

Investing in Nature for Norfolk Water Security

Norfolk Water Strategy Programme Progress Report
June 8, 2022

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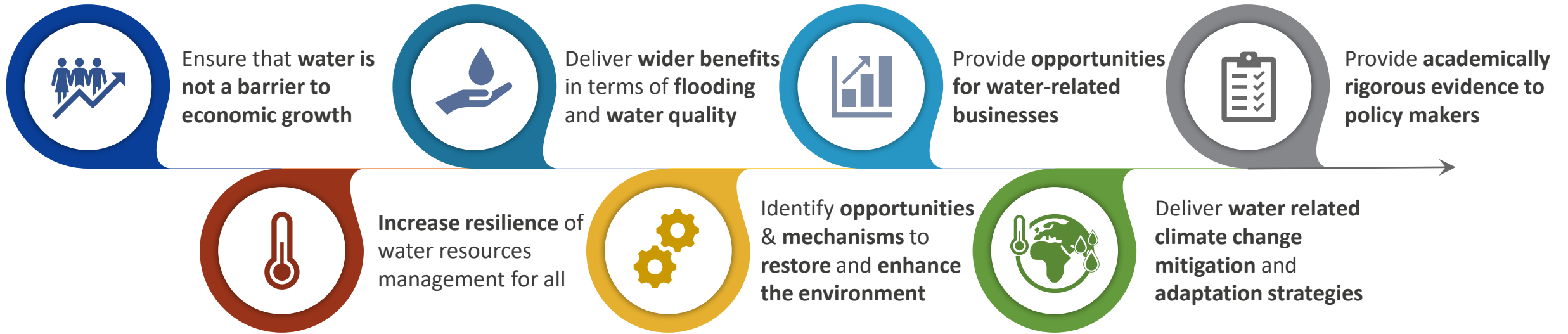
Agenda

14.00	Welcome and introduction to the NWSP team <i>Daniel Johns, Water Resources East</i>
14:10	Progress Report <i>Daniel Johns</i> <i>Sophie Trémolet, The Nature Conservancy</i>
14:40	Q & A session <i>NWSP Team</i>
14:55	Next steps including Gressenhall Museum workshop <i>9:30am – 2pm, Weds 15th June</i>
15:00	Thank you and close



Norfolk Water Strategy Programme: an overview

Overarching goals



Main focus: scaling up investments in nature-based solutions to achieve those goals

Programme deliverables

A sustainable Norfolk Water Strategy



Norfolk Water Hub



A collective action platform to coordinate efforts and develop NbS to tackle water security challenges in Norfolk

Norfolk Water Fund



An investment fund to leverage & coordinate funding for the delivery of specific NbS investment programmes

Identify

- Norfolk's water challenges
- NbS suitable to Norfolk's catchments
- Where to invest for greatest impact on water challenges

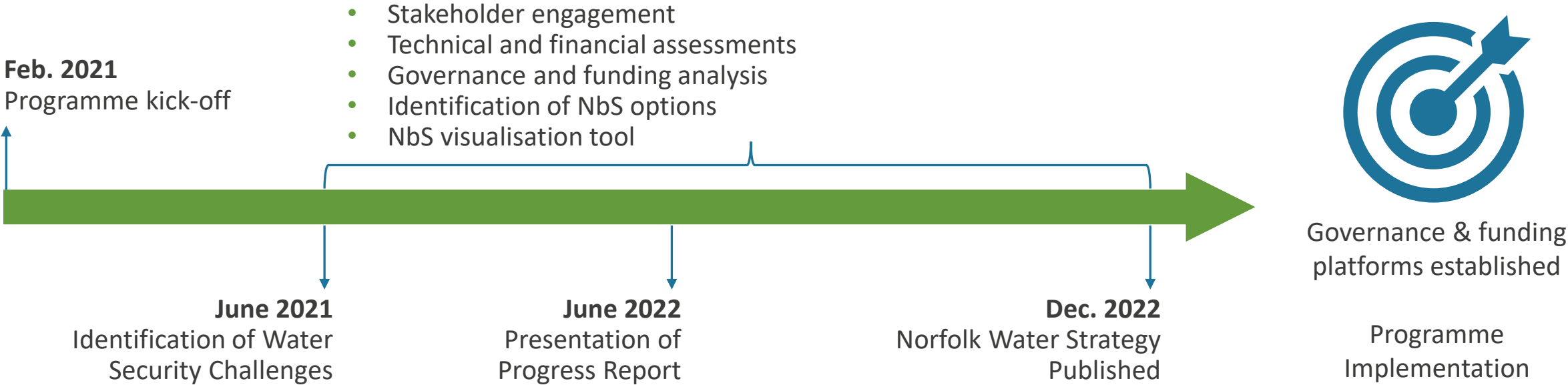
Define

- Roles and governance of Norfolk Water Hub
- Investment programme for Norfolk Water Fund (based on ROI estimates) and funding sources

- Facilitate experience sharing
- Disseminate best practice
- Influence government policy and funding
- Support project developers and achieve efficiency by aggregating applications and other processes
- Incubate new initiatives - in particular new investment vehicles / funds

- Targeted fund to invest in NbS implementation with clear KPIs
- Invests in a prioritised package of NbS based on ROI analysis – including co-benefits
- Enables mobilisation of pre-financing if revenue streams are clearly identified
- Contract out 'at-scale' delivery

Timeline



Progress to date



[Progress report & numerous technical reports](#) providing a comprehensive understanding of water security challenges and NbS in Norfolk



Partnerships for modelling
ecosystem services

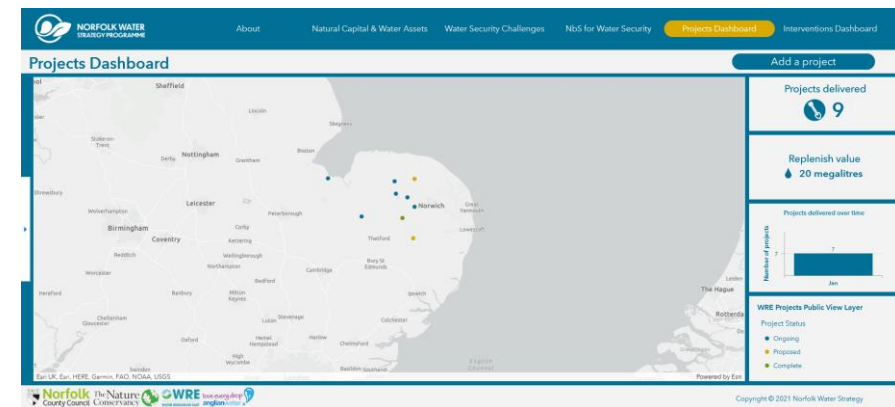


Engagement with Stakeholders
through numerous workshops
and working groups



Funding mobilisation

- Programme mgmt and analyses: £560k
- Investment funding: £250k



[Collective NbS visualisation tool \[Beta\]](#)

Web platform to share information on NbS
initiatives in Norfolk





Analysis of Norfolk's water security challenges

Water security challenges

Water Resources



- Supply-demand deficit in many Water Resource Zones in Norfolk
- Extensive groundwater abstraction from chalk aquifer
- Multiple competing demands

Water Quality



- Most surface water bodies are not at WFD "good" status, with groundwater at "poor" quality
- Nitrate Vulnerable Zones and Eutrophic waters across much of the county

Flood Risk



- High risk of flooding from surface water, especially around Norwich
- Regular reports of flooding due to intense rainfall over recent years

Physical Modification



- Vast majority of water bodies are modified – not in a natural state
- In-stream barriers have negatively impacted aquatic ecosystems

