



Suffolk Holistic Water Management Project

Jane Burch

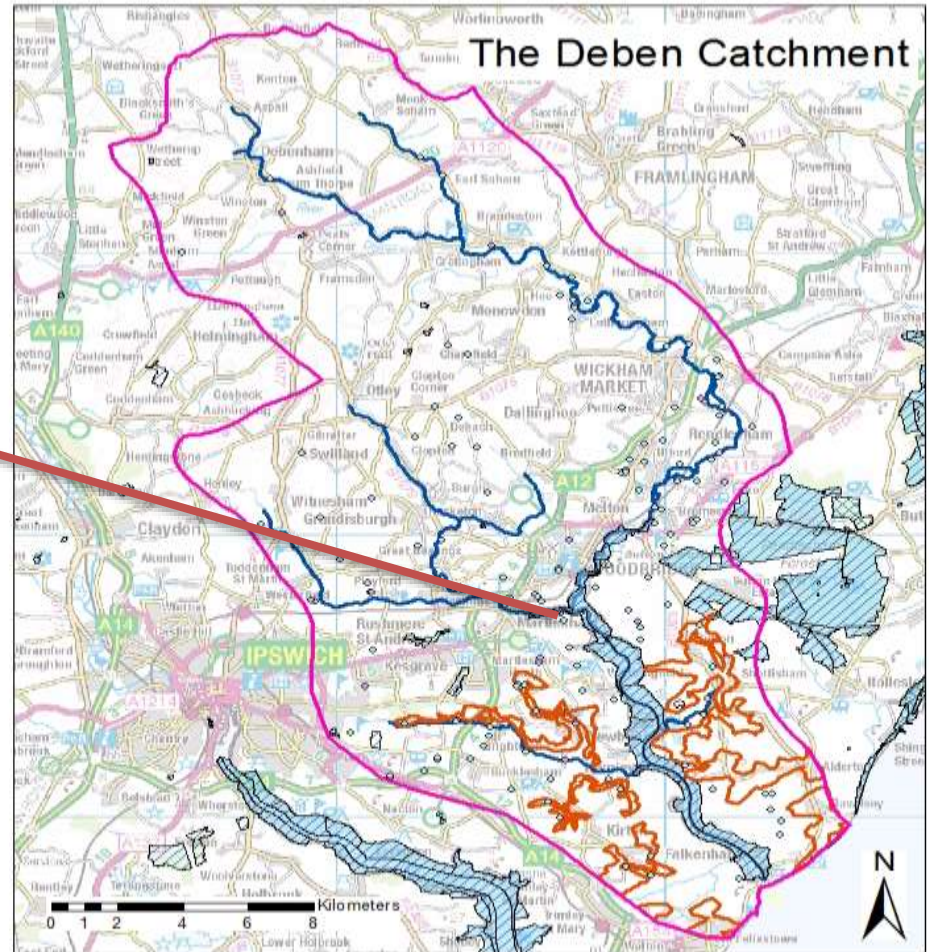
Project Co-ordinator, Suffolk County Council

Kindly sponsored by the Water Management Alliance



How would you manage water in a catchment (assuming there were no constraints)?





The Deben Catchment

Legend

- | | | |
|--|-----------------|------------------------------|
|  | Deben_catchment | Licensed Abstractions |
|  | SAC | ◊ Agriculture |
|  | SSSI | ◊ Environment |
|  | SPA | ◊ Industry |
|  | Exposed crag | ◊ Water supply |

Project Objectives



Natural Flood Management

Storage reservoirs
(built or natural)

