











**INVESTING IN** NATURE FOR NORFOLK'S WATER SECURITY-**Business Case** Summary



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









Climate

**Physical modification** of water bodies

'Permanent' water being withdrawn

Water quality impacting unique wildlife sites and stalling development

Flood risk regularly and severely affecting



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

### The Norfolk Water Fund

Aiming for a £30 million portfolio of Nature-based Solutions for improved water security



**Runoff attenuation** 





Soil management



**Arable conversion** 



More water in the landscape

3.7



Improved river water quality

273 kgs of 13,794 kgs of nitrogen offset/year



**Improved** habitats for wildlife

25,800<sub>ha</sub> benefiting from NbS interventions



housing development

1,721 worth £158 million



£10.8 lion worth of CO capture and removal of micro-particulates

Each £1 invested in Nature-based Solutions unlocks £6.70 in benefits

£44.5 million of new revenue for farmers

from Nutrient Neutrality and Biodiversity Net Gain environmental markets

Significant opportunity to create iobs and generate social, health and wellbeing co-benefits

The Norfolk Water Strategy Programme (NWSP) has developed a business case to address water challenges facing Norfolk through Nature-based Solutions (NbS). This summary document outlines the water challenges and presents the economic case for investing in solutions inspired by nature that encourage infiltration, reduce pollution and bring wider benefits. The business case will be useful for regulators, local authorities and investors, as well as a wide range of economic, environmental and farming stakeholders, to come together to solve Norfolk's water challenges.

### What are Norfolk's water challenges?

Investing in Nature

for Norfolk's Water Security

Norfolk is blessed with significant environmental assets, but faces pressing water challenges. These include the quantity of water available for domestic, agricultural and industrial use, the quality of this water, and flooding.

A growing population, degradation of ecosystems and a changing climate are exacerbating these challenges. They are impacting the environment but also the economy - most noticeably through nutrient neutrality and abstraction licence restrictions. Solving Norfolk's water challenges requires solutions outside of the status quo, involving collective action between multiple partners.



4

INVESTING IN NATURE FOR NORFOLK'S WATER SECURITY-Business Case Summary

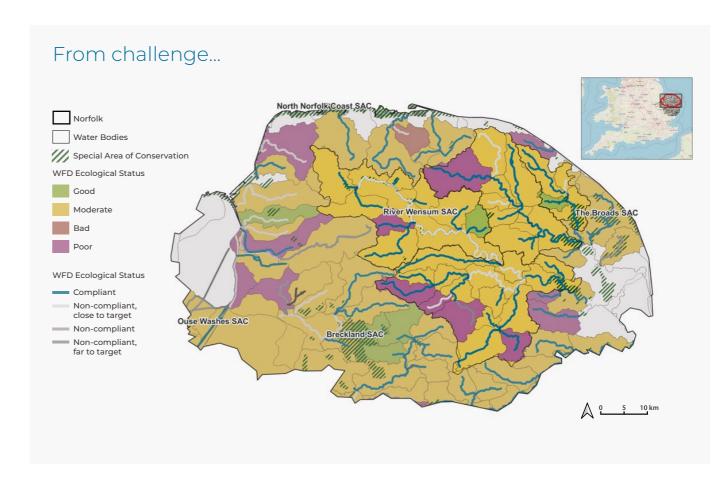
## What are Nature-based Solutions?

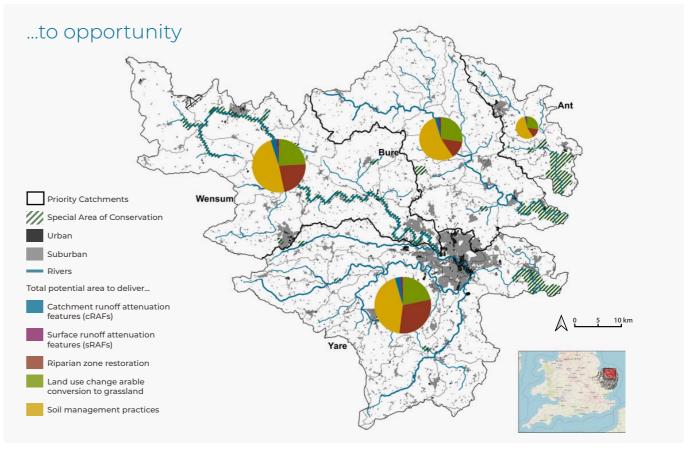
The Norfolk Water Strategy Programme is promoting Nature-based Solutions as an innovative way to complement traditional grey infrastructure in tackling water challenges, delivering against environmental and economic outcomes, and yielding significant co-benefits. NbS are actions that protect, sustainably manage and restore natural or modified ecosystems to address societal challenges effectively and adaptively, simultaneously providing human wellbeing and biodiversity benefits (International Union for the Conservation of Nature, 2016).

Key areas requiring solutions are the river catchments feeding the Wensum and Broads Special Areas of Conservation – the Wensum, Yare, Bure and Ant. These rivers face particular challenges of nutrient neutrality restrictions and increasing abstraction licensing constraints. They are also centres of significant projected population growth in Norwich and towns such as Dereham.

