



## **BUSINESS PLAN 2019/2020**

Henry Cator, Chairman  
Dr Robin Price, Interim Managing Director

# What's been achieved?

## A MULTI-SECTOR, REGIONAL SCALE PLANNING PROBLEM

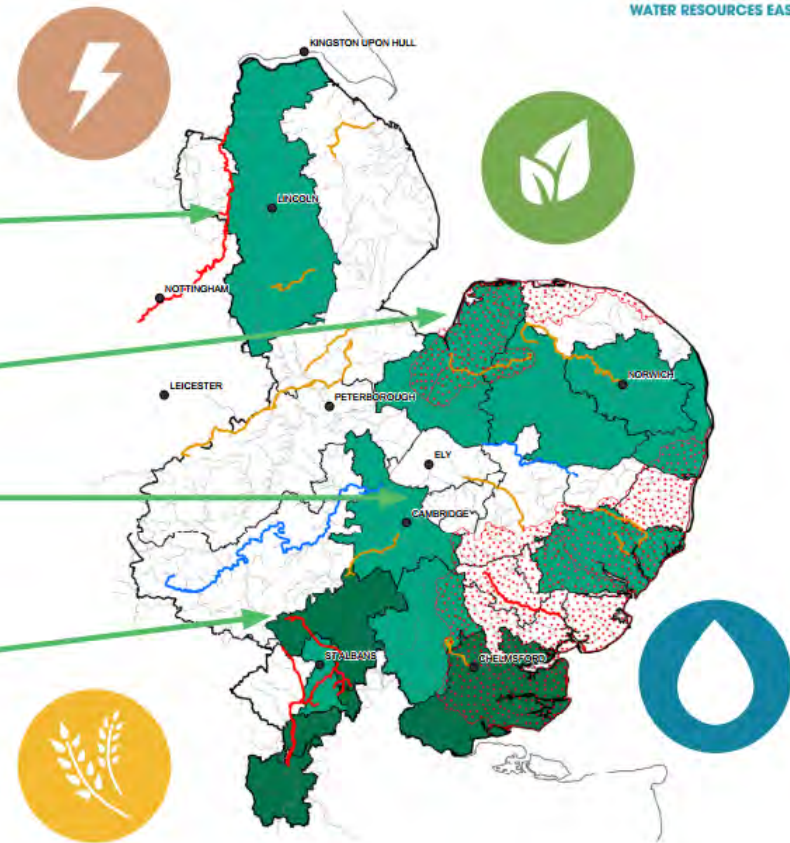
By the 2060's, the gap between the supply and demand for water will be at least 750MI/d. In the more severe scenarios that have been modelled, it is bigger. These estimates assume that levels of household demand are sustainable.

In scenarios with uncontrolled household demand there is widespread, catastrophic, failure of the WRE water resource and water supply systems.

**Power and public water supply vulnerabilities combine on the Trent**

**Public water supply, agriculture and environmental vulnerabilities combine in North Norfolk, Suffolk and Essex**

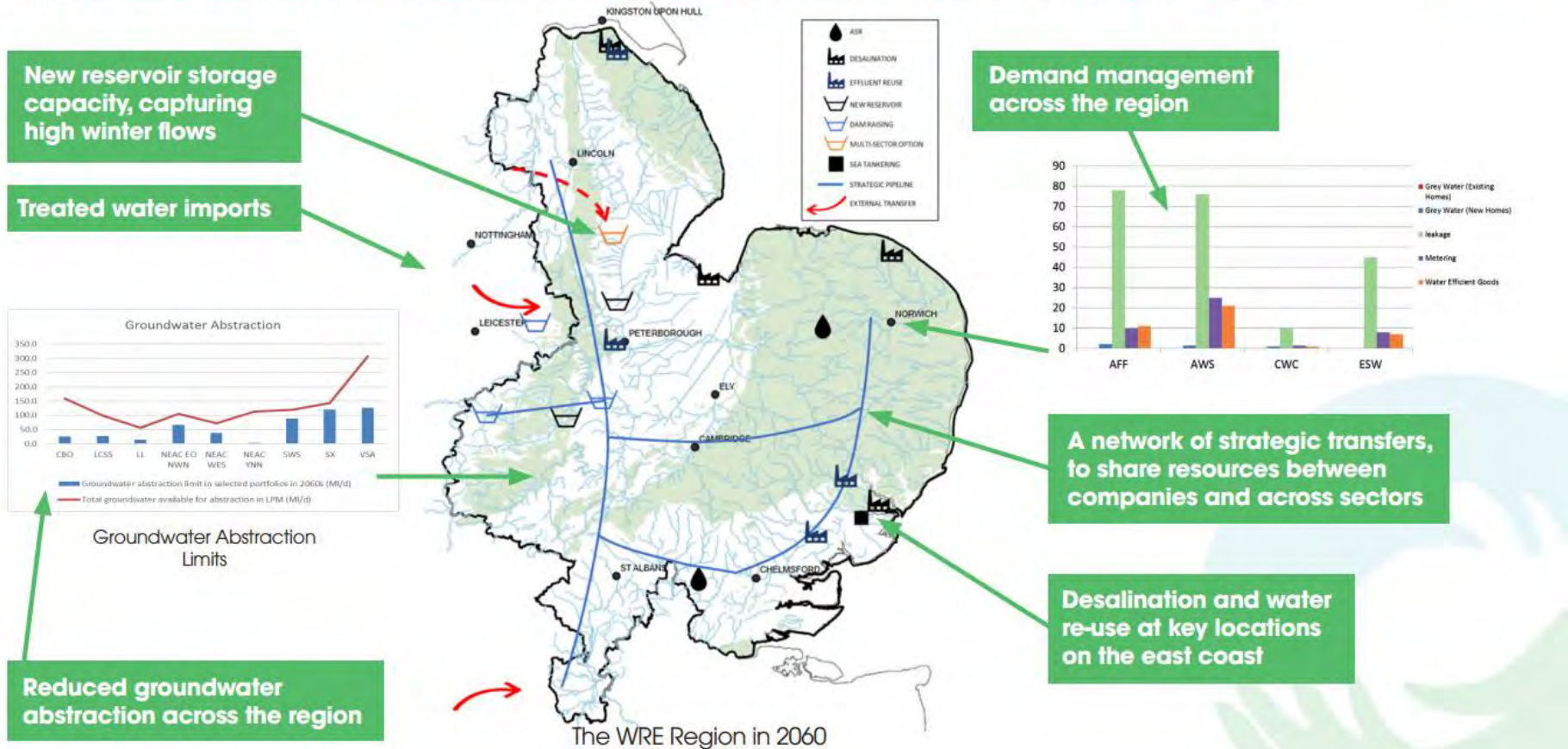
**Public water supply and environmental vulnerabilities combine in Cambridgeshire, the Vale of St Albans and the southern Chilterns**





# What's been achieved?

## OUR EMERGING STRATEGY: SECURING WATER SUPPLIES



# The pace of regulatory change is increasing.....



Department  
for Environment  
Food & Rural Affairs

Peter Simpson  
CEO  
Anglian Water Limited  
Sent by email only; psimpson@anglianwater.co.uk

T: 03450 335577  
helpdesk@defra.gov.uk  
www.gov.uk

Date: 09 August 2018

Dear Peter,

## Building resilient water supplies – a joint letter

We - Defra, the Environment Agency, the Drinking Water Inspectorate and Ofwat - are writing to you to set out what we are doing, and what you need to do, to put us on track to build resilience in water resources management in England.

Customers' water needs must be met in a safe, resilient and efficient way, while protecting the environment and respecting good supply practice and the needs of other water users. This is becoming ever more challenging as water resources face increasing pressures from climate change, population growth, societal expectations and increasing environmental aspirations.

To meet this challenge we need ambitious and co-ordinated leadership across industry, government and regulatory bodies. While we think water companies need to own this challenge, we will work jointly to support and facilitate your efforts. We think there is a need for:

1. Increased ambition in the forthcoming company business plans for the 2020 to 2025 period.
2. Regional water resource planning that transcends company boundaries and identifies optimum solutions for the region, and the nation as a whole.
3. Greater use of markets and competition to ensure solutions are delivered efficiently.
4. Clear, joined up direction from government and regulators.
5. A responsive regulatory approach to deal with issues as they arise.

Increased ambition in forthcoming business plans: Following discussions on draft water resource management plans, water companies should begin work now on projects

## Four government priorities for water



Government priorities for the water sector

## Drinking Water Inspectorate Guidance to water companies



## Guidance Note: Long term planning for the quality of drinking water supplies

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Policy paper

## Water abstraction plan 2017

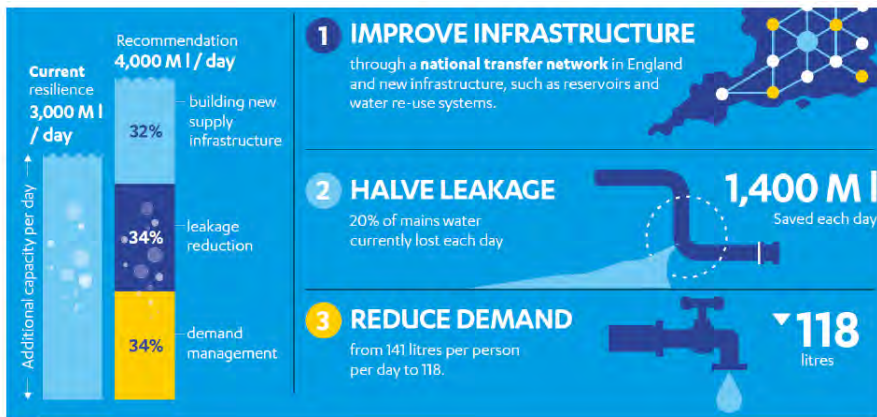
Setting out how the government will reform the way we manage water abstraction, to protect the environment and improve access to water.