Utilising drainage
water as a resource

Aquifer storage and
recovery

Rural SuDS /
connection to flood
plain

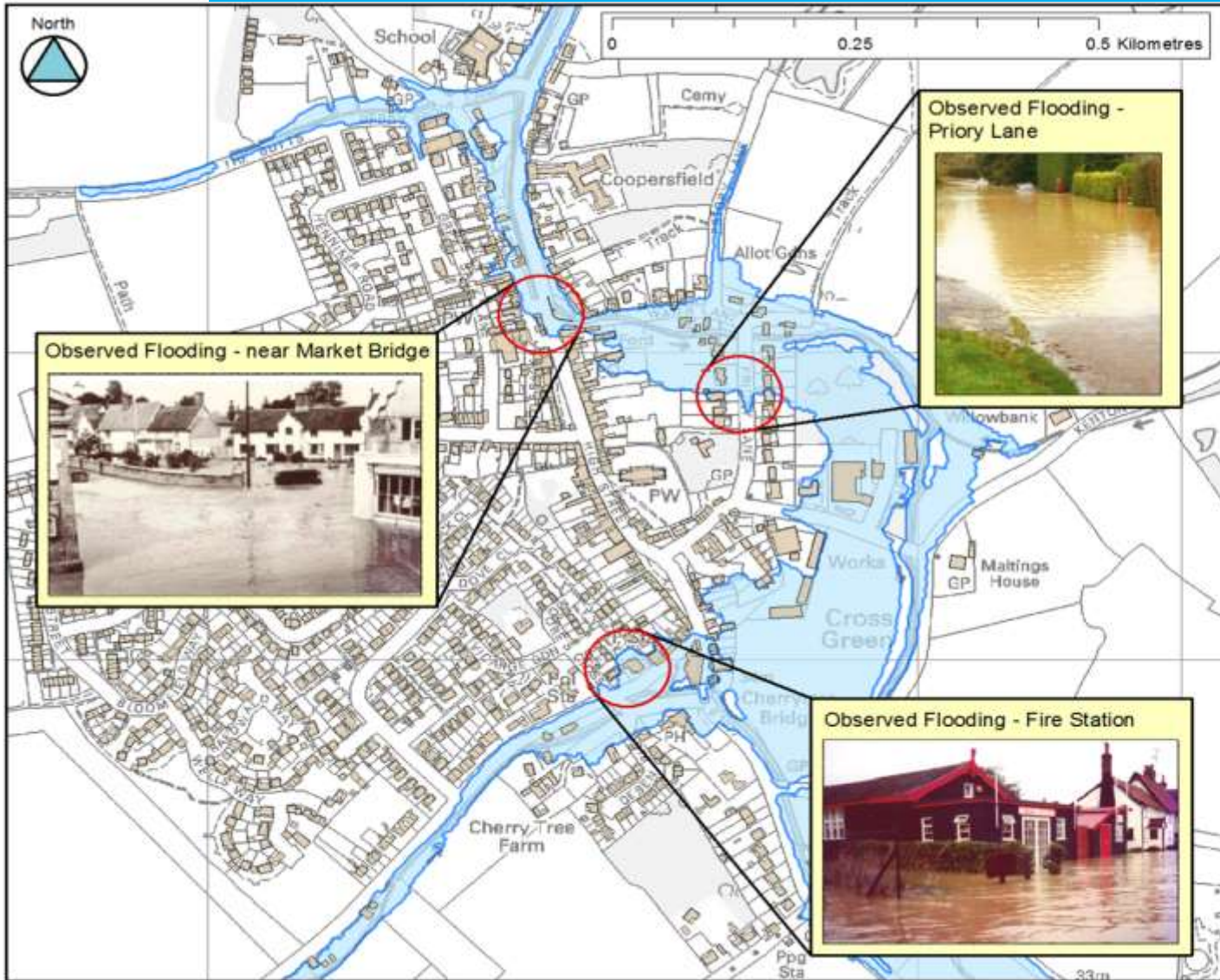
Channel morphology
improvements

Regulatory and fiscal
changes

What do you understand by **Natural Flood Management** ?

What additional benefits might this approach deliver in addition to managing flood risk?

Debenham Flood Risk Management Project



Legend

- Buildings
- 20-year Outline

Contains Ordnance Survey data.
 Crown copyright and database right reserved [2014].
 © Crown copyright.
 Environment Agency. 100026380.