In these areas, analysis has shown that priority NbS should focus on reducing, slowing and infiltrating runoff, by changing land use in priority areas through interventions including leaky ponds, buffer strips and soil management measures. These solutions can be integrated into schemes for local nature recovery – limiting additional land take and potential conflicts with economic objectives or food production.









INVESTING IN
NATURE FOR
NORFOLK'S
WATER SECURITYBusiness Case
Summary

## A strong case for Nature-based Solutions

Our modelling shows NbS have a remarkable potential to deliver multiple water and environmental benefits. These include increased recharge to groundwater, mitigation of nutrients in watercourses and high-quality habitats for wildlife. There are also wider economic benefits through improvement of air quality and unlocking of housing development. The NbS we modelled have the potential to generate significant economic value to Norfolk, with each £1 invested unlocking £6.70 in benefits.

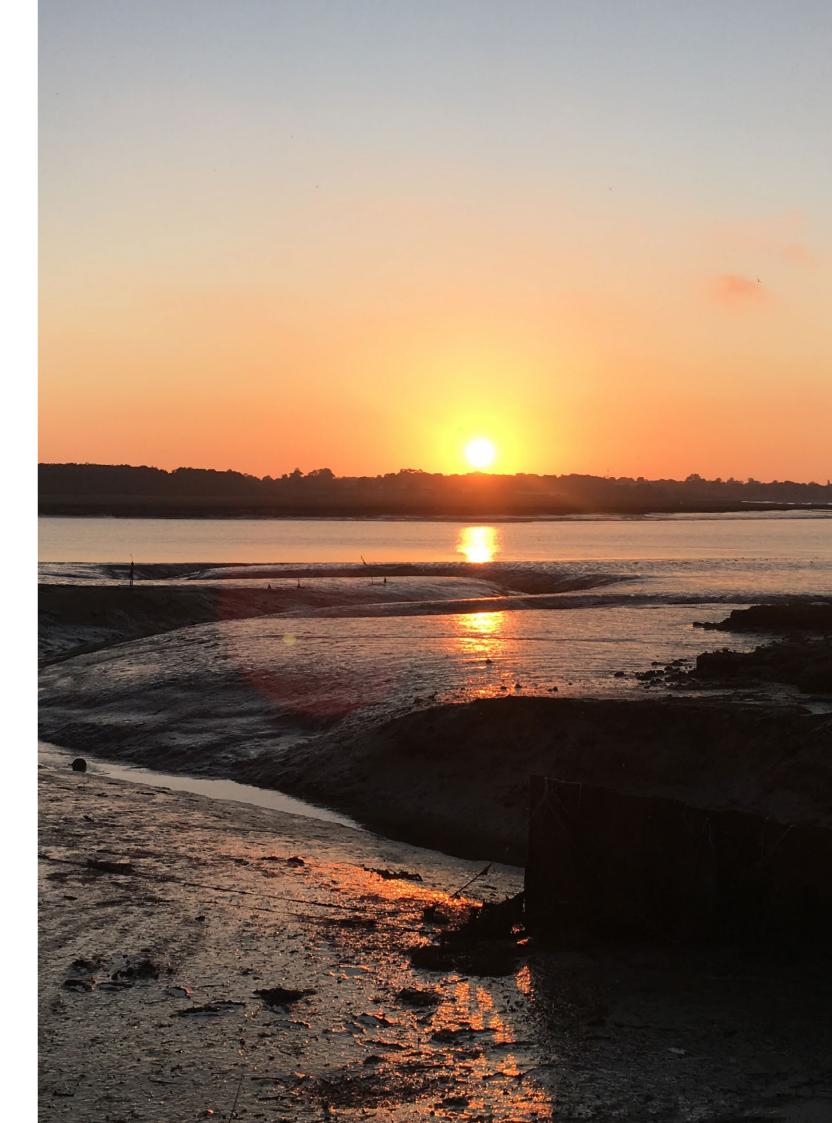
Moreover, Nutrient Neutrality and Biodiversity Net Gain (BNG) schemes represent significant new opportunities for farmers to diversify their income.

Looking beyond Nutrient Neutrality and BNG, our work indicates a larger programme of NbS could help secure the flow conditions and water quality required to protect the Wensum and Broads. NbS at this scale would also generate social benefits in the form of green jobs and wellbeing that are yet to be quantified. Securing delivery of NbS at this scale will require innovative thinking in terms of private and public funding, which we will continue to develop in partnership.

# Establishing Norfolk as a centre of excellence for NbS

Over the next 18 months, we are committed to deliver and monitor pilot projects in the NWSP pipeline which will generate further understanding of the specifics of design, delivery and financing. At the same time, we will conduct work to understand the scale of opportunity NbS represent for environmental benefits and identify novel funding streams and strategies for future delivery. To deliver this next phase, the Norfolk Water Strategy Programme has a funding need of £1.2 million.

Through the business case, we have built a foundation to kickstart NbS delivery at scale. Now is the time for partners to come together through collective action and commit funding for delivery. Together, we can demonstrate how NbS address water challenges and establish Norfolk as a learning hub for NbS implementation.





To find out more

email nwsp@wre.org.uk

visit wre.org.uk/projects/norfolk-water-strategy-programme/