Published 15 December 2017

Last updated 19 December 2017 — see all updates  
From: Department for Environment, Food & Rural Affairs

## Documents

[Water abstraction plan](#)  
HTML



## ➤ New National Framework linked to National Policy Statement





# A National Framework for Water Resources



Department  
for Environment  
Food & Rural Affairs



Environment  
Agency

clean and plentiful water & long-term resilience

## Securing Long Term Resilience

### National Framework and Regional Groups

#### National Framework

- Understand and articulate **national and regional water needs**
- Outline the **contributions expected from each regional group** consistently across government and regulators
- Address **barriers** to collaboration

#### Regional Groups

- Set out the **regional contribution** to the strategic need identified by the national framework
- **Optimise solutions** based on a more detailed understanding of pressures and networks
- **Working with other sectors** and other regional groups
- Feed directly into company water resource management plans



# What does WRE need to achieve?



By August 2022, WRE has to:

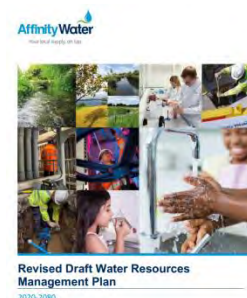
- Develop a **draft single, multi-sector Regional Plan for Eastern England**, working with water companies, Local Authorities and Local Enterprise Partnerships, the energy and agricultural sectors, landowners and key environmental NGOs. The plan will seek to:
  - Future proof long term plans for water resources for all sectors, whilst looking at wider benefits eg flood management
  - Meet the needs of customers (of all sectors) and local communities
  - Facilitate sustainable economic growth in the region
  - **Enhance** the environment
  - Meet the expectations set out in recent regulatory documents
  - Feed directly into other sector plans, eg Water Resource Management Plans



# What will the plan look like?



'Traditional' water resources management planning components – but of course taking into account the needs of other sectors and the requirement to enhance the environment



Outputs from numerous catchment pilot schemes, delivered as part of the technical programme eg Inter-reg, ELM and via a new regional academic partnership