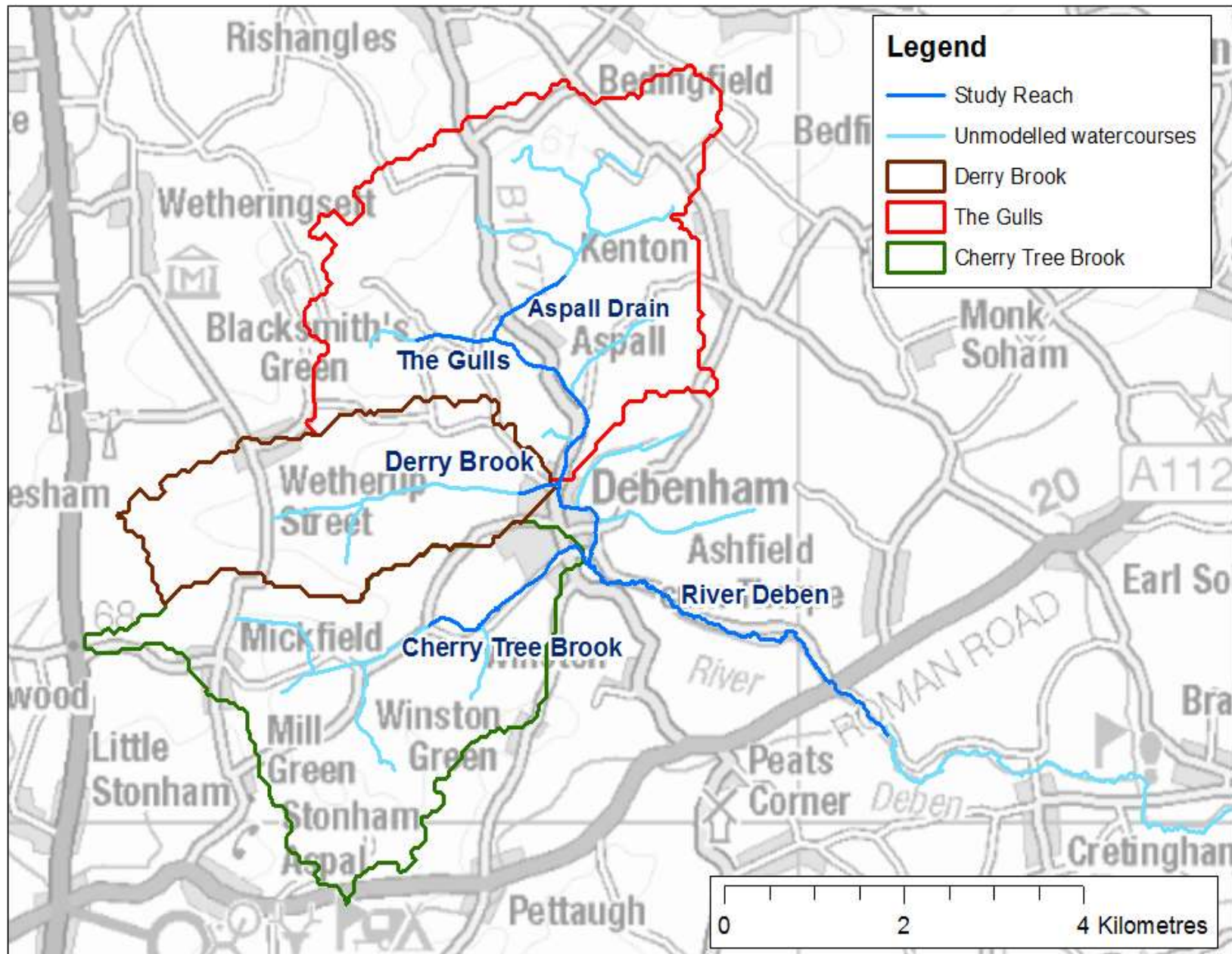


Fluvial Flood Extent
 (1 in 20-year)