Ecosystems

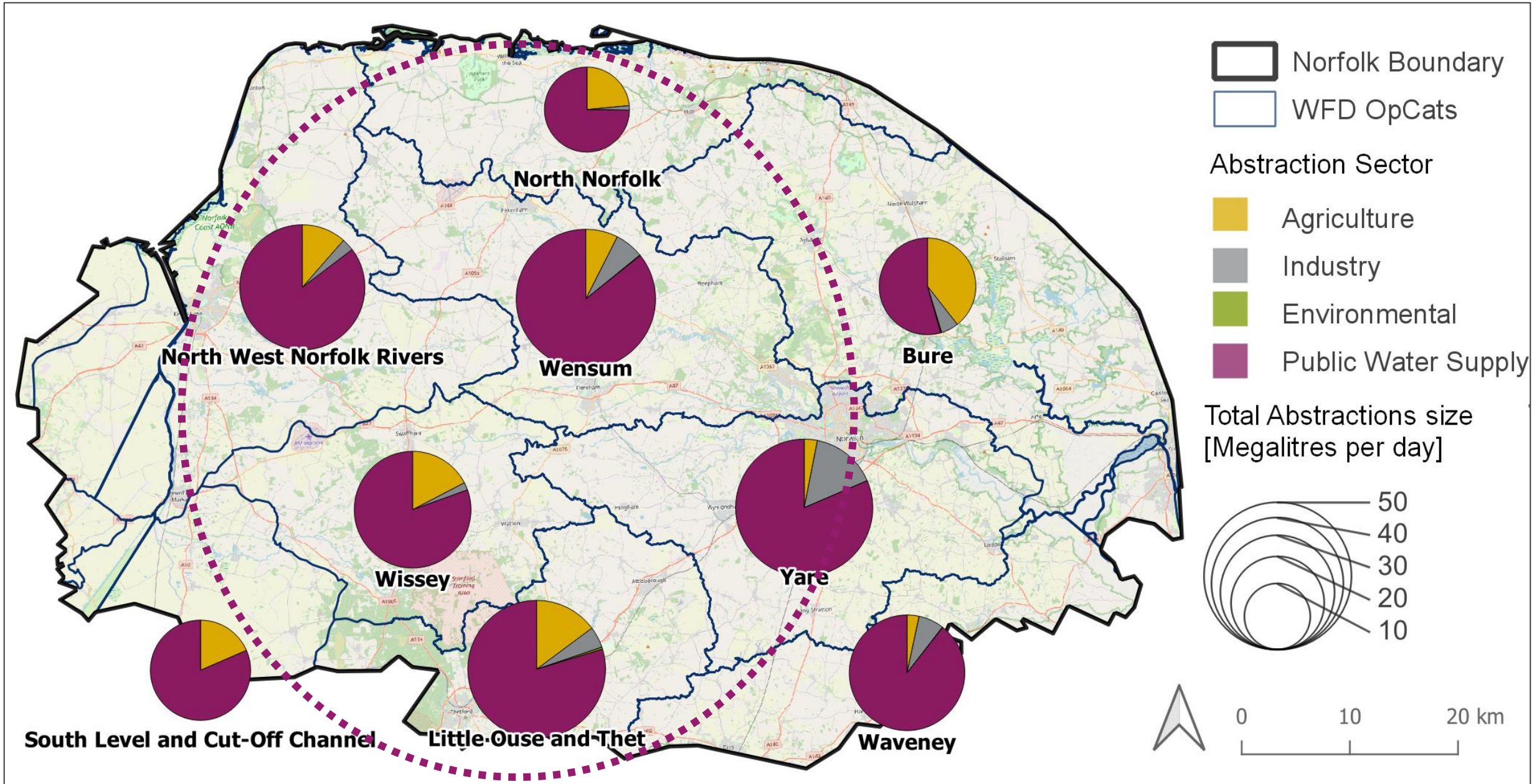


- Besides major areas (e.g. the Broads National Parks), habitats are fragmented across county
- Large areas of Norfolk's SSSI's are in "unfavourable" condition

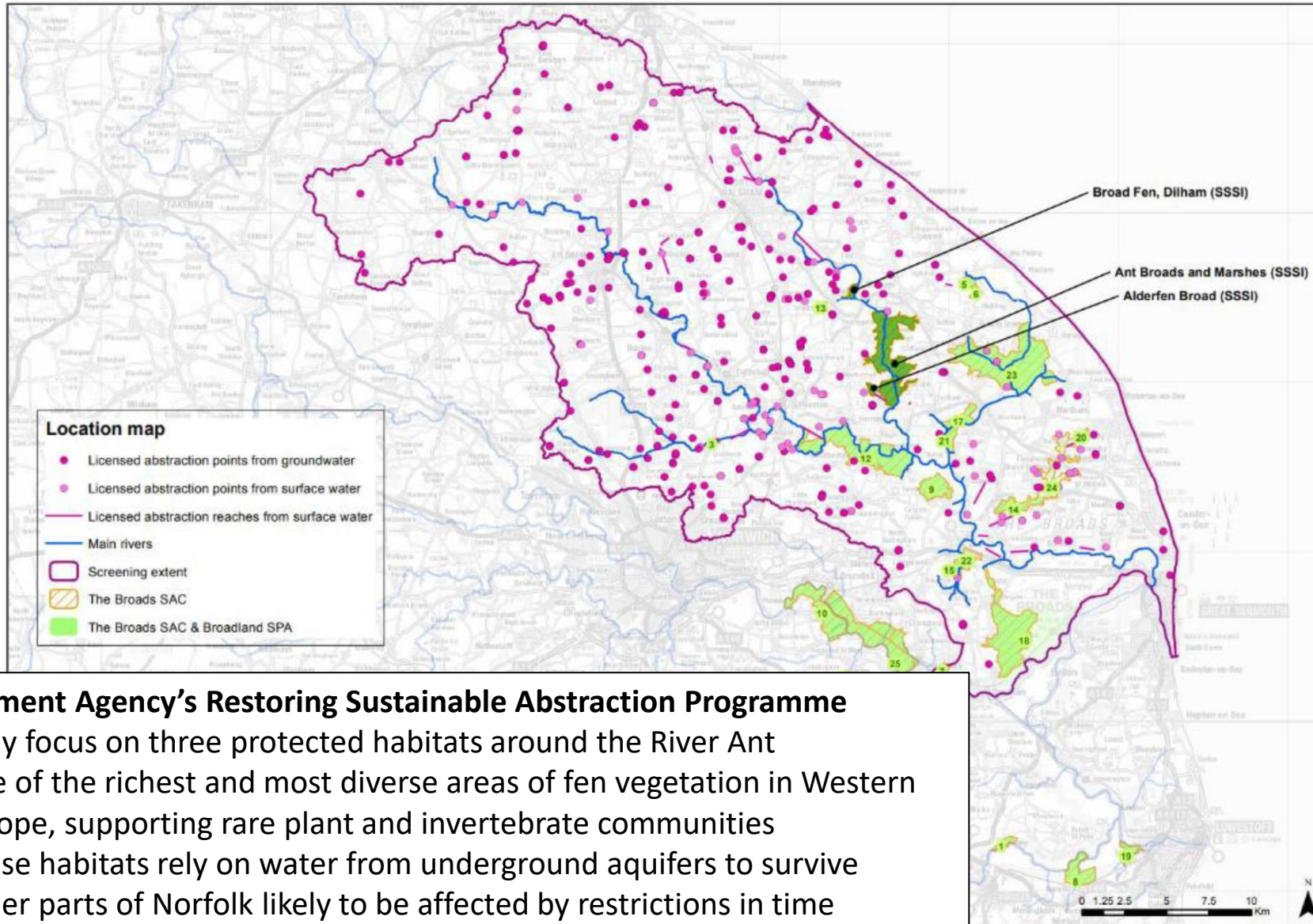
Water security challenges per catchment

Challenge Category		Bure	Little Ouse and Thet	North Norfolk	North West Norfolk Rivers	South Level and Cut-Off Channel	Waveney	Wensum	Wissey	Yare
Water Resources	Rank	6	2	9	5	1	8	3=	3=	7
	Category	MEDIUM	HIGH	MEDIUM	HIGH	HIGH	MEDIUM	HIGH	HIGH	MEDIUM
Flooding	Rank	6=	3=	9	6=	6=	1=	3=	3=	1=
	Category	MEDIUM	HIGH	MEDIUM	MEDIUM	MEDIUM	HIGH	HIGH	HIGH	HIGH
Water Quality	Rank	1=	5=	3	9	5=	4	5=	5=	1=
	Category	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH
Physical Modification	Rank	1=	1=	7=	1=	1=	7=	9	5=	5=
	Category	HIGH	HIGH	MEDIUM	HIGH	HIGH	MEDIUM	MEDIUM	HIGH	HIGH