OXFORD-CAMBRIDGE ARC



Working to strengthen local communities

The 'water' components of other organisations' strategies

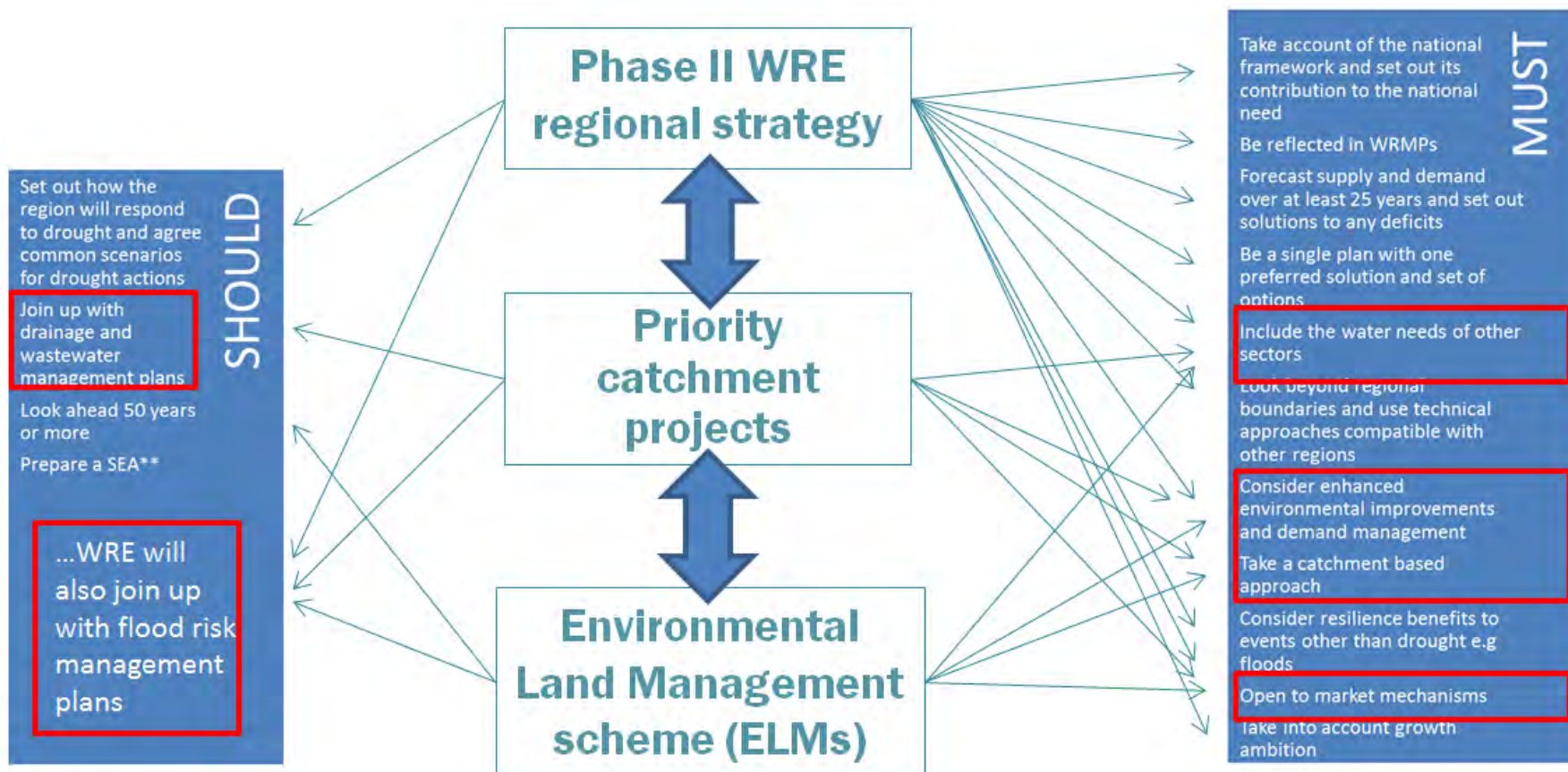




# The Technical Programme

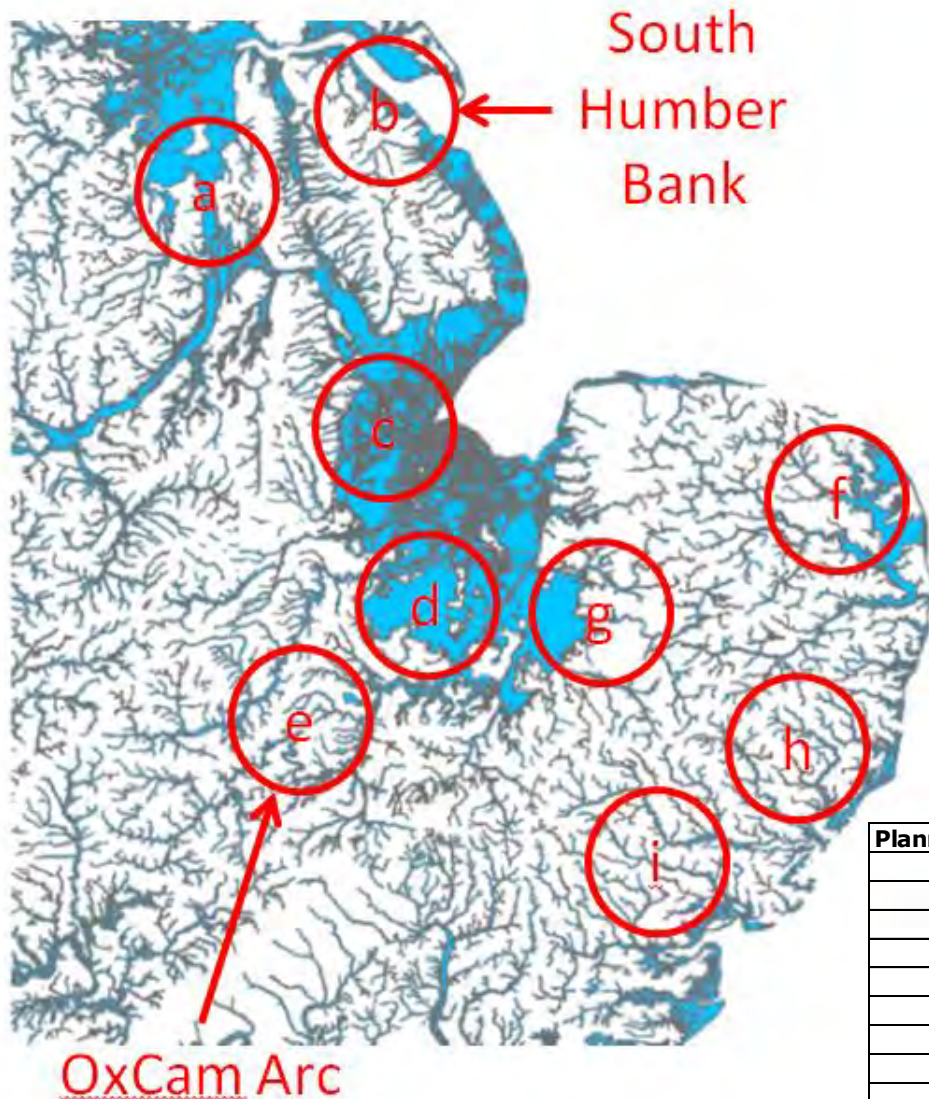


## Meeting the needs of the National Framework





# Phase II Sub-regional planning



## Approach

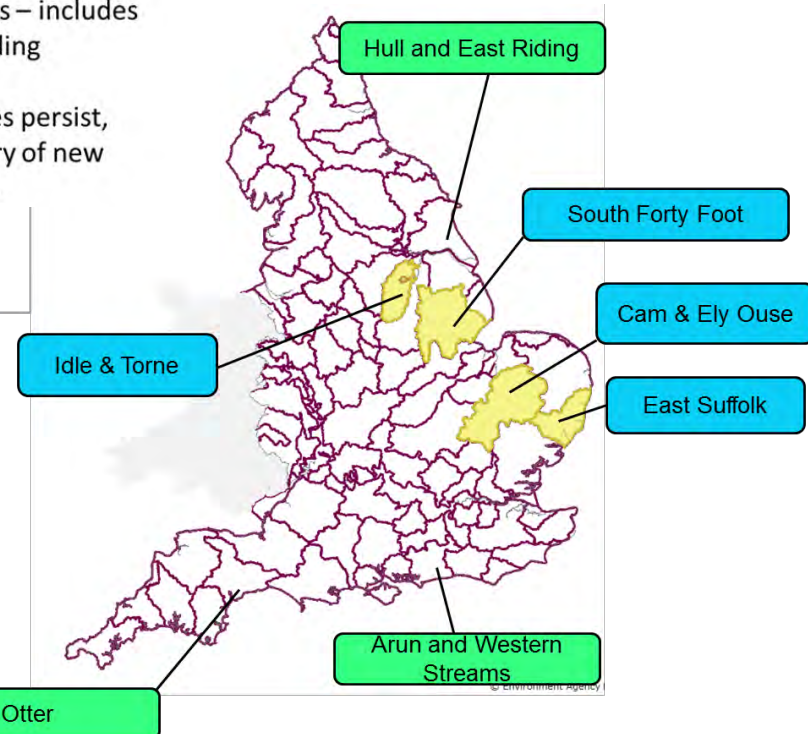
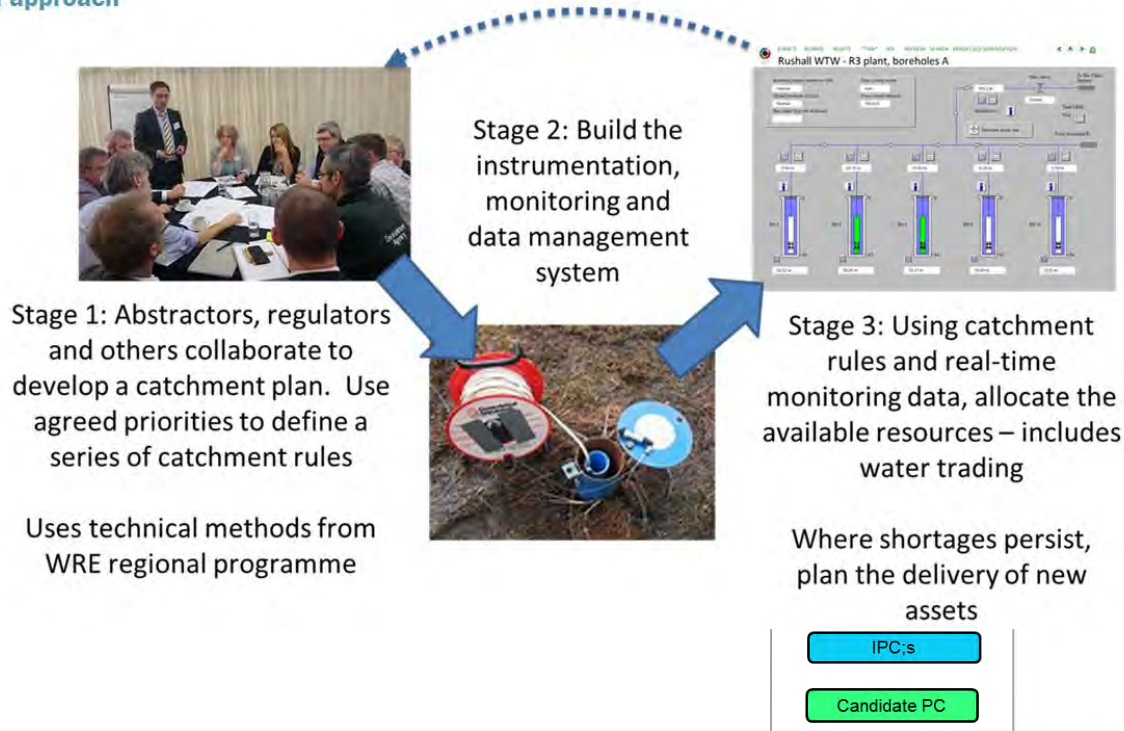
- Phase II regional plan will be developed using same multi-sector trade-off approach as Phase I
- The non-PWS elements are being strengthened
  - We have set up a network of sub-regional planning groups to assess non-PWS issues in detail and develop a bigger & better portfolio of multi-sector options
  - We are planning to map conservation priorities across the region and use these to coordinate input from eNGOs

## Key Planning Group Issues & Priorities

Planning Group	PWS	Energy	Agrifood	Manufacturing	Environment
a					
b					
c					
d					
e					
f					
g					
h					
i					

# Priority Catchment Projects

## General approach



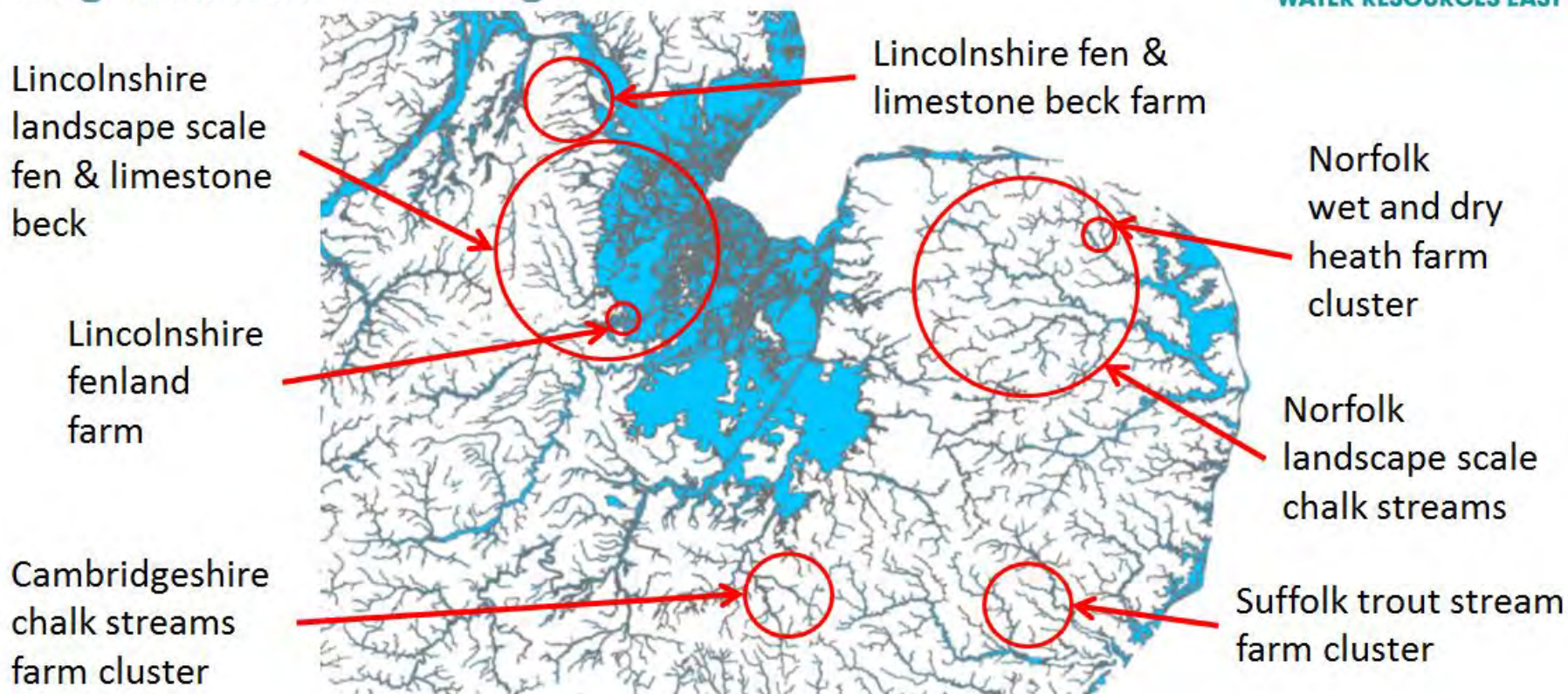
- *Develop and test* innovative solutions to achieve greater access to water and address unsustainable abstraction
- Promote a *catchment based approach* for water resources by providing examples of catchment based management of abstraction, as models for other catchments to follow
- Develop *new abstraction licensing strategies* for priority catchments by 2020 / 2021



