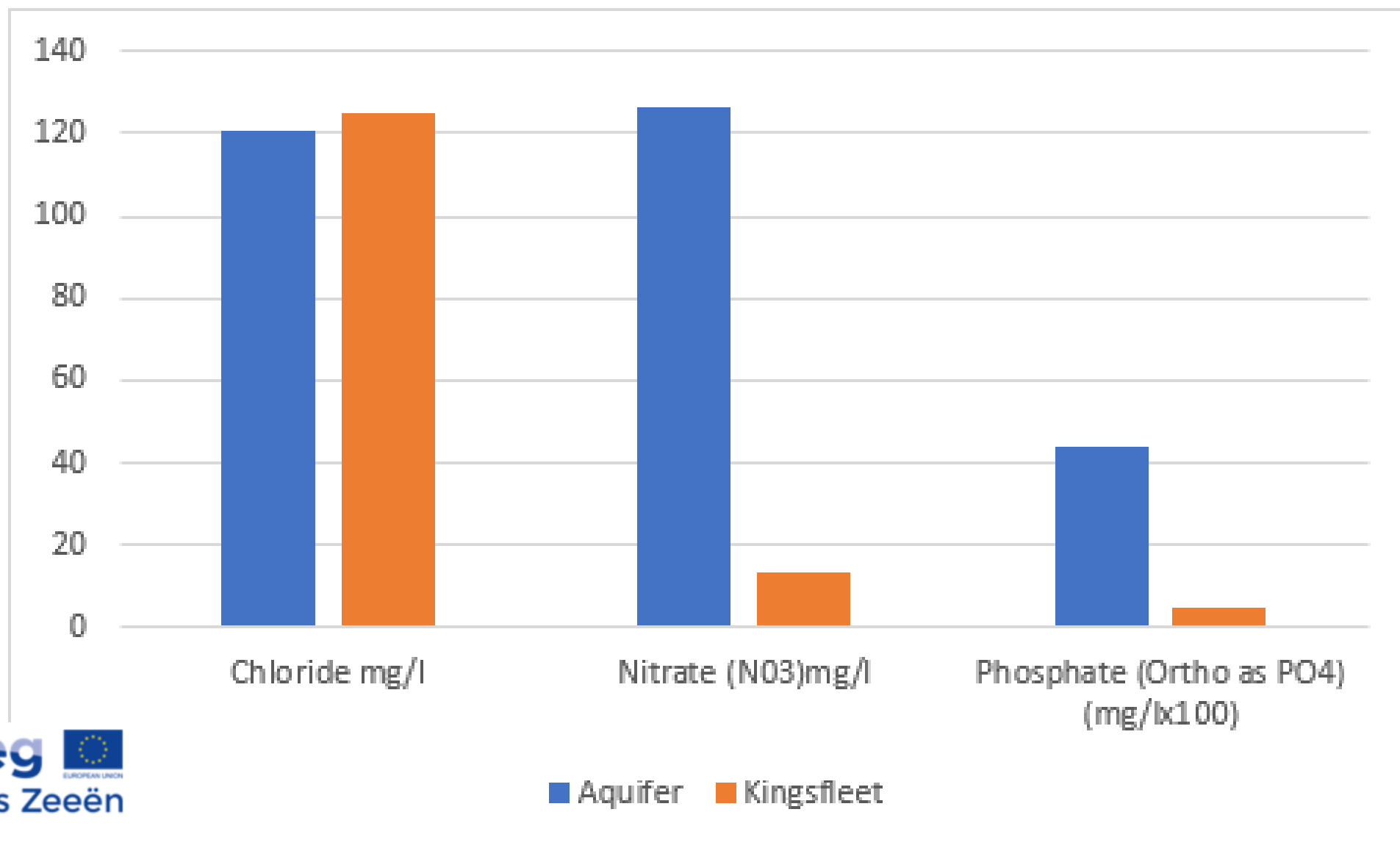
Recharge Field Layout











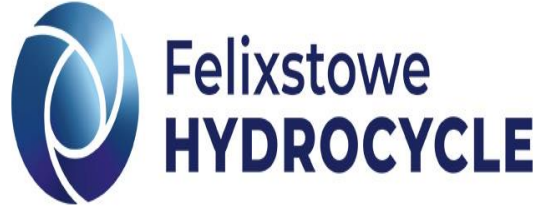
MAR Trial Summary

- Aquifer recharge good at 1,000m³ day.
- Abstraction rate disappointing at 100m³ day.
- Initial results suggest water is staying in aquifer, this needs to be confirmed with trial.
- Water Quality - 590 compounds tested OK
- Chloride?