Debenham Village Flood
 Modelling

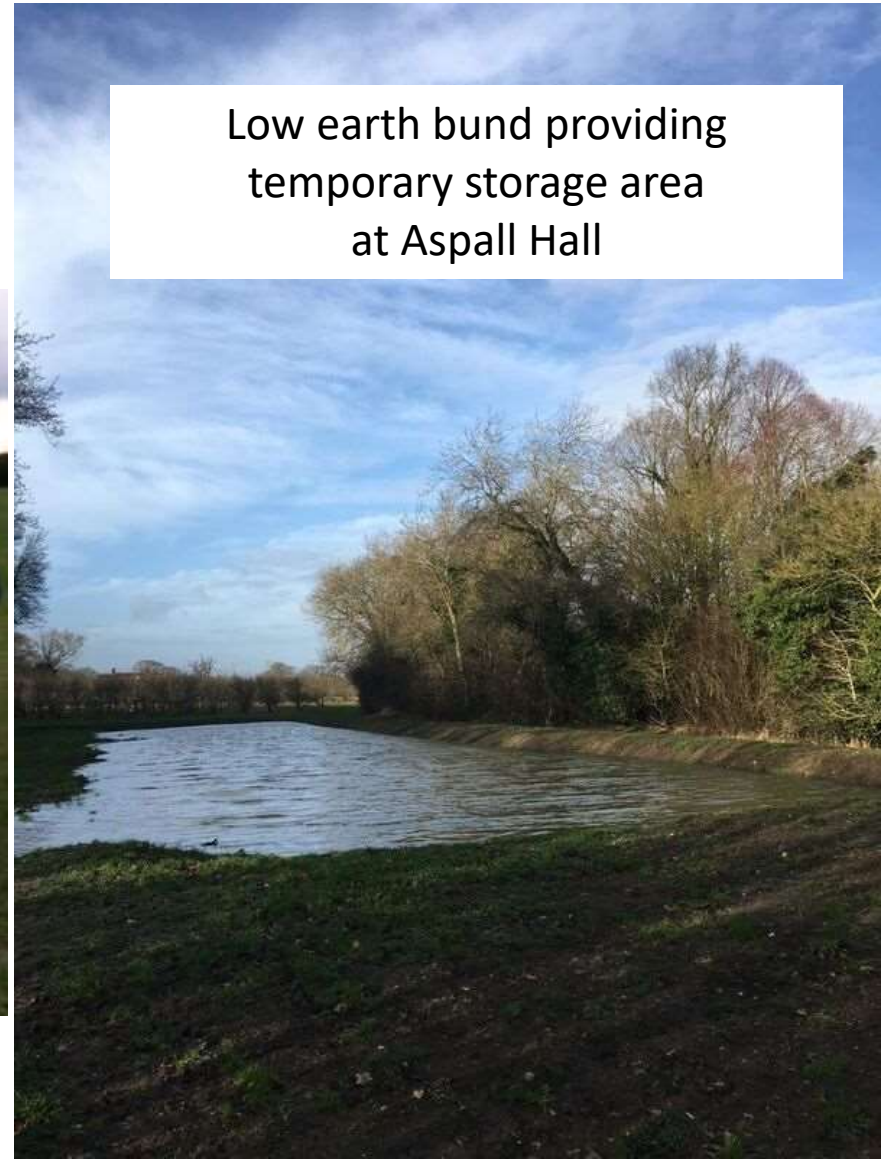
Produced by: KRH 09/04/2014

Checked by: CER 09/04/2014





Simple pond
at Debenham Hall Farm



Low earth bund providing
temporary storage area
at Aspsall Hall

Debenham – Natural Flood Management



Hill House Farm - NFM Feature

0.5 ha.

6,700 m³ flood attenuation.

£81k

(Local Levy / SCC / Rivers Trust)



Project Objectives



Natural Flood Management

Storage reservoirs
(built or natural)

Utilising drainage water as a resource

Aquifer storage and recovery

Rural SuDS /
connection to flood plain

Channel morphology improvements

Regulatory and fiscal changes

Improving the river environment

Removing structures

Planting trees

Reconnecting to the floodplain

Creating meanders, etc

Reduced bank and channel maintenance

Adding fish refuges



Project Objectives



Natural Flood Management

Storage reservoirs
(built or natural)