# Environmental Land Management (ELM) projects

## Project distribution and type

Integrated land and water management



# Project objectives & approach

## Integrated land and water management



### Test different approaches for delivering water related public goods

- Clean & plentiful water
- Thriving plants & wildlife
- Reduction in harm from natural hazards such as flooding & drought
- Enhanced beauty, heritage and engagement with the natural environment

### Test the market for water related private goods

- Pollution control
- Flood control
- Water storage & trading
- Drought risk mitigation

### General approach

- Farmer led partnerships with environmental NGOs, water companies and others



# Criteria for the next phase of WRE to be effective



1. **Independent** of water companies, other abstractors and users of water and regulators
2. **Technically credible** with the capacity for effective decision making
3. **Influential**, involved in the co-creation of national policy working in partnership with Government, regulators and other stakeholders
4. **Capable** of delivering outputs in time for inclusion in WRMP24 and other sector plans



**CERTIFICATE OF INCORPORATION  
OF A  
PRIVATE LIMITED COMPANY**

Company Number **12057670**

The Registrar of Companies for England and Wales, hereby certifies that

**WATER RESOURCES EAST (WRE) LIMITED**

is this day incorporated under the Companies Act 2006 as a private company, that the company is limited by guarantee, and the situation of its registered office is in England and Wales.

Given at Companies House, Cardiff, on **18th June 2019**.

The above information was communicated by electronic means and authenticated by the  
Registrar of Companies under section 1115 of the Companies Act 2006



THE OFFICIAL SEAL OF THE  
REGISTRAR OF COMPANIES



Companies House





# Water Resources East (WRE) Ltd

A Company Limited by Guarantee

## Organisational Design

WRE Chair

Managing Director

WRE Technical  
Director

Enabling functions:  
Administration  
Financial management

Communications and  
Engagement

Programme  
Management

Project Managers &  
Consultants  
(funded through specific  
projects and grants)

# Water Resources East (WRE) Ltd

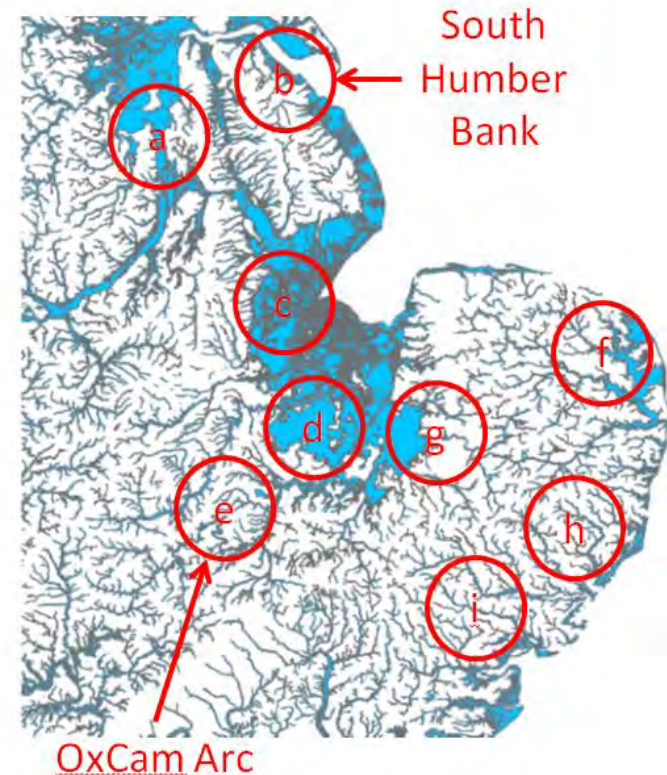
## Proposed Governance Structure



Technical Delivery Group

Specific Task & Finish Groups

Communications & Engagement Group



There will be strong links and mutual attendance at other regional Committees, Boards and groups, and full participation in all national working groups



## Current Board Members



**RWE**

### Board of Directors:

Water Companies, agriculture, energy, the environment and regional development/Local Authorities



Representing Drainage Water Level & Flood Risk Management Authorities



Catchment Based Approach

**Lincolnshire**  
COUNTY COUNCIL

**Suffolk Growth Programme Board**



**Norfolk** County Council



**Suffolk**  
County Council





# Villagers and farms hit in UK's first water war

The Environment Agency has told a Norfolk Broads community to stop using local water sources in a bid to protect wildlife

Jonathan Leake Environment Editor

Britain's first water war has broken out. Homes in the Norfolk Broads are set to be blocked from using local water sources after conservationists accused them of drying out nearby marshes.

The area, which now has less rainfall per person than most Middle East deserts, gets its drinking water from aquifers that also supply the Norfolk fens nature reserves.

But an investigation by the Environment Agency (EA) has confirmed that the fens are drying out and it has told the village of Ludham and the surrounding area to find another supply. Dozens of farmers, who use the water to irrigate crops, have also been told they will lose licences to abstract from the aquifer.

The move is thought to be the first in which a whole community is cut off from its water supply, but more could follow.

The agency is reviewing all 20,000

licences issued to water firms, farmers, power companies and industry across England, warning that it must put environmental needs before human ones.

It says it wants to prepare England for climate change warming of 3C-5C by 2100 plus a 17% surge in population from 66m now to 77m by 2050.

"The changes being considered are driven by the need to protect the River Ant Broads and Marshes nature reserve and the [Norfolk] Broads Special Area of Conservation," the Environment Agency said. "[More than 20] licences could potentially be removed... including two of Anglian Water's licences to abstract water for public supply."

Ludham's 800 or so homes consume nearly 1m tons of water a year, and there are no alternative local supplies. It means Anglian Water will have to build a 30-mile pipeline across Norfolk to connect Ludham to Norwich's water supply by 2021.

Anglian Water expects more of its towns to be banned from abstracting water – and is planning a countywide "water grid" to bring supplies from Lincolnshire and possibly Yorkshire. Similar moves are expected in Kent, Essex, Sussex and Surrey.

The Ludham water war was triggered by complaints from conservation groups, including the Royal Society for the Protection of Birds and Butterfly Conservation, plus Tim Harris, the owner of Catfield Fen, one of England's last pristine wetlands. "We are in the middle of a water war here," Harris said.

## DROPPING AWAY

Wetlands such as Catfield Fen in Norfolk, are drying out as too much water is diverted to homes and farms, says the Environment Agency



Greedy farmers have been abstracting so much water to irrigate their crops that it was drying up the fen – making the water acidic and threatening wildlife

## England's water usage

Public water supply  
5.3bn tons

Homes and businesses are the largest consumers



Power generation  
3.3bn tons

Electricity industry, used for cooling



## Farming

1.8bn tons

Agriculture, fish farming, ponds



10.4bn tons a year  
Total water taken from England's rivers and underground reservoirs

including the rare fen orchid and swallowtail butterflies."

The Broads Authority, which oversees planning in the area's rivers and wetlands, said intensive farming was a constant threat.

The tough stand taken by Harris and green groups has angered farmers, some of whom have already lost their supply.

Andrew Alston, of White House Farm, Marsham, was taking 90,000 tons of water a year from a borehole near Catfield Fen until the Environment Agency refused to renew his licences in 2016. Another 23 farmers face the same fate.

"The threat is huge," Alston said. "There was never any evidence that the fens have suffered damage. It means I can no longer grow quality potatoes or salads – just crops which don't need irrigation, such as wheat and barley."

The National Farmers' Union has campaigned strongly against the loss of water abstraction licences, arguing that supplying food is just as important as wildlife.

"Farmers need water to grow our food," said Paul Hammett, the union's water resources specialist. "Agriculture takes only 2% of total water abstracted from boreholes and rivers, so we want the EA to focus on the water companies."

That may happen. Norfolk's strategic plan envisages 84,000 new homes by 2036. Anglian Water said it would start work on a £500m water grid this year but this would not be enough and, as climate change progressed, customers would also have to cut their water use.

Harris said: "Farming is taking too much water and destroying our last wildlife. It has to be stopped."

@jonathan\_leake

# Eastern Daily Press



'This will reduce our income by £80,000 a year' - Broadland farmers' concerns over water licence threat

March 29, 2019

[Eastern Daily Press - Agriculture]

Farmers say the "combative" review of water abstraction in the Broads is failing to assess both economic and ecological needs – with one claiming the loss of his licences would cost his business £80,000 a year.