Groundwater Abstractions



Water scarcity is starting to bite



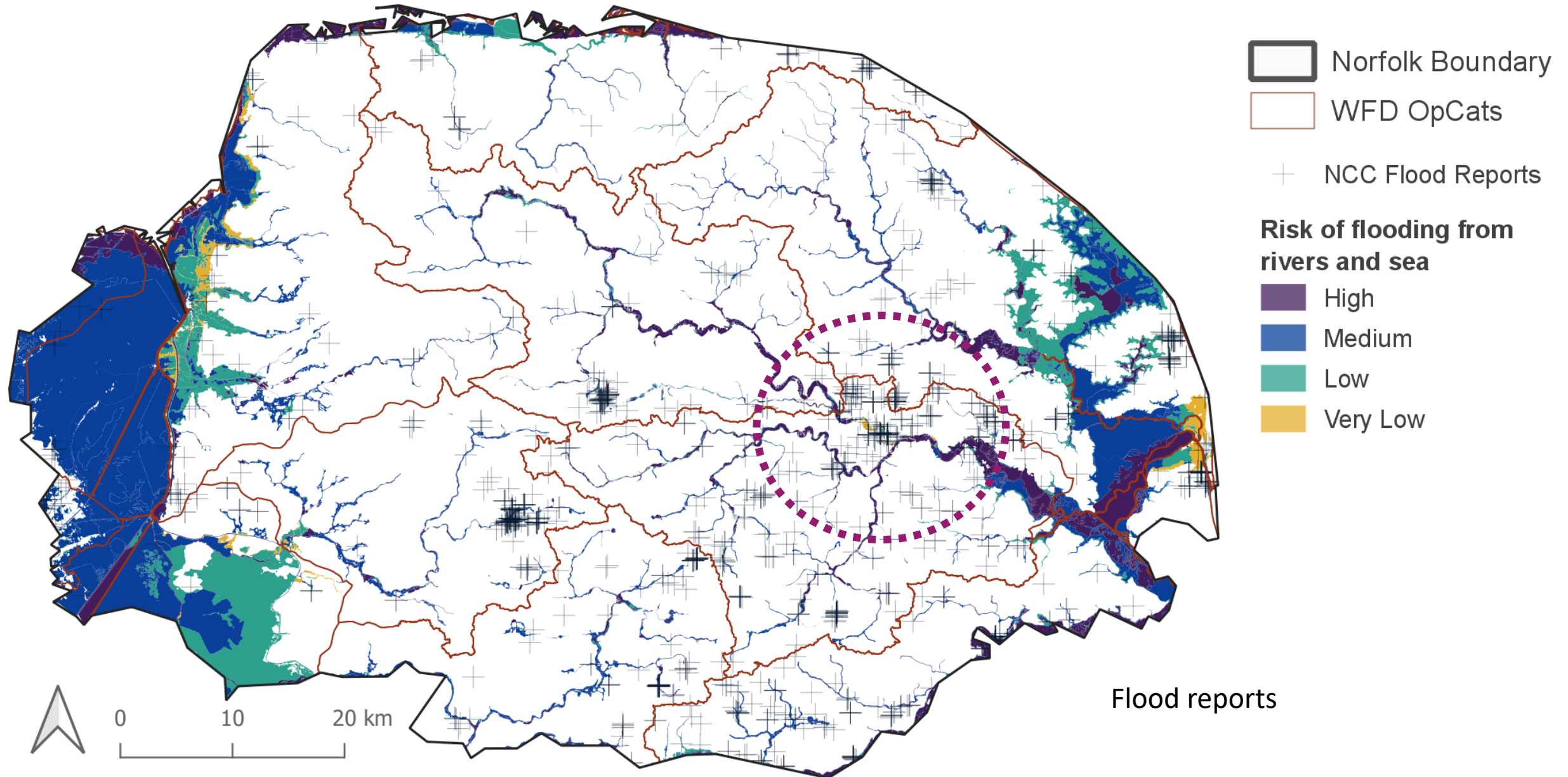
Environment Agency's Restoring Sustainable Abstraction Programme

- Early focus on three protected habitats around the River Ant
- One of the richest and most diverse areas of fen vegetation in Western Europe, supporting rare plant and invertebrate communities
- These habitats rely on water from underground aquifers to survive
- Other parts of Norfolk likely to be affected by restrictions in time

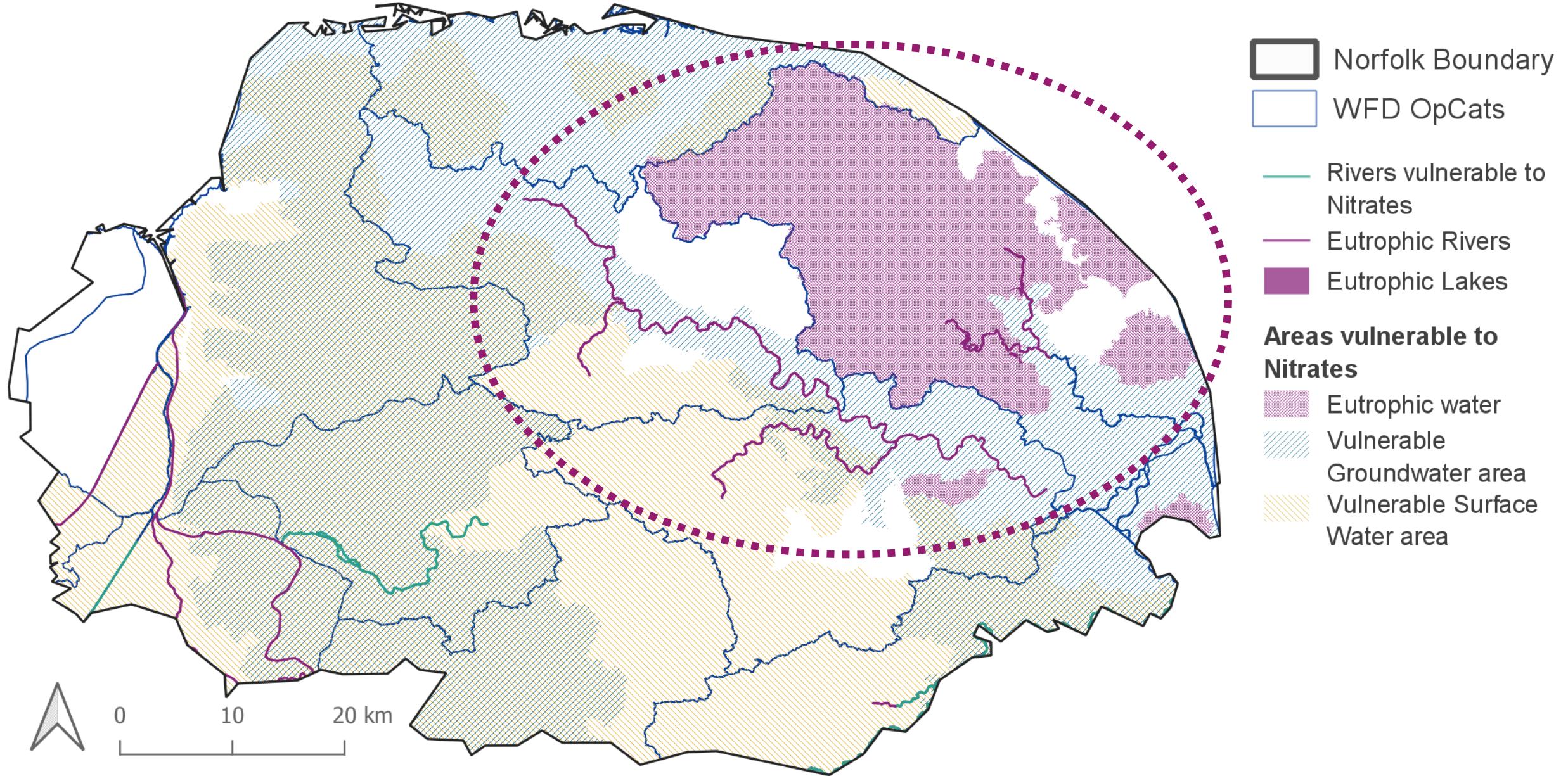
Ant Valley, Norfolk

- 20 individuals / businesses to be affected by abstraction licence constraints and removals
- Covering public water supply, agriculture, food processing
- Timetable for change
September 2024