Utilising drainage
water as a resource

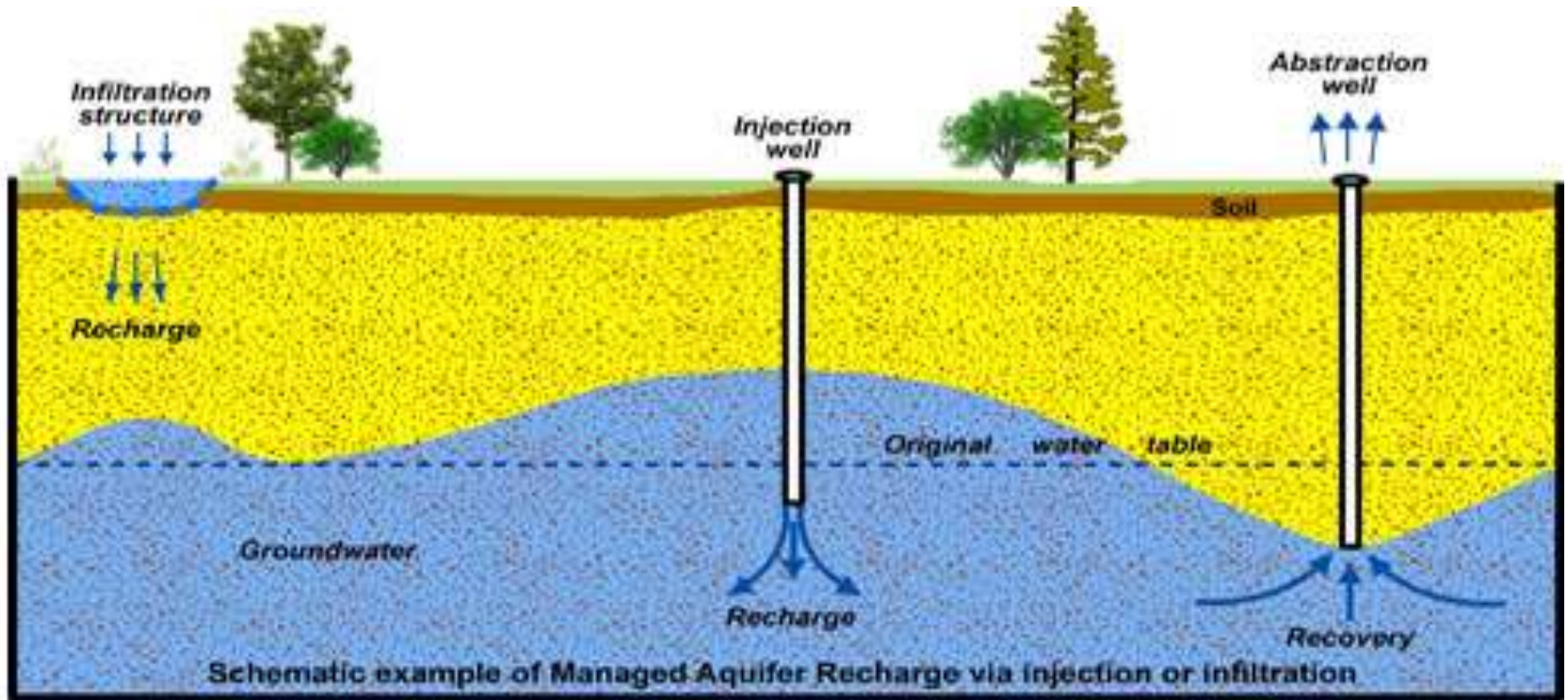
Aquifer storage and
recovery

Rural SuDS /
connection to flood
plain

Channel morphology
improvements

Regulatory and fiscal
changes

Managed Aquifer Recharge



Project Objectives



Storage reservoirs
(built or natural)

Natural Flood
Management

Utilising drainage
water as a resource

Aquifer storage and
recovery

Channel morphology
improvements

Rural SuDS /
connection to flood
plain

Regulatory and fiscal
changes

Felixstowe Peninsula water resource project

Key drivers:

- No new water available but increasing demand from farmers and Water Company
- Possible claw-back of existing licences
- IDB pumping activity damaging environment