'The Broads are being destroyed before our eyes', says Catfield Fen campaigner

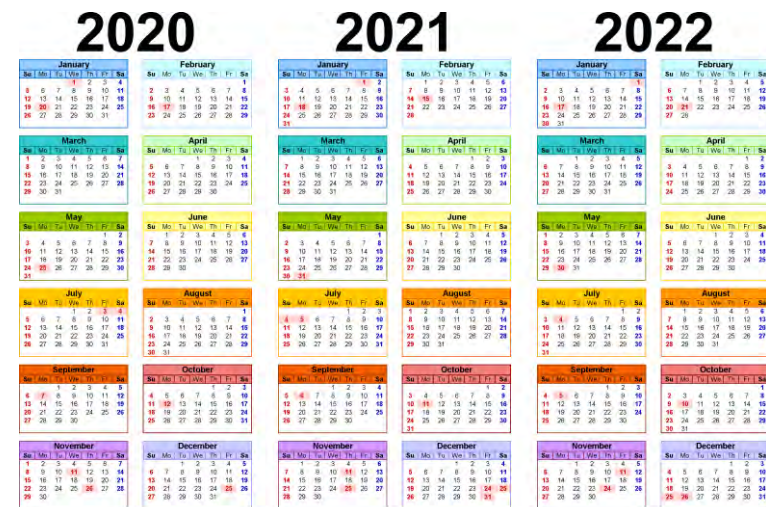
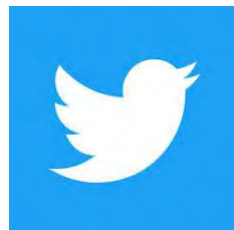
March 29, 2019

[Eastern Daily Press - Agriculture]

The landowner who won a landmark legal battle to protect Catfield Fen from agricultural abstraction says the potential loss of more water licences in the Broads should not be a surprise to farmers.



# What's next for WRE?





# FCERM Strategy

## ADA AGM

### 2 October 2019



#### Draft National Flood and Coastal Erosion Risk Management Strategy for England






Vision: a nation ready for, and resilient to, flooding and coastal change  
– today, tomorrow and to the year 2100.





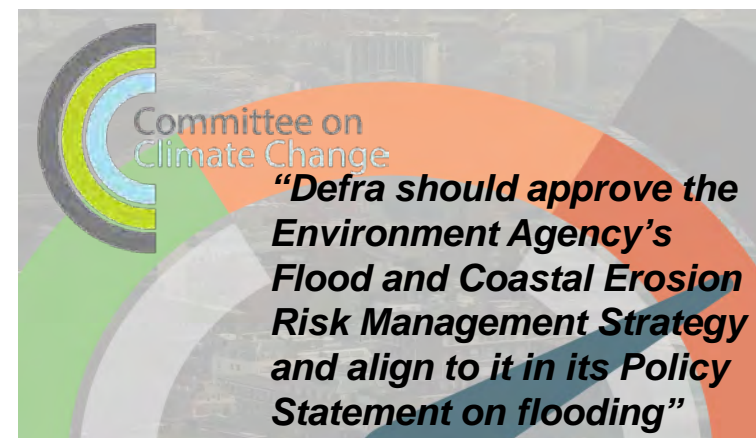
# Draft FCERM strategy: A vision for nation ready for, and resilient to, flooding and coastal change today, tomorrow and to the year 2100

Ambitions	 Climate resilient places	 Today's growth and infrastructure resilient in tomorrow's climate	 A nation of climate champions
	Working with partners to explore and develop <b>standards for flood and coastal resilience</b> as well as a suite of tools that can be used to deliver resilience in places	Getting the right kind of development in the right places to deliver <b>sustainable growth</b> and <b>infrastructure resilient</b> to flooding and coastal change	<b>Better preparing society</b> through education and accessible digital information as well as being a <b>world leader</b> in flood and coastal resilience
Cross cutting themes	<p>Putting <b>people and places at the heart</b> of decision making</p> <p>Moving from the narrow concept of <b>protection</b> to the broader one of <b>resilience</b></p> <p><b>Everyone has a role to play</b> – widening the ownership of flooding and coastal change management</p> <p>Helping places <b>plan and adapt</b> to flooding and coastal change for a range of climate futures</p> <p>Ensuring flood and coastal erosion risk management <b>protects and enhances the environment</b></p> <p>Better <b>aligning strategic planning</b> – improving resilience to both <b>floods and droughts</b></p> <p>Ensuring we <b>build back better and in better places</b></p>		





# Since the draft was published...



# Timescales



EA Board – 9<sup>th</sup> October  
FCRM Committee – 16<sup>th</sup> October  
EDT – 23<sup>rd</sup> October

Stakeholder engagement ongoing

Consultation

Writing

Action plan development

Approval period

Ministerial submission

Efra Committee

Consultation response doc

Strategy laid before parliament (40 days)

Publication of final Strategy and action plan

CCC NAP report

Flood Re Review

Government call for evidence

EU Exit

One Year Budget (tbc)

HMT Infrastructure Strategy (tbc)

Defra policy statement (tbc)

May

June

July

August

September

October

November

December

January

February



# Strategy amendments – Ambition 1

## Climate resilient places



### **Improved and strengthened text in the following areas:**

- Resilience standards and adaptive approaches needs to be explained in more detail
- Coastal erosion and adaptation needs to feature more prominently
- Food and farming needs to come through more strongly
- Better reference to aligning long term planning with water companies
- More detail around new and innovative funding and financing



# Strategy amendments – Ambition 2

## Today's growth and infrastructure – resilient to tomorrow's climate



### Improved and strengthened text in the following areas:

- Importance of ensuring new and existing infrastructure is resilient to flooding and coastal change - including third party assets
- Development in the floodplain – better explain the EA's role as a statutory planning advisor
- Be clearer about how FCERM investments can help to support sustainable growth
- Better explain environmental net gain and contribution to 25 YEP
- Better feature role of property flood resilience and sustainable drainage systems

# Strategy amendments – Ambition 3

## A nation of climate champions



### **Improved and strengthened text in the following areas:**

- Digital tools – better promote their uptake especially with young people
- Better sharing of data and information between RMAs
- More investment in engagement capacity building and skills in RMAs to support local resilience and adaptive planning conversations.
- Links to mental health and wellbeing
- Incident management and links to local resilience fora
- Innovation in demonstrating world leadership in flood and climate resilience



# Questions



Thank you



# Partnership Funding for the Future Flood and Coastal Erosion Investment Programme

ADA AGM 2 October 2019



Department  
for Environment  
Food & Rural Affairs



Environment  
Agency

# Reasons for updating Partnership Funding rules

- Supports Government plans - 25 Year Environment Plan and Surface Water Management Action Plan
- Supports ambitions in draft FCERM Strategy
- Reflects wider benefits - mental health impacts from flooding and climate change adaptation
- Delivers more properties protected
- Realistic Partnership Funding target
- Certainty – changes implemented by April 21

Note: Defra will consider further PF changes in 2020

# Summary of Proposed Changes

## Payment rates

Updated to take into account for inflation and the mental impacts of flooding

### Proposal:

- Updated for inflation since 2011 in line with the HM Treasury recommended approach
- Outcome Measure 2 amended to give mental health the same weighting as damages to buildings and contents - payments in line with properties protected
- Increase average payments per scheme by around 20%

## An Intermediate Risk Band

Enable more schemes to progress (particularly surface water) that would not currently be eligible for Grant in Aid

### Proposal:

Introduce an additional risk band of 2% annual probability (1 in 50 Standard of Protection)



# Summary of Proposed Changes

## Climate Change Impacts

Recognise the benefit to households that become 'at risk' during the lifetime of schemes

**Proposal:** Households currently at low risk of flooding but in future move into higher risk because of climate change, can be captured and claimed as OM2s

## Environmental Benefits / Outcome Measure 4

Encourage integrated environmental benefits to be delivered with FCERM schemes rather than only focussing on statutory designated sites

**Proposal:** A payment rate for eligible environmental improvements of up to 20p per £ available for all projects

## Asset Replacement Fund

Contribution to asset upgrade works with a high benefit-cost ratio where there is no realistic prospect of securing local contributions

# Timeline

- RFCC Chairs briefed on PF changes – 27<sup>th</sup> September
- Feedback from RFCC meetings – 7-21 Oct.

Subject to Ministerial approval:

- New Partnership Funding guidance rolled out by April 2020 for annual programme refresh
- New Partnership Funding amendments introduced by April 2021

# What we need from you...

- Support and comments for the proposed Partnership Funding amendments as soon as possible. Rob Wise will represent your views at both the Gt Ouse RFCC and the Eastern RFCC
- Feedback will be recorded in the minutes for the RFCC meeting
- Peta will send email response to Director of FCERM Strategy Julie Foley as soon as RFCC meetings held



# Benacre & Kessingland Flood Risk Management Project



Water  
Management  
Alliance

Giles Bloomfield  
Catchment Engineer

# What are the issues?

Benacre Ness and shifting coastline- aerial studies

Significant movement of ness northwards has left this area exposed to waves and tides

Defences north and south of pumping station are vulnerable

CH2MC Halcrow 2015 report to consider the issues and potential solutions







Courtesy of Mike Page





2016



# Coastal Management

Risks – Outflanking of defences and failure of flood defences

1. Pumping station- 10-20 yrs
2. North of pumping station – O/F within 10 yrs and failure within 5yrs of that
3. South of Pumping station – O/F 5-10yrs with failure within 5yrs of that
4. Natural defences to south – potential breach of barrier beach 5-10 yrs with failure of bank 10-20 yrs

Recent site visits by EA and ESC have raised concerns about the rate of erosion to north and south