Benefits of MAR

- Cost
- Land-take
- Environmental impacts





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Water for Food Group Update

11th July 2023



Policy Drivers

The Defra Plan for Water

- states water “is vital for food security”.
- commits to “at a minimum, maintain the current level of food we produce domestically”.
- aims “to increase the amount of water stored by the agriculture and horticulture sectors by 66% by 2050 to support food production and protect the water environment”.

Policy Ask:

- Agriculture Water Resources Management Plans
- Agriculture Drought Plan
- Water Abstractor Groups

Building resilience for the agriculture and horticulture sectors and, supporting the multi sector regional process.



Policy Drivers

Defra Farm to Fork Summit announcements:

- We will make abstraction licence decisions more flexible to support changing needs of farmers, the economy and the environment in the context of climate change.
- We will create national and regional Water Resource Management Plans for agriculture, that will help farmers plan their water resources and ensure better resilience to drought.
- We will support farmer-led groups to identify local water resource schemes, building on the success of projects like Felixstowe hydrocycle.

Building resilience for the agriculture and horticulture sectors and, supporting the multi sector regional process.



Water for Food
Group

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graph TD; A[Water for Food Group] --> B[Task & Finish Group #1<br/>WRMP / Drought Plan]; A --> C[Task & Finish Group #2<br/>Governance];
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Task & Finish Group #1
WRMP / Drought Plan

Task & Finish Group #2
Governance



Agri-Food WRMPs

The Task & Finish Group have looked at the framework required for producing WRMPs for the agri-food sector, which needs to be:

- Simple for an abstractor to follow, but with enough technical detail to produce the required supply/demand forecasts and investment options.
- Broad enough to support the needs to all types of agri-food abstractors, but consistent enough with the water company WRMP frameworks to integrate into regional & national planning.

This framework will be:

- Piloted this summer through East Anglian Water Abstractor Groups
- Refined and launched this autumn for any agri-food abstractor to use

Water For Food Group

An introduction to
Water Resource Management
and Drought Planning
for
Farming & Food Abstractors

Work in Progress

WFFG WRMP Manual DRAFT V2 20230314.docx

March 2023



**Water
for Food**

Agri-Food WRMPs

The framework covers:

- Why you should plan your water resources management
 - Consider what you want from your plan e.g., to secure more water, improve reliability
- How to forecast your Water Available for Use
 - Understand your baseline position
 - Understand your licence constraints
 - Forecast any changes e.g., sustainable abstraction reductions, deteriorating asset condition, climate change
 - Drought resilience
- How to forecast your Water Demand
 - Understand your baseline positions
 - Forecast any changes e.g., climate change, operational changes



Agri-Food WRMPs

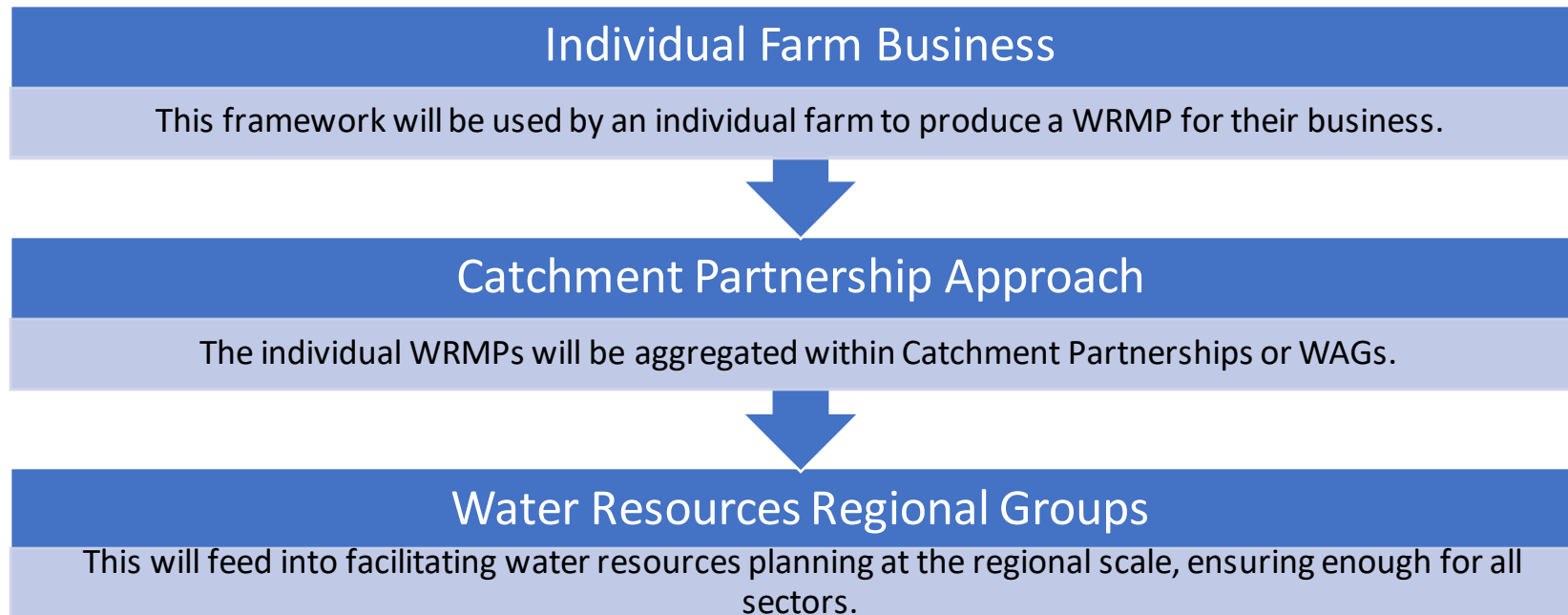
- Suggested options for meeting your future water resources needs
 - Supply options e.g., reservoirs, transfers, licence trading/sharing, mains water
 - Demand options e.g., water efficiency, changes in cropping, use of meters & scheduling
 - Integrated land & water management
- Selecting the best option
 - How to select either the lowest cost option, or the option that offers the best overall value.