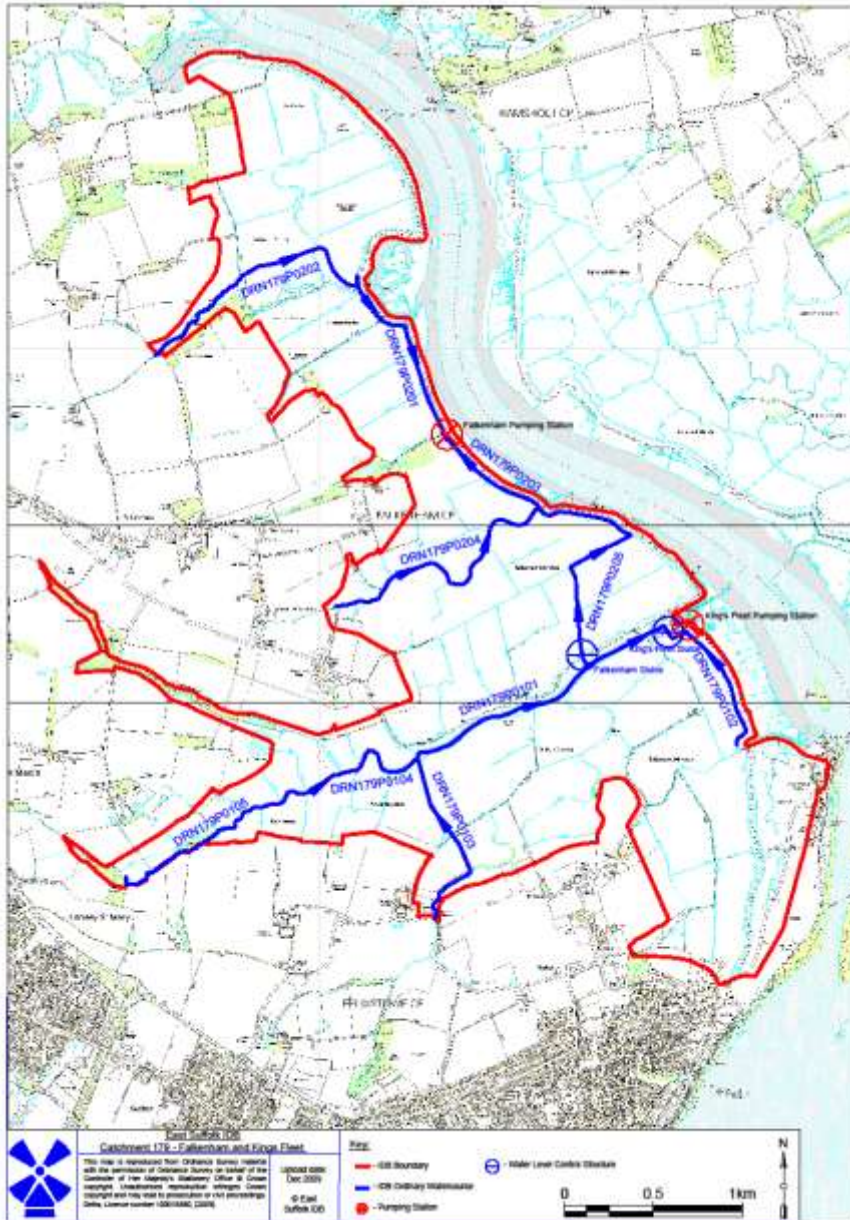


Felixstowe Peninsula water resource project

Water resources and demand:

- 650-1000 Ml available per annum - enough to grow crops worth £2.4m
- Up to 11 landowners interested, with demand for circa 650Ml per annum in average year
- Potential collaboration with Anglian Water





Map of IDB catchment



- More or less equal demand and supply volume
- Pump runs mainly in winter and when its wet.
- IDB has a duty to prevent flooding
- Farmers use most water in the summer and when its dry
- Most farms have reservoirs to store water

Felixstowe Peninsula water resource project

Options considered

- Large collaborative reservoir near Kings Fleet
- Using the Kings Fleet itself
- Using on farm storage
- Combination of above

Other key issues:

- Potential collaboration with Anglian Water
- Need for freshwater flows into estuary to support birds and eels/WFD requirements
- Reduced pumping will reduce damage to protected environment
- Water quality
- Governance