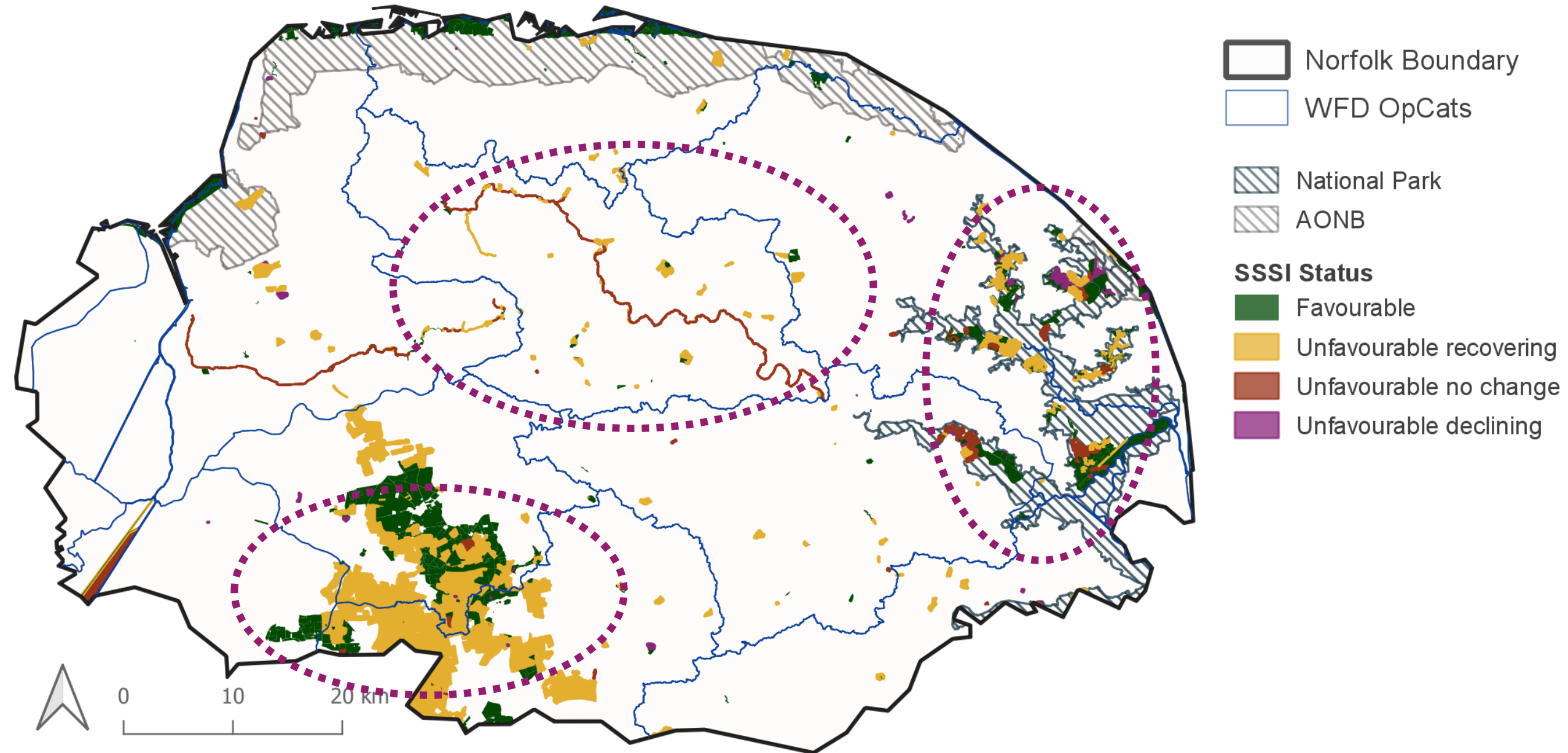
Flood Risk



Nutrient Vulnerable Areas



Special Protected Areas Status



Nutrient neutrality an additional focus?



Date: 16 March 2022

To: LPA Chief Executives & Heads of Planning,
County Council Chief Executives and Heads of Planning,
EA Area and National Team Directors,
Planning Inspectorate,
Natural Resources Wales (Cross border sites only) &
Secretary of State for Department for Levelling Up Housing & Communities
(DLUHC)

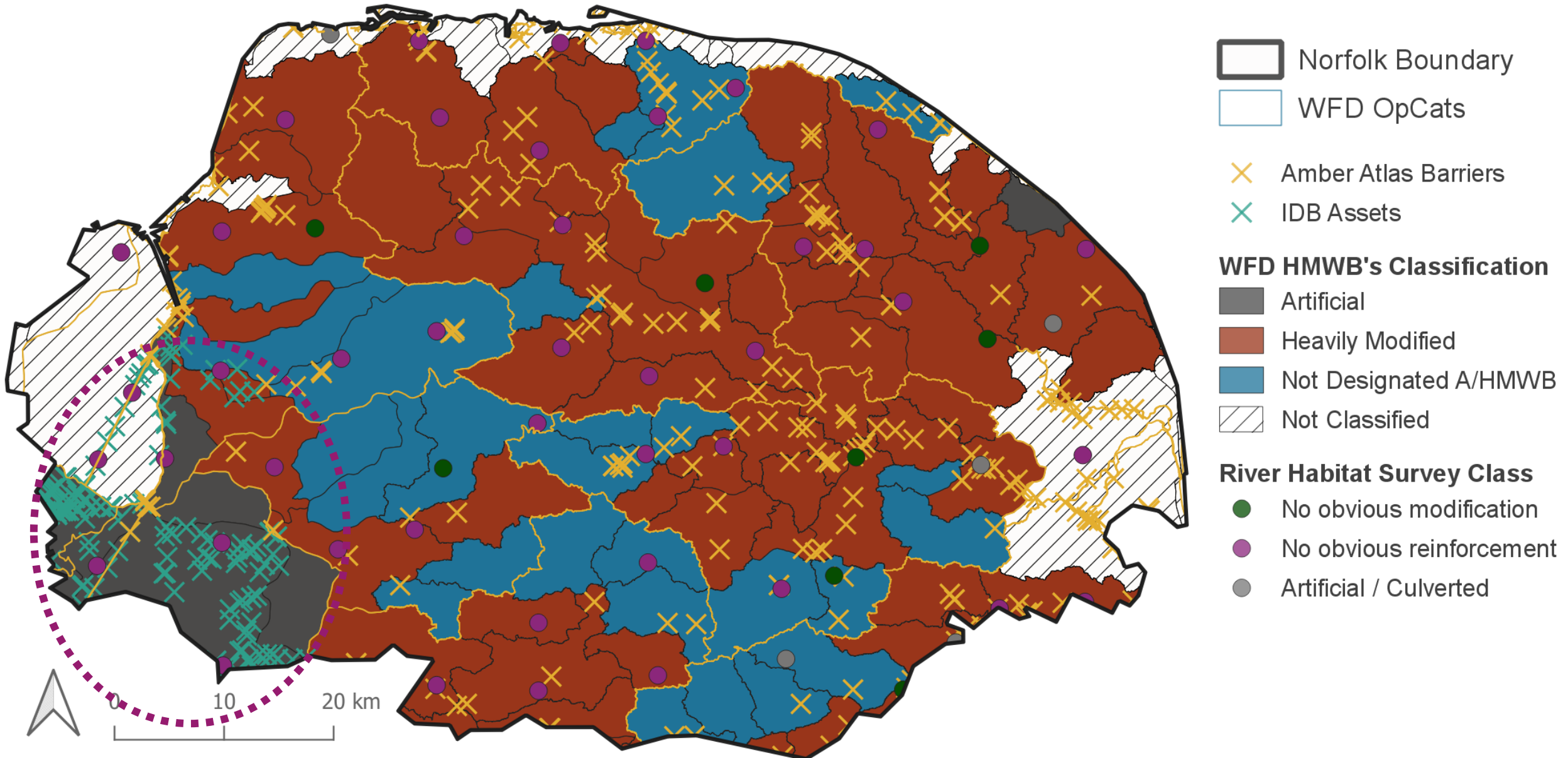


Natural England's letter of 16 March imposed a 'nutrient neutrality' requirement on new development involving overnight accommodation