A water resources planning table template will be provided alongside the framework, to facilitate pulling all the information together.



Agri-Food WRMPs

There needs to be a tiered approach to water resources planning for the agri-food sector, and this WRMP framework will be fed upwards into catchment-level, regional, and national planning:



Reflections from role – Kelly Hewson-Fisher

Refreshing WRE's Business Plan

What's new since our last Business Plan?

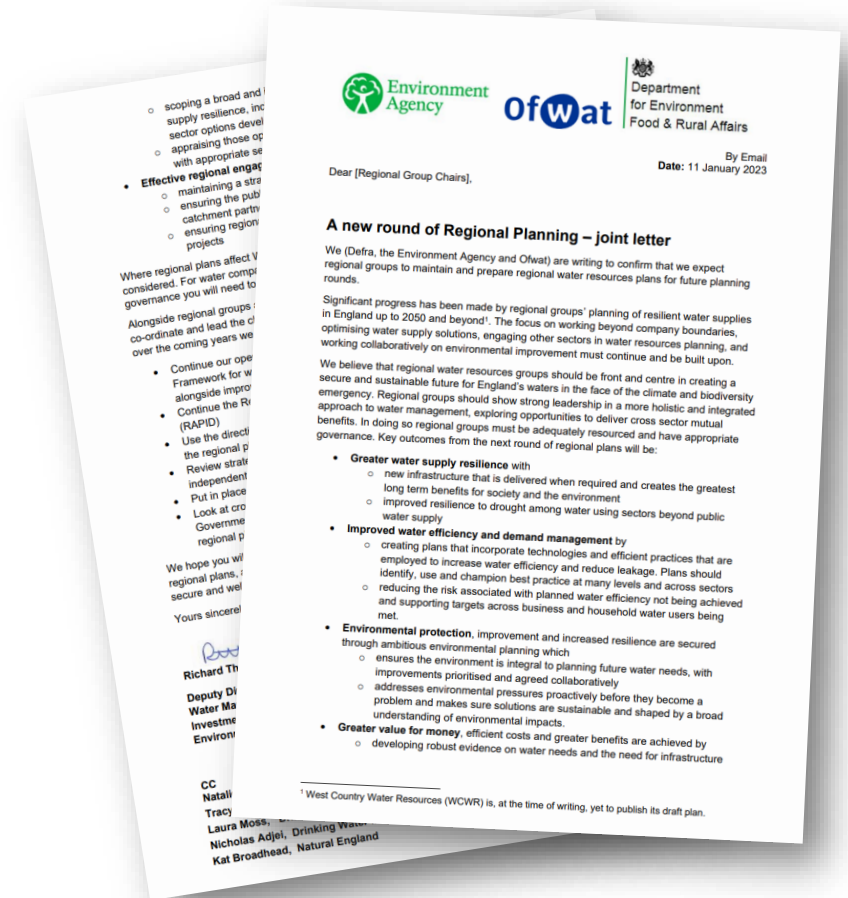
- New legislation
- New government policy and plans
- Delivery of first round of regional plans
- Progress on Fens and Lincolnshire Reservoirs
- Testing and learning from WRE and others' flagship projects
- A degraded environment that is beginning to constrain growth
- Climate change impacts becoming ever clearer

Context: a second round of regional planning

- Joint letter received in January 2023 from Defra, EA and Ofwat confirming there will be a second round of regional planning through to 2029.
- Read the full letter [here](#).