Felixstowe Peninsula water resource project

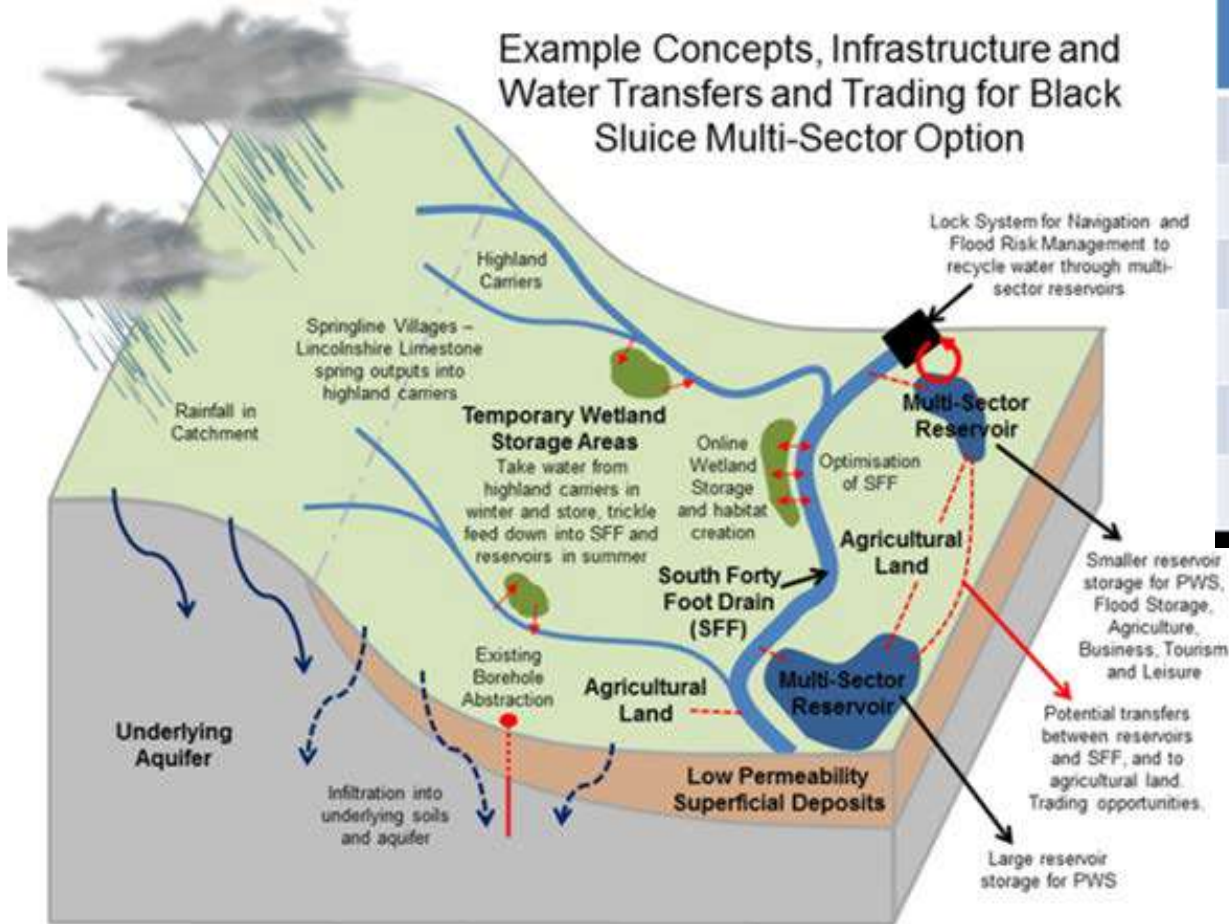
- Using delph as area to pump from direct to farm pipe network
- Floating pumps with quality controls
- 9km pipeline (easements agreed)
- Capital investment c £3m (private/grants)
- Landowner Company with IDB involved
- IDB hold abstraction licence
- Landowners expanding own capacity to store water

Key issues and challenges to consider if doing this elsewhere

- Costs
- Grants and funding
- Collective reservoir or more on farm storage ?
- Water quality
- Pipeline routing – planning, archaeology, easements, environmental restrictions, road crossings
- Establishing environmental requirements for freshwater flows into estuary
- Landowner commitment
- Abstraction licence
- Governance of the project/water resources

South Lincolnshire Case Study

Example Concepts, Infrastructure and Water Transfers and Trading for Black Sluice Multi-Sector Option



Sector	Maximum Estimated Storage Requirement (Mm3)
Water Supply	50
Agriculture	5
Flood Storage	4
Environment	1.5
Navigation	0.06
Total	60.56 (~60)



Latest news:

Defra Abstraction Reform Initial Pilot Catchment

Interreg bid – got through 1st round.

This would bring capital investment and support MAR/quality issue investigations

Awaiting announcement re WEG bid to improve outfall, alter pumping regime and restore saltmarsh

£5000 for further NFM projects

MAR trial going ahead next winter



**Any Questions or
Comments?**



For further information see our website:

www.greensuffolk.org/HWMP

or contact project co-ordinator

Jane Burch

 07734 302023

jane.burch@suffolk.gov.uk