



The Humber Flood Risk Management Strategy

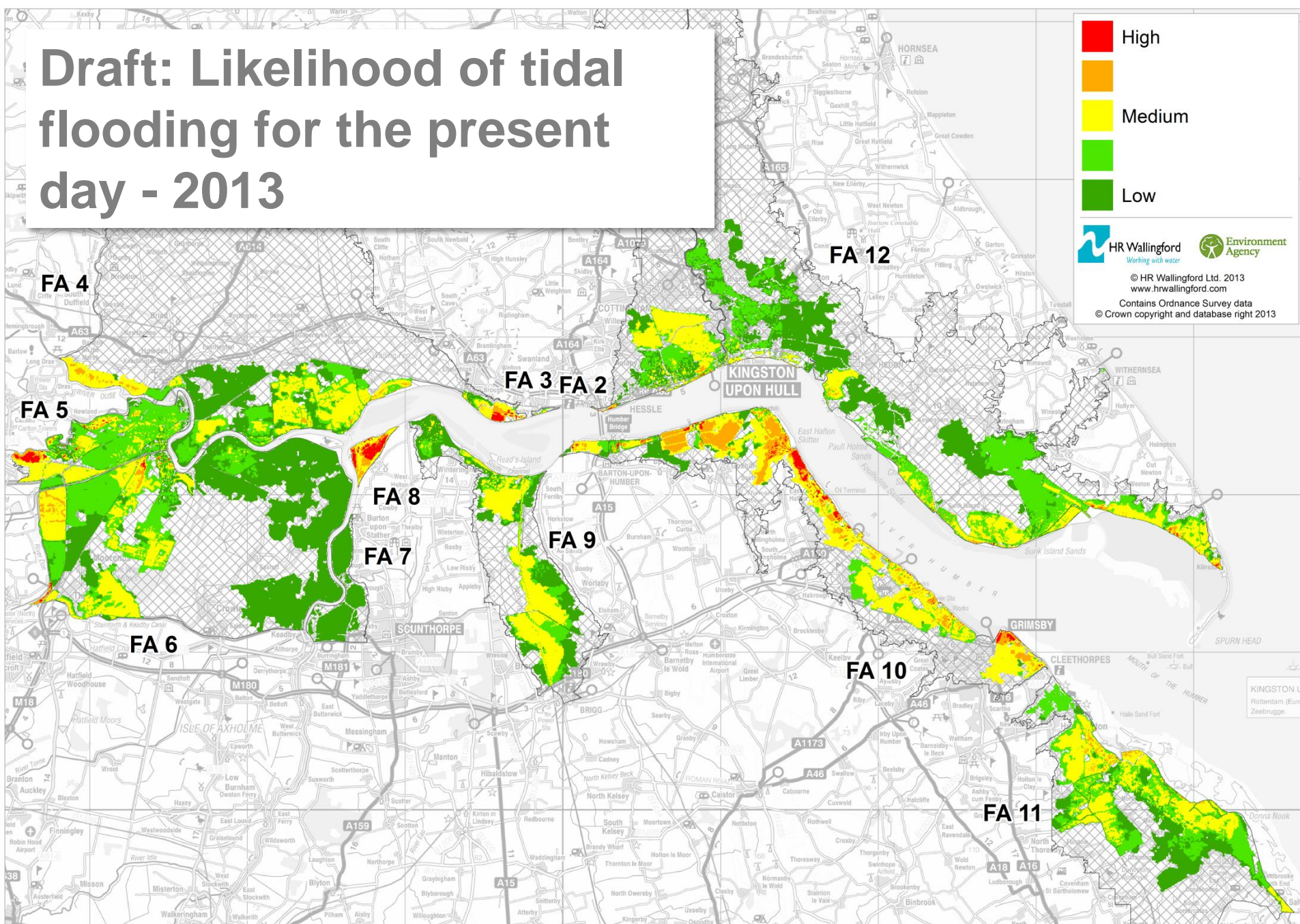
Helen Todd
Acting Humber Strategy Manager
October 2016