*“We believe that **regional water resources groups should be front and centre in creating a secure and sustainable future for England’s waters** in the face of the climate and biodiversity emergency.*

*“Regional groups **should show strong leadership in a more holistic and integrated approach to water management, exploring opportunities to deliver cross sector mutual benefits.**”*



Context: Defra's new *Plan for Water*



- Defra propose to:
 - Better integrate water and flood planning by reforming River Basin Management Plans and flood risk management planning - ensuring integration with water company plans
 - Align water and flood planning with Local Nature Recovery Strategies and the future Land Use Framework to make sure we are taking actions - especially nature-based solutions - where they will have the biggest impact
 - Review the implementation of the Water Environment Regulations 2017 to improve on-the-ground water outcomes whilst retaining our goal to restore 75% of water bodies to good ecological status - Defra will consult on any proposed changes
- Transforming management of the whole water system:
 - Delivering catchment action plans backed up with new funding to improve all water bodies in England.
 - More funding for catchment groups and catchment-scale partnerships that coordinate action and investment where the river needs it most.
 - Better integrating water and flood planning and targeting actions where they will deliver the greatest impact for water quality, flood management, and nature recovery.

Vision

- WRE's vision is for Eastern England to have sufficient water resources to support a flourishing economy, a thriving environment and the needs of its population. WRE also wants the region to be seen as an international exemplar for collaborative integrated water resource management.

- Our primary purpose is to target key identified gaps, catalyse additional action and achieve **coordination efficiencies** – achieving better outcomes than possible otherwise.
 - Rather than duplicating the work of others, we will focus on **building skills and capacity** within the organisations or groups already in place (e.g. abstractor groups, catchment partnerships) and establishing others where there are gaps (e.g. Norfolk Water Hub & Fund for leveraging private investment).
 - Responsibilities for decision making and accountability for delivery **will continue to reside with the appropriate body**, e.g. regulators, water companies, abstraction licence holders.
 - **Ours is a 'plan of plans'** that presents the integrated picture whilst improving the underlying plans by providing catchment and regional scale datasets, modelling tools, expert input and coordination between stakeholders
- We will look to **'lead from the middle'** – experimenting and demonstrating by doing, not waiting to be asked to take on a role by government and regulators.
 - We cannot compel others to take action. But we can take steps ourselves and catalyse action amongst others by working in close partnership with our members and other stakeholders.

Strategic priorities for 2024 - 2028

1. Develop a more comprehensive, fully multi-sector, regional water resources plan for Eastern England that takes account of spatial and temporal variability.
2. Develop WRE's catchment-scale activity to support long-term planning and environmental improvement across sectors
3. Increase our membership, engagement and influence within the region
4. Be thought leaders and pioneers of collaborative approaches to integrated water management, helping to shape national government policy and local delivery
5. Continue to strengthen WRE's governance and funding

Initial proposals in lieu of next National Framework

1. We will move straight in to the **next round of regional planning**:
 1. Specially, we will help shape and coordinate the **detailed WINEP investigations** so that they underpin Environmental Destination requirements and options for all sectors in our next regional plan.
 2. We will work with all sectors to help identify **new resource options** – large and small – within the region
2. We will work with abstractor groups, the NFU, Defra, the Rivers Trust, IDBs, the Environment Agency and other regional groups to **develop catchment-scale tools that support multi-sector planning**.
3. We will develop stronger relationships with **catchment partnerships and the Catchment-Based Approach**, including the CaBA National Water Resources Group.
4. We will work with lead authorities as they prepare their **Local Nature Recovery Strategies**, so that these contribute toward national targets for the water environment.
5. In taking forward the Norfolk Water Strategy Programme and other projects, we will continue to assess the potential for **land use change and nature-based approaches** to deliver integrated water management benefits, funded by a combination of public, private and philanthropic sources.
6. We will develop **WRE's Drought Group** to seek multi-sector opportunities to share water and use it more efficiently
7. We will **monitor and evaluate implementation of our first Regional Plan** using both qualitative and quantitative datasets and publish progress reports for members, government and regulators
8. We will seek ways to strengthen our **governance and independence**, including by securing new sources of core funding, alongside the review now underway for all regional groups

Consultation questions on draft Business Plan

All comments will be welcome, for example to provide feedback on:

1. Is the **period** covered by this business plan appropriate, ie. covering the whole of the next round of regional planning through to the end of 2028?
2. Do you agree that **WRE's vision** remains fit for purpose?
3. Do you support the **five strategic priorities**? Are there any gaps or admissions? Are they suitably ambitious whilst remaining achievable?
4. Do you support the **initial areas to pursue** in support of Defra's *Plan for Water* proposals, ahead of the next National Framework being finalised?
5. Do you agree with the proposal to **move to appointing board members based on their skills and experience**, rather than a financial contribution, as and when an alternative source of core income is secured?

Deadline for feedback is **Friday 8th September** please

Thank you

 www.wre.org.uk

 [@WaterREast](https://twitter.com/WaterREast)

 [Water Resources East](https://www.linkedin.com/company/water-resources-east)