- Applies to development in River Wensum and Broads Special Areas of Conservation, and/or served by Water Recycling Centres within these catchments
- Planning authorities need to be able to demonstrate that planning approvals would not have an adverse effect within these catchments

Nature-based solutions are an established means to reduce nutrient loads within catchments whilst also delivering wider ecosystem benefits

Physical modification

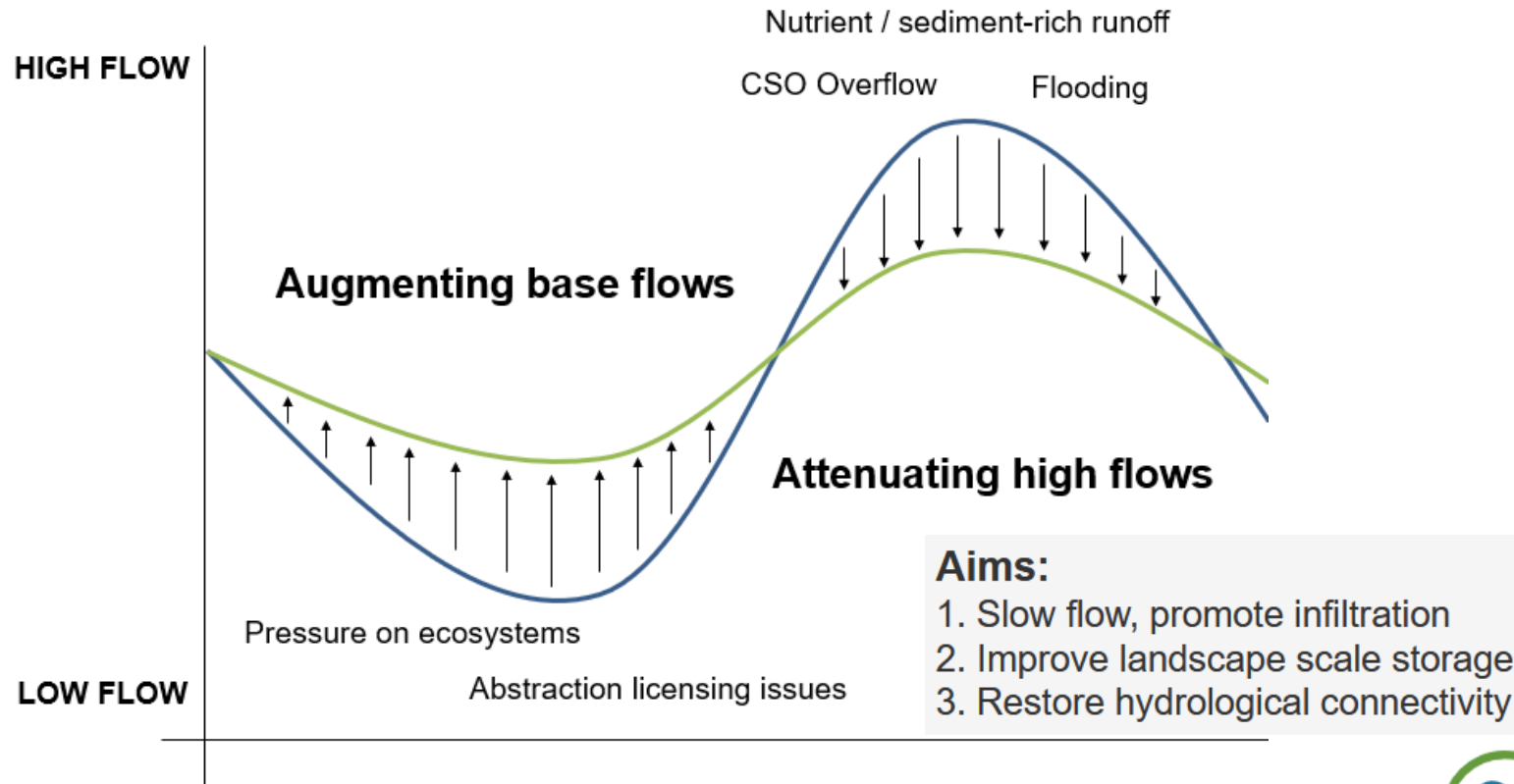




How can investing in nature help address water security challenges?

Roles NbS can play in intra-year variability

NbS help to **regulate flows**, reducing pressures on ecosystems, **extending abstraction periods** and **mitigating flood-related issues**



NORFOLK WATER
STRATEGY PROGRAMME

Proposed NbS for Water Resilience



River and Floodplain Restoration



Regenerative farming



Wetland Restoration



Runoff attenuation features



Constructed wetlands



Riparian Restoration

 Water Quality benefits

 Water Resources benefits



Barriers and opportunities for the implementation of NbS projects in Norfolk

Challenges for the adoption of NbS



**Collaboration among
stakeholders and holistic
approach to water security
challenges**



**Lack of incentives for
stakeholders to take the risk of
adopting new approaches**



**Lack of evidence on NbS-WS
benefits to reduce perceived
risks**

Funding for NbS is fragmented

£223m
for NbS
(62 projects)
2015-2021

Funding for NbS is available but does not directly target water security challenges

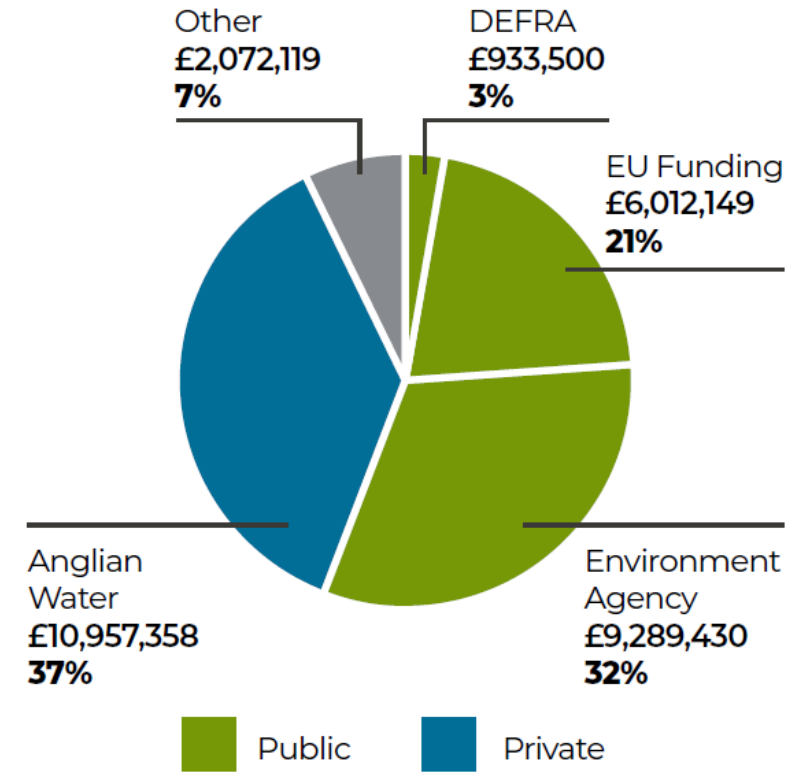
- Projects directly targeting WSC accounted for only 13% of total funds
- Indirect projects funded mostly agricultural best practice schemes
- Addressing water resource issues only accounted for 23% of total funds vs. 77% for water quality and flooding