# Whats at risk?

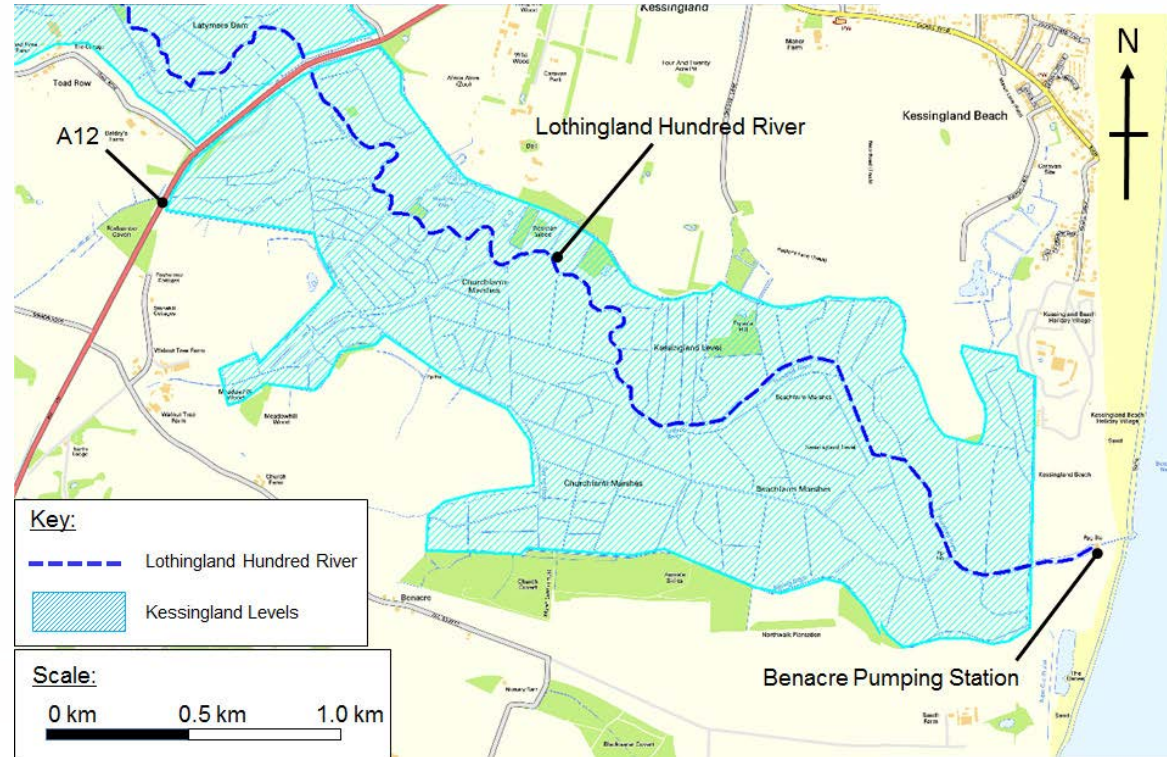
44 Homes

Commercial  
businesses

600 acres +  
Agriculture

Abstraction

A12 major road



Tourism

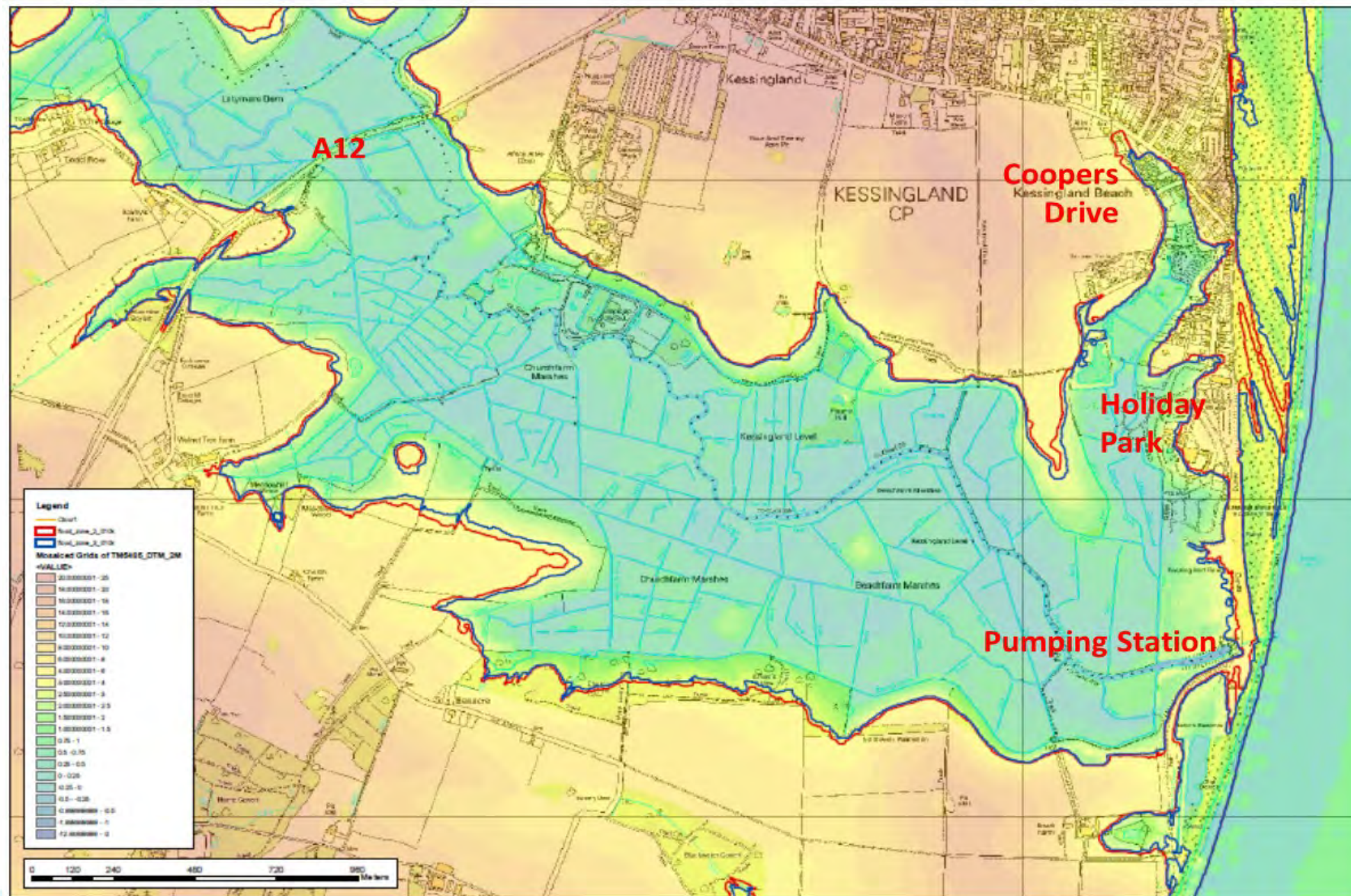
Recreation and  
Access

Utilities (water,  
electric)

Landscape

Wildlife







# What is the solution *in situ*?

CH2MC Halcrow have done preliminary costings for a number of options *in situ*.

**Long term** – permanent coastal defence which needs to withstand coastal processes along almost 1000m of coast –most likely rock revetment would be required

**COST £10-12 Million**

**Medium term** – similar to long term due to exposure of defences to north sea – 300m to north and 250m to south of pumping station (550m)

**COST £5-6 Million**

**Short term** – redistribution of existing rock revetment to manage outflanking of pumping station – 300m of rock revetment

**COST £1.5 Million**

None of these options would allow for an upgrading of the pumping station which is an additional cost

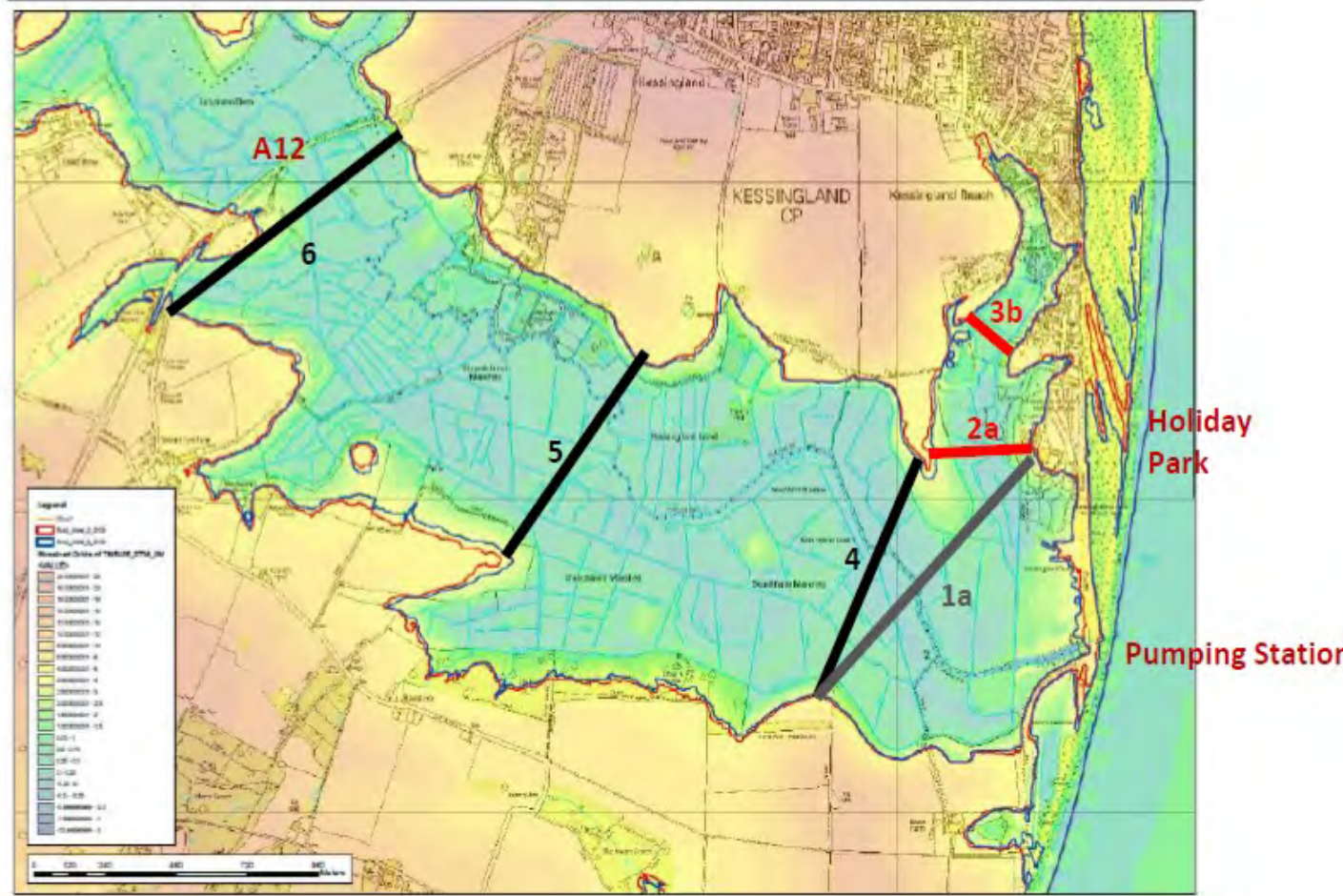
Ongoing maintenance of the frontage would also be an additional cost and with current beach lowering and narrowing – maintenance costs would increase