Significant funding gaps identified for all project stages

- Mismatch between funding (3-5 years) and project timelines
- Project design/structuring – governance, legal and financing
- Feasibility studies and technical design
- Long-term operational support
- Long-term evaluation and monitoring
- Training/capacity building

Policy uncertainties remain but should soon be clarified

- Design of post-EU Exit Environmental Land Management schemes
- Development of Biodiversity Net Gain and land carbon credit markets
- Implementation of Nutrient and Water Neutrality requirements, and SuDS (FWMA Schedule 3) through the planning system



A highly complex and fragmented landscape

- TO DATE - Funding was provided from 20 funding sources to 20 recipients
- It has been mainly provided by Defra (through the CAP), Anglian Water, the Environment Agency and the European Commission
- Philanthropy funding mobilised via the Norfolk Wildlife Trust and the Norfolk Rivers Trust

Potential funding going forward

1

Public funding sources

- Important budget allocations announced by **Environment Agency's** programmes for flood risk reduction (i.e. Flood Defence Grant in Aid, the National Flood and Coastal Erosion Strategy)
- **Defra's** sustainable farming programmes (incl. the forthcoming ELM 'Landscape Recovery' scheme)

2

Emerging mechanisms to leverage funding and financing at a local scale

- Payment for ecosystem services
- Biodiversity Net Gain and nutrient trading schemes from developers
- Local climate and green bonds

3

Private and philanthropic funding sources are showing increasing interest in NbS benefits

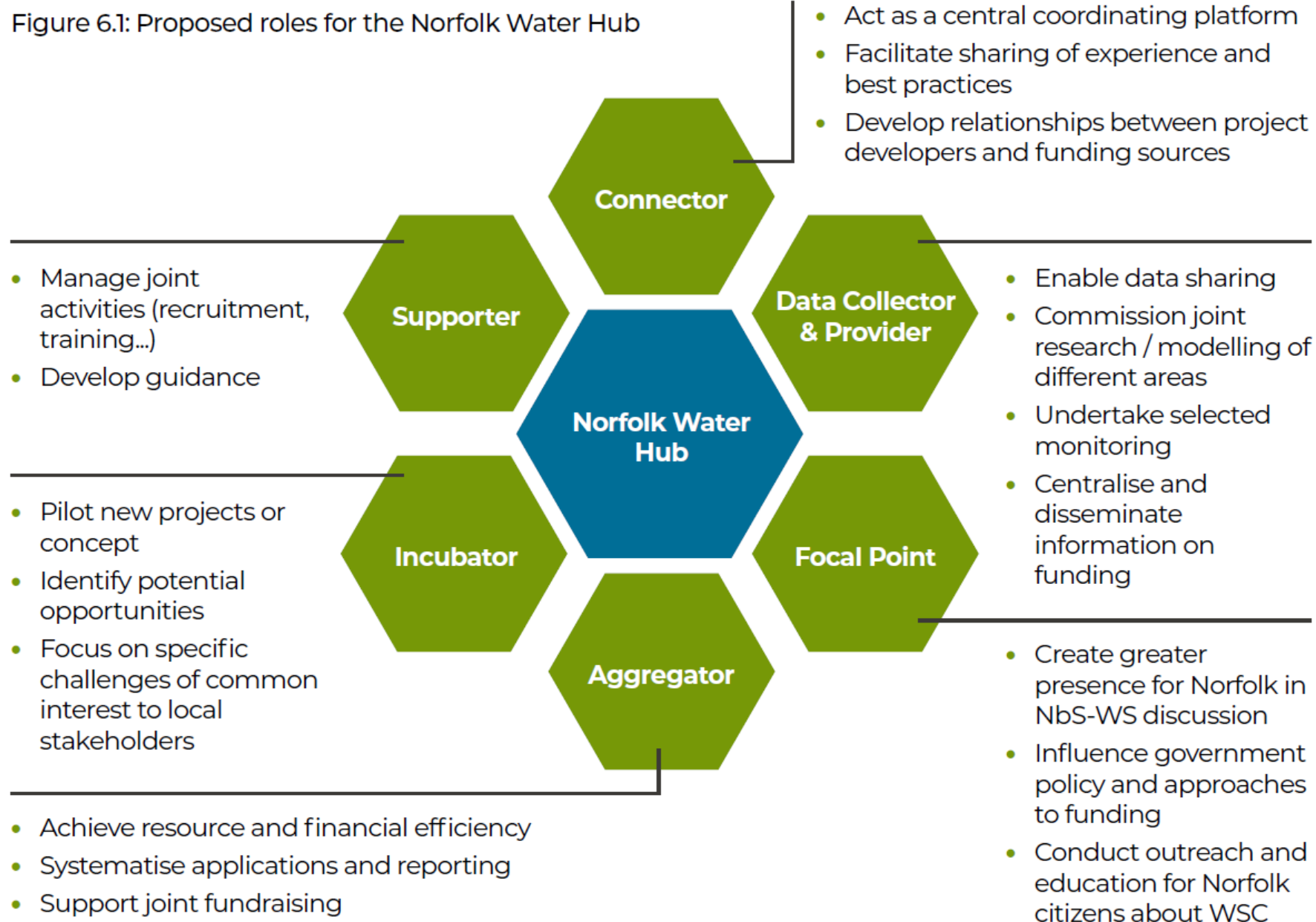
Anglian Water: Flourishing Environment Fund, Flood Partnership Funding, AW Green Bond Framework

Philanthropic sources: the Heritage Fund; the Veolia Environmental Trust; the Esmée Fairbairn Foundation and the John Ellerman Foundation – CSR contributions from large water users



NWSP recommendations

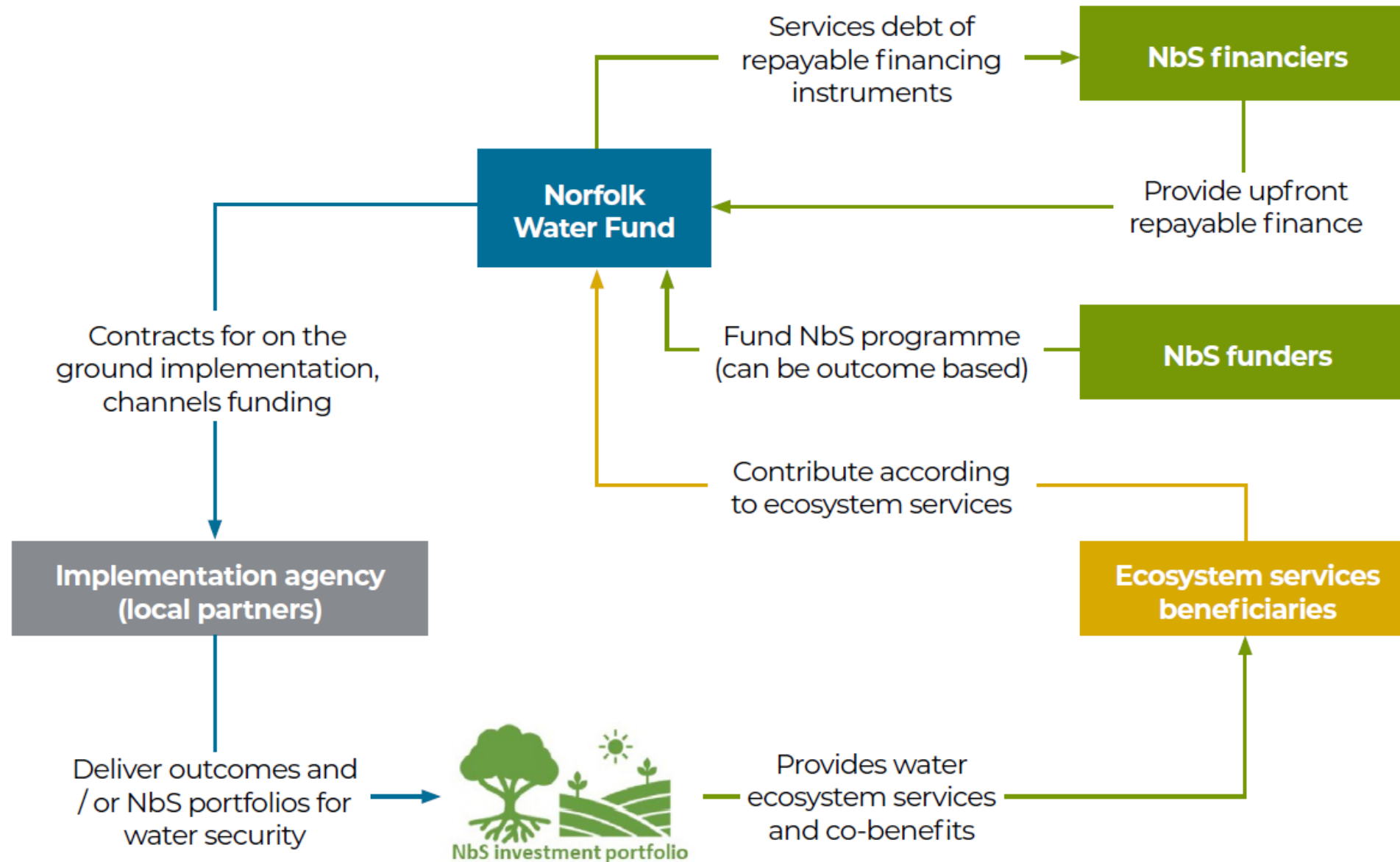
Figure 6.1: Proposed roles for the Norfolk Water Hub