It's unlikely a significant beach would remain given the erosion trend analysis-implications for tourism





- 
- The map displays the Kessingland CP area, showing water levels and pumping station locations. The map includes a legend for water levels (A12, 6, 5, 4, 3a, 3b, 2a, 1a) and a scale bar. Key locations labeled include Kessingland CP, Kessingland Beach, Holiday Park, and Pumping Station.





# Comparison of Costs

- Create a new defence *in situ* £15M+
  - 1a Pumped £10.0 M
  - 2a Pumped £2.2 M
  - 3a Pumped £0.9 M
  - 4 Pumped £8.0 M+
  - 5 Pumped £4.0 M+
  - 6 Pumped £4.0 M
- 
- Least cost option to defend the most assets is a combination of 3a with alignment 5 or 6 at approx. 5M +

# Choosing a solution and engaging the community

Ensuring local understanding of the issue

Accepting a change is needed

Sharing evidence

Highlighting risks and costs

Choosing an affordable solution

Looking for opportunities

Delivering a scheme





# Stakeholder Engagement

- Partnership approach
- Project Board supported by local Councillors and MP
- Multi-agency project team
- Local leadership from Kessingland Parish Council
- 150 stakeholders attended initial drop-in Nov 2017
- Need to share evidence and build a collaborative vision



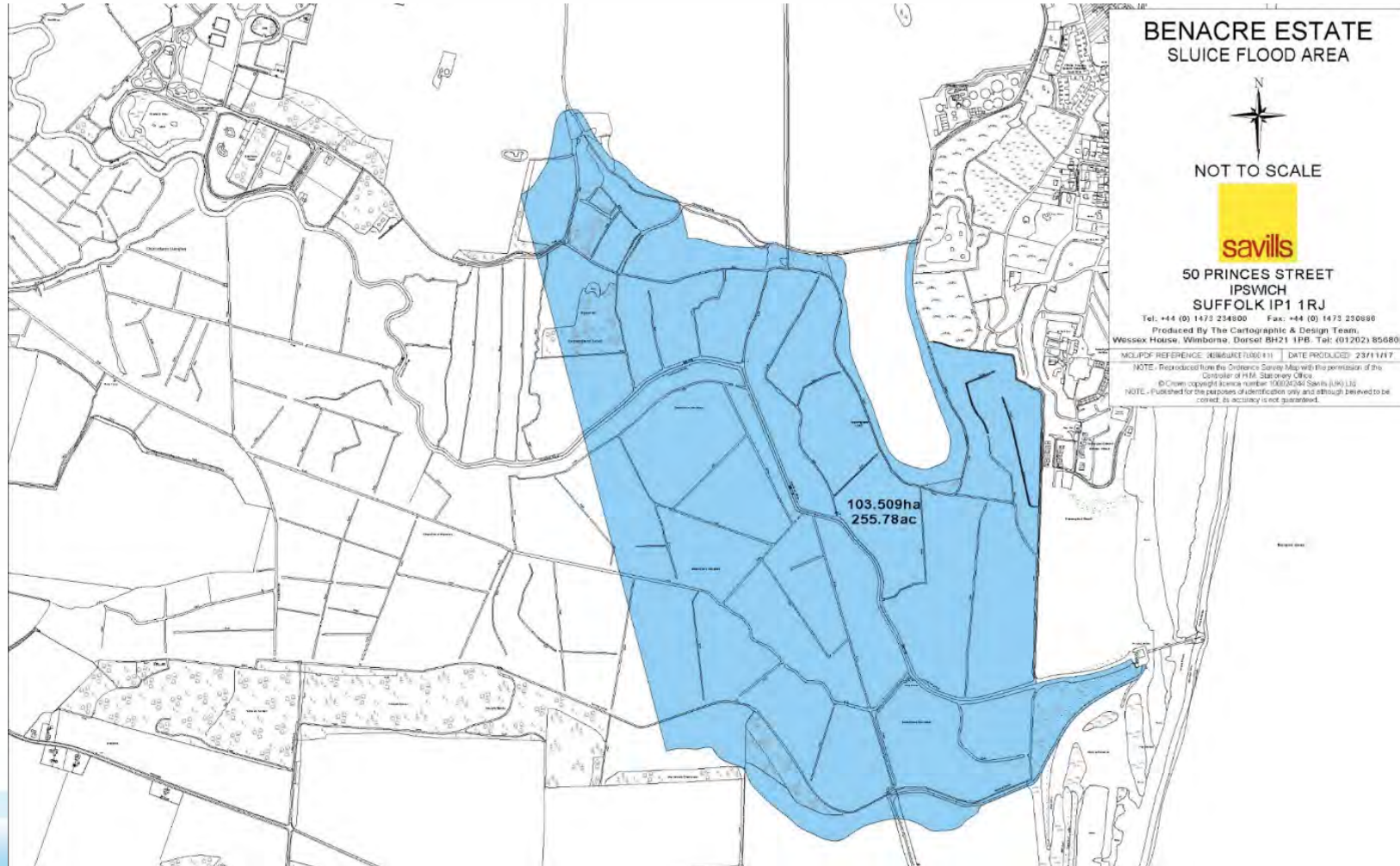


# Economics studies

- **£130M** of wider economic benefits from an adaptive approach
- Main highway - PV Losses over a 50 years are **£253.7M** for the 'Do Nothing' plus climate change scenario.
- Both reports will feed into economic appraisal of the Business Case
- Enables wider funding opportunities



# 2018 - Landowner agreed line



# Funding Availability

Depending on the option a significant amount of money is needed to afford a scheme for the area

*Likely* funding sources include;

- Flood Defence Grant in Aid
- A contribution from SCC for the A12

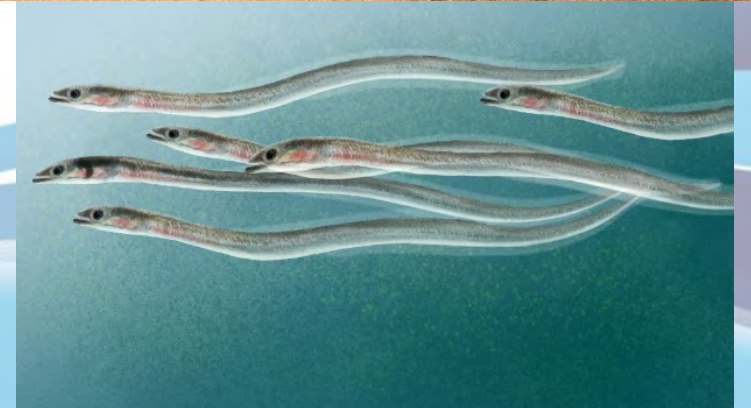
*Potential* sources could include;

- Local Enterprise Partnership funds if we can link to economic growth of Lowestoft
- Community focussed funding streams
- Environmental enhancement funds
- Access enhancement funds
- Local fund-raising and beneficiaries contribute



# Sharing a Vision

- Opportunities for landscape scale adaptation
- Freshwater capture and storage for habitat enhancement and agriculture
- Fisheries, tourism and access can be enhanced
- Need to attract investors
- £10-15M scheme



# Suffolk Holistic Water Management Project

[www.greensuffolk.org/hwmp](http://www.greensuffolk.org/hwmp)

## Project Update September 2019

The aim of this pilot project is to consider water holistically, looking to manage this valuable resource to maximise its economic and environmental benefits and minimise flood risk.

### **1. Felixstowe Peninsula Project:**

This project focuses on using Internal Drainage Board (IDB) drainage water, which is currently pumped out into the Deben Estuary, for irrigating crops and/or public water supply.

The original proposal of holding the water in a large balancing reservoir and then piping it inland to smaller farm irrigation reservoirs or for public water supply was discounted due to costs and environmental considerations. Instead, the water will be held temporarily in the Delph (area behind the King's Fleet pumping station) and pumped directly onto farms through a new pipeline.

Early indications of demand, from members of the East Suffolk Water Abstractors Group (ESWAG), resulted in eleven farmers showing interest in this new source of water, but due to costs and water quality issues, the project has been scaled back. The original 18 km pipeline will now be circa 8 km long and serve five farmers who are now willing to invest in the project. There is at least 600ML of water available in a year - enough to grow crops worth over £2.4 million. More water maybe available during wetter years and we are working with the Environment Agency to ensure the abstraction licence allows access to this. Discussions with Anglian Water are ongoing as it has storage capacity to hold any excess water if the farmers' reservoirs are full. Excess water could be for public use or returned to the area for irrigation or environmental benefit.



The scheme has been successful at attracting funding from the EU as one of six demonstration projects within FRESH4Cs, a 2 SEAS Interreg project. This will not only provide capital funding, but also present the opportunity for UK stakeholders to learn from similar projects in Belgium and Holland with the aim of replicating the work elsewhere. N.B. current uncertainty related to the UK position on Brexit means that the capital programme has had to be paused.

There have been several issues that have challenged us during the development of this project and these have resulted in a delay to the original timetable. The aim is now to have the project in place within the next year. Some of the issues we have had to surmount are: -

- confirming water availability
- water quality (water that is too saline cannot be used on certain crops)

- environmental requirements for fresh water flows into the Deben Estuary (for wading birds and eels)
- the abstraction licence (which needs to be 20 years minimum to make the investment worthwhile and charge a single rate for taking water at high flows, regardless of time of year)
- planning and archaeology
- capital investment needed +/- grants
- project governance

For details of how we have overcome these various challenges please see the website [www.greensuffolk.org/hwmp/felixstowe](http://www.greensuffolk.org/hwmp/felixstowe)



As well as providing economic benefit by supplying water this project aims to improve the environment – not least the saltmarsh which is being eroded by the failure of the King's Fleet pumping outfall (*picture left*) and the pumping itself. Once the water project is operational, the volume of water flowing out will be drastically reduced, with only a residual flow to satisfy environmental demands. The scheme has successfully applied for a Water Environment Grant to undertake works to improve the current situation.

## 2. Reservoir Planning & Consents Streamlining Project:

The aim of this group is to make the process of creating storage reservoirs more streamlined for both regulators and applicants. Some progress has been made, particularly with obtaining advice on the risk of finding significant archaeology, prior to further investigations into reservoir siting.

As part of the Felixstowe water project we have been in discussion with the planners at East Suffolk Council and Suffolk's Archaeology service to simplify and speed up the process of obtaining consent to install the pipeline. These discussions are ongoing.

## 3. Debenham Flood Risk Management Project:

The management of flood risk to Debenham is complex due to the three tributaries of the river Deben meeting in the village and the costs of many traditional flood management measures are prohibitive. For this reason, we are working to slow the rate of flow down the catchment into the river through a series of 'natural flood management' (NFM) features. Modelling was undertaken that showed that installing NFM features on all three tributaries could significantly reduce flood risk in Debenham, at an affordable cost. These features also improve water quality by filtering out sediments and pollutants and creating new habitats.

To date, four features have been constructed at Debenham Hall Farm, Aspall Hall, Hill House Farm, Mill Green Farm. The work was undertaken by the East Suffolk IDB, funded by Suffolk County Council, the Essex and Suffolk Rivers' Trust and Regional Flood & Coastal Committee levy. Two of the smaller features were installed for under £10,000 in total, with the larger features at Hill House and Mill Green Farms costing circa £80,000.





*Small pond feature at Debenham Hall Farm. Whilst it makes a small contribution to flood risk management, the main benefit of this feature is to capture run off from the farmyard thus preventing sediment and pollution entering the river.*

*NFM flood storage feature at Hill House Farm.*

*The total area is circa 0.5 Ha with the capacity to store a further 6700 m<sup>3</sup> of flood water.*

*The picture, taken in June 2018, shows the feature which permanently retains some water. Further planting of wild flowers around the edge will maximise its biodiversity value.*



*Below: Mill Green Farm, immediately post construction. This will provide some 6500 m<sup>3</sup> flood storage and new habitat.*



We are now working with other landowners and developers to persuade them to install similar natural flood management features on their land, using those features already in place as exemplars. The more of these 'slow the flow' features we can install, the better the flood protection for the village – and the greater the environmental benefit.

We have currently been successful in attracting over £100,000 from RFCC levy towards existing work and have further applications in play to fund new storage volume.

An important element of this innovative approach is to monitor the effectiveness of the features, in terms of holding flood water, improving water quality and enhancing biodiversity. A comprehensive suite of monitoring is taking place, providing evidence of the multiple benefits provided to persuade future funders to invest in this way of working with nature.

## 4. Water Framework Directive (WFD) and Channel Improvement Project:

WFD investigations show that the middle sections of the River Deben suffer from poor morphology, water quality problems and reduced fish populations. The river is also disconnected from its floodplain.

Working with the Essex and Suffolk Rivers Trust (ESRT) and sympathetic landowners, we have restored almost 1 km of back channels at Easton, along with a silt trap to intercept road runoff. We have also installed 'large woody debris' structures within the river channel and level control structures in the back channels. Together, these works will provide refuges and nursery areas for juvenile fish, improve water quality and enhance summer water retention within the floodplain.

### Marsh Farm, Blaxhall:

This project took place on a floodplain grazing marsh along the banks of the River Alde. It is included here as an excellent example of the type of projects we'd like to continue doing on all our rivers and fits well with the holistic approach to water management.

While carrying out an assessment of the area for the owner, Langmead Farms, Suffolk Wildlife Trust put together a plan to improve the marsh for wintering waders and wildfowl, as well as improving its general biodiversity.



The plan from Suffolk Wildlife Trust (see above) suggested creating scrapes and gutters and improving the existing ditch network. This would enable water to be held on the land for longer periods and create better connectivity between the floodplain and the River Alde.

Essex and Suffolk Rivers Trust were able to secure £7,500 from the Environment Agency to fund the improvements and the work was due to be completed during winter 2017. Unfortunately, the wet winter and spring delayed works till May 2018 but now all the scrapes, gutters and ditch improvements have been completed. As you will see from the photos the site currently looks very 'raw', but the features will soon blend in with the surrounding area as plants begin to colonise the bare earth and the site will be providing

a great habitat for birds this winter and improve water infiltration into the aquifers.

Langmead Farms have been very supportive of this project and we are very pleased to see it completed and increasing the diversity of the East Suffolk Catchment area. We'd love to hear from other landowners looking to enhance the wildlife value of their watercourses.



## 5. Abstraction Reform Project:

As part of the Government's 25-year Environment Plan, the Minister has announced in May 2018 that the East Suffolk Catchment will be one of the four initial priority catchments for testing innovative and collaborative approaches to reforming water abstraction. This not only recognises the importance of our precious water resources for public consumption, our economy, farming and the environment, but also gives a national profile for the well-established Holistic Water Management Project and the work we have been doing associated with the Felixstowe Peninsula project.

Work is ongoing with all partners within the HWMP to support the EA to develop solutions to enhance the current abstraction regime, this includes ideas such as trading licensed water between landowners, ability to monitor flows in real time in order to make use of high flows outside of normal licences.

<https://www.gov.uk/government/publications/water-abstraction-plan-2017/water-abstraction-plan-catchment-focus>.

## 6. Project Topsoil

A key element of this EU funded project is to test the viability of using Managed Aquifer Recharge (MAR) as a way of storing, and later reclaiming, excess water.



*Cranfield University assessing the MAR trial site.*



The aim was to carry out a trial, applying water via a spray irrigator to vegetated land and monitoring the quality and water levels in nearby local ground water sources.

MAR was one the ideas put forward at the inception of the Holistic Water Management Project but has not been able to progress to date for various reasons. This work by Project Topsoil looked to provide an alternative to reservoirs to store water, as well as enhance ground water supplies. It is not a new approach, being utilised in several parts of the world, but is not widely accepted in the UK. The initial conclusions have not been conclusive but this

work will be further developed under the FRESH4Cs project in the coming years.

A second part of this EU project is looking at water quality in the Sandlings aquifers and the correlation with the various farming activities in that vicinity. We will shortly have completed a year's worth of groundwater chemistry monitoring and that has given us indications for the parishes that have the most elevated nitrate levels in the groundwater. We are now moving on to another phase of this study, as a partnership working with FWAG, landowners and Catchment Sensitive Farming officers to understand field scale relationships between cropping and groundwater chemistry impacts. Some simple adjustments to cropping patterns could then be trialled to assess potential environmental improvements, building on current science already established by Rothamsted Research. The impact of outdoor pig units in this area have previously been shown to result in high nitrate levels and impacts on soil structures. This work is entirely on a voluntary involvement basis, but the aim of our EU linked project is to fill knowledge gaps in this very important high value farming area, that is adjacent to areas of great environmental sensitivity.



**The Holistic Water Management Project, co-ordinated by Suffolk County Council,  
is a collaboration between a wide range of partners.**

To learn more about it and see who's involved, please go to  
[www.greensuffolk.org/hwmp](http://www.greensuffolk.org/hwmp) or contact the people named in this newsletter.