Norfolk Water Fund



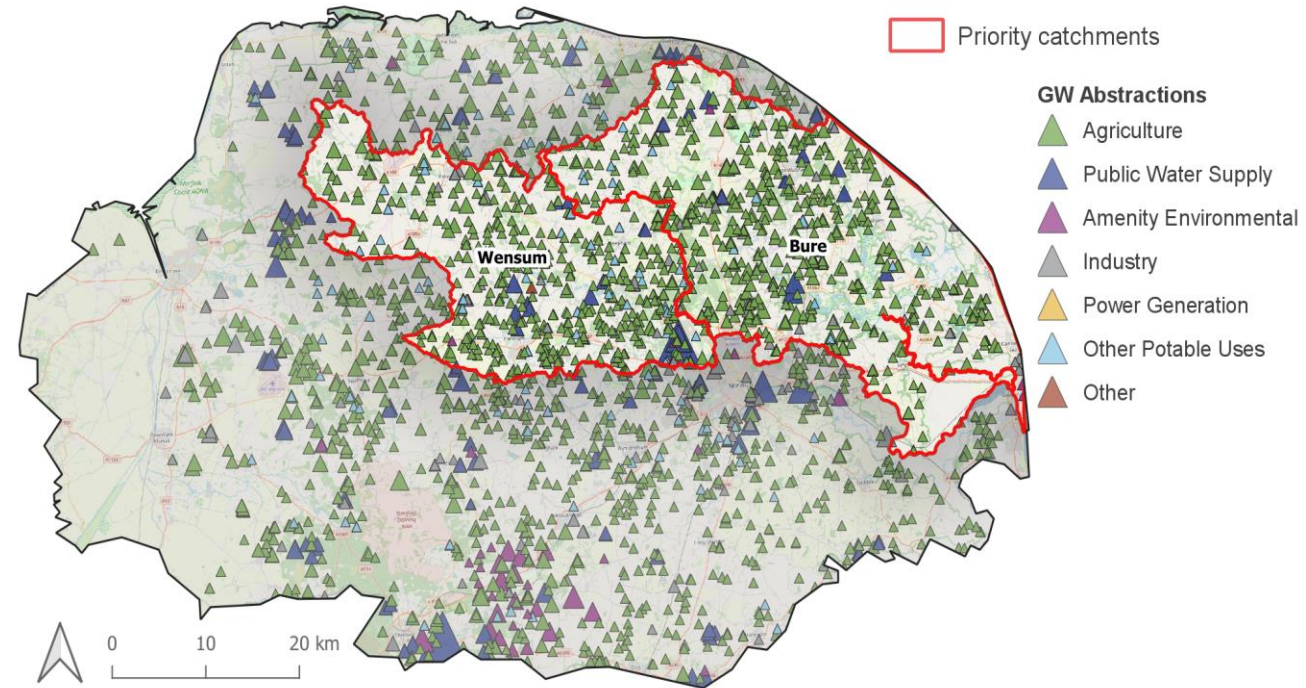
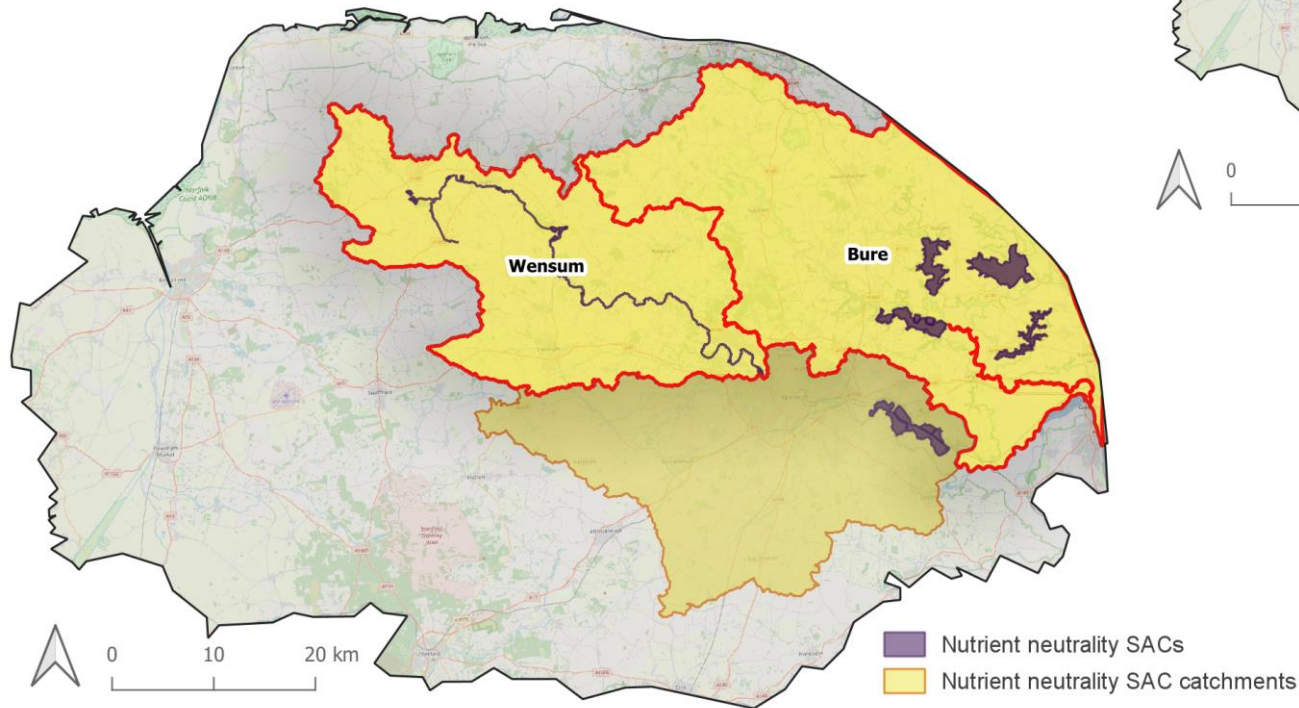
NORFOLK WATER
STRATEGY PROGRAMME



NWF: proposed initial focus

The Wensum and the Bure have been identified as priority areas for joined-up investment

- Need for reducing water abstractions
- Numerous SSSIs
- Primary area of concern for Nutrient Neutrality
- Opportunity to support and leverage existing local initiatives



Criteria to prioritise investments



	Option A – Focus on intra-year variability in water resources	Option B – Focus on water quality and nutrient balancing
Key WSC to address	Intra-year variability in water availability	Nutrient pollution in special protected areas
Primary Prioritisation Metric	Total additional days above/below given flow thresholds [days/year] at key monitoring points	Reduction in total nutrient load [kg/year] at key monitoring points
Co-benefit monitoring metrics	• Reduction in total nutrient load (kg/year) at key monitoring points • Volume of water improved by interventions • Total additional catchment water storage • Total carbon sequestered • Biodiversity gain • Area of catchment improved • Kilometres of rivers under improved management	• Total additional days above/below given flow thresholds (days/year) at key monitoring points • Volume of water improved by interventions • Total additional catchment water storage • Total carbon sequestered • Biodiversity gain • Area of catchment improved • Kilometres of rivers under improved management
NbS-WS to address WSC	• River and floodplain restoration • Arable regenerative agriculture (specific measures to be refined)¹ • Retention ponds/offline storage and attenuation features • Sustainable drainage systems (SuDS)	• Constructed wetlands • Wetland restoration • Riparian restoration • Arable regenerative agriculture (specific measures to be refined) • Retention ponds/offline storage and attenuation features • Sustainable drainage systems (SuDS)
Monitoring and assessment locations	• Public water supply intake points • Environment Agency/Water Framework Directive monitoring points • NbS-WS implementation extent	• Inflow points to special areas of conservation (SAC) • Environment Agency/Water Framework Directive monitoring points



Feedback on the Progress Report

Topics for stakeholder feedback

We welcome your feedback on the topics below.

Please provide your comments in this online feedback survey by 1st July 2022:
<https://forms.gle/UUp5CxZAUKeMSDmA7> or by email at contact@wre.org.uk

Question 1:

Have you gained a clearer understanding of the state of Norfolk's natural water assets and the challenges they currently face?

Question 2:

Have you gained a clear understanding of how nature-based solutions can contribute to tackling water security challenges in Norfolk?

Question 3:

Do you think that the set of proposed nature-based solutions can be deployed at a sufficient scale to contribute to address Norfolk's water security challenges?

Question 4:

Do you think that we have adequately identified the constraints and challenges for mobilising investment in nature-based solutions for water security in Norfolk? If not, which additional challenge do you see that would need to be addressed?

Topics for stakeholder feedback

Question 5:

Do you think that creating a collective action platform (Norfolk Water Hub) and an investment vehicle (Norfolk Water fund) is the right approach to tackle governance and funding challenges and support the adoption of nature-based solutions at scale in Norfolk?

Question 6:

Collective action platform (Norfolk Water Hub)

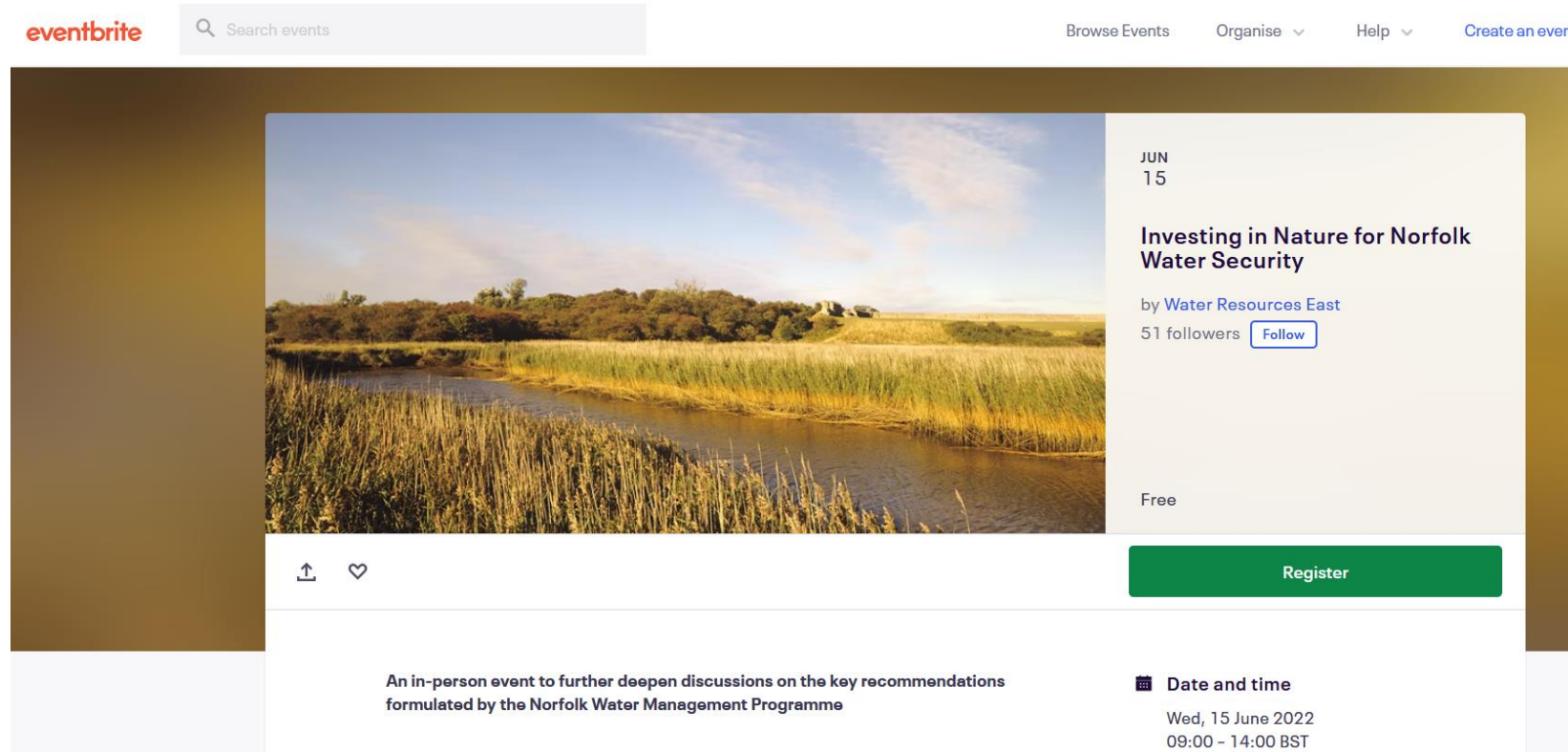
- a) Which roles do you think the Norfolk Water Hub should take on in order of priority?
- b) Do you have a preference in terms of hosting arrangements for the Norfolk Water Hub?
- c) Do you have a view on potential funding streams for the Norfolk Water Hub?

Question 7:

Investment vehicle (Norfolk Water Fund)

- a) Which of Options A (intra-year variability) or B (water quality/nutrient balancing) should be the primary focus of the investment vehicle in the county? Please elaborate on the reasons why.
- b) Do you agree with the selected priority catchments for investing in a targeted manner in nature-based solutions for water security, i.e. the Bure and the Wensum?
- c) What type of analysis and evidence do you think would be necessary to make a strong case to potential funders and investors for restoring and protecting Norfolk's water assets?
- d) Do you have a view on the preferred organisational arrangements for the Norfolk Water Fund?

Join us at the Gressenhall Museum for an in-person workshop on June 15th 9:30am-2pm



The screenshot shows an Eventbrite event page. At the top, there's a search bar and navigation links: 'Browse Events', 'Organise', 'Help', and 'Create an event'. The main image is a landscape with a river and reeds. To the right of the image, the event title 'Investing in Nature for Norfolk Water Security' is displayed, along with the organizer 'Water Resources East' and a 'Follow' button. Below the image, there are icons for sharing and liking. A green 'Register' button is prominent. At the bottom, a description states: 'An in-person event to further deepen discussions on the key recommendations formulated by the Norfolk Water Management Programme'. The date and time are listed as 'Wed, 15 June 2022 09:00 - 14:00 BST'.

eventbrite Search events

Browse Events Organise Help Create an event

JUN 15

Investing in Nature for Norfolk Water Security

by Water Resources East

51 followers Follow

Free

Register

An in-person event to further deepen discussions on the key recommendations formulated by the Norfolk Water Management Programme

Date and time
Wed, 15 June 2022
09:00 - 14:00 BST

<https://www.eventbrite.co.uk/e/investing-in-nature-for-norfolk-water-security-tickets-350676301257>

Including a site visit of the [Wendling Beck Environment Project](#)



Q&A session

Contact: contact@wre.org.uk