The Importance of the Humber

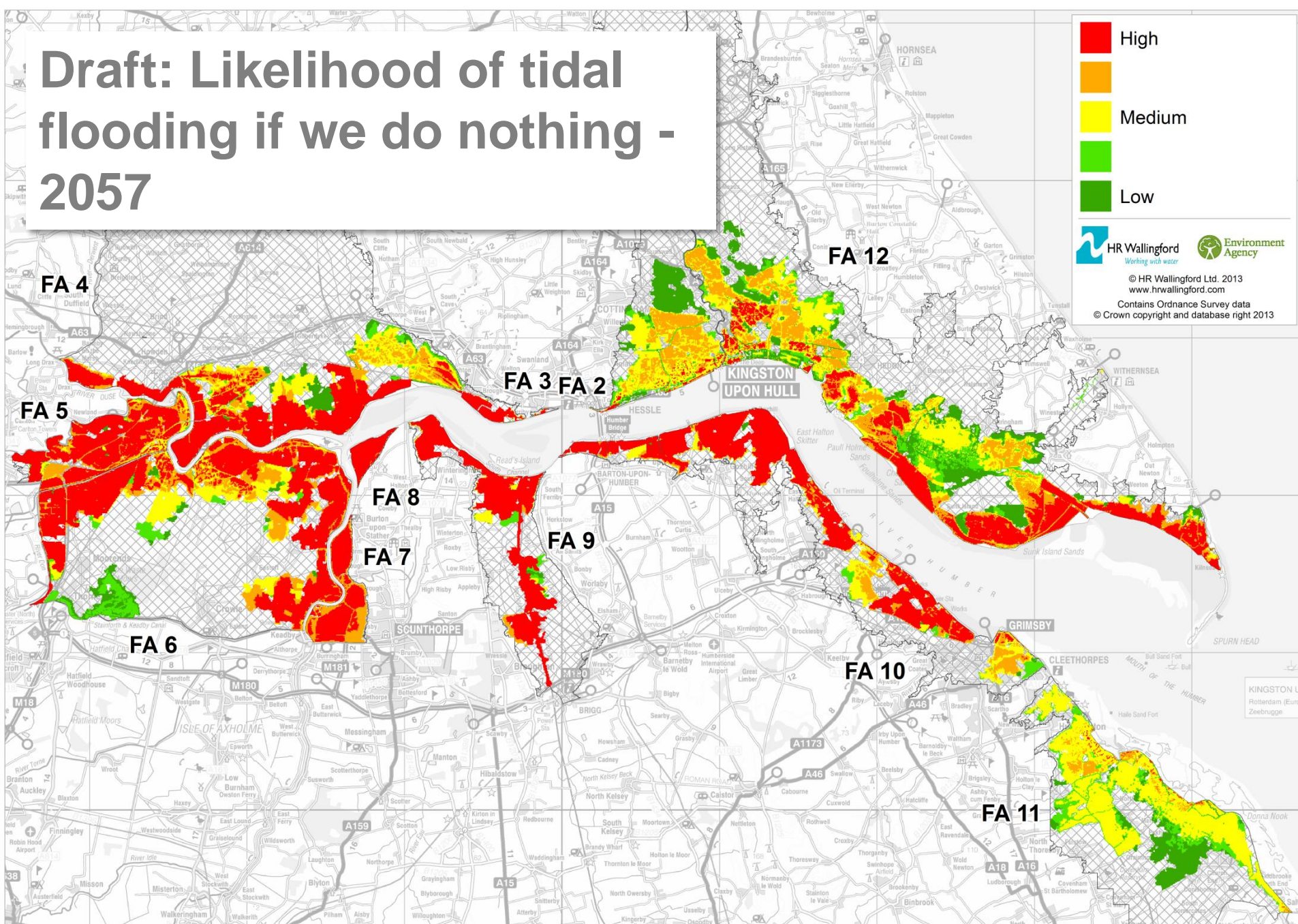
400,000 people
205,000 properties
32,500 businesses
115,000 hectares of land
Major industry
UK's large port complex



Draft: Likelihood of tidal flooding for the present day - 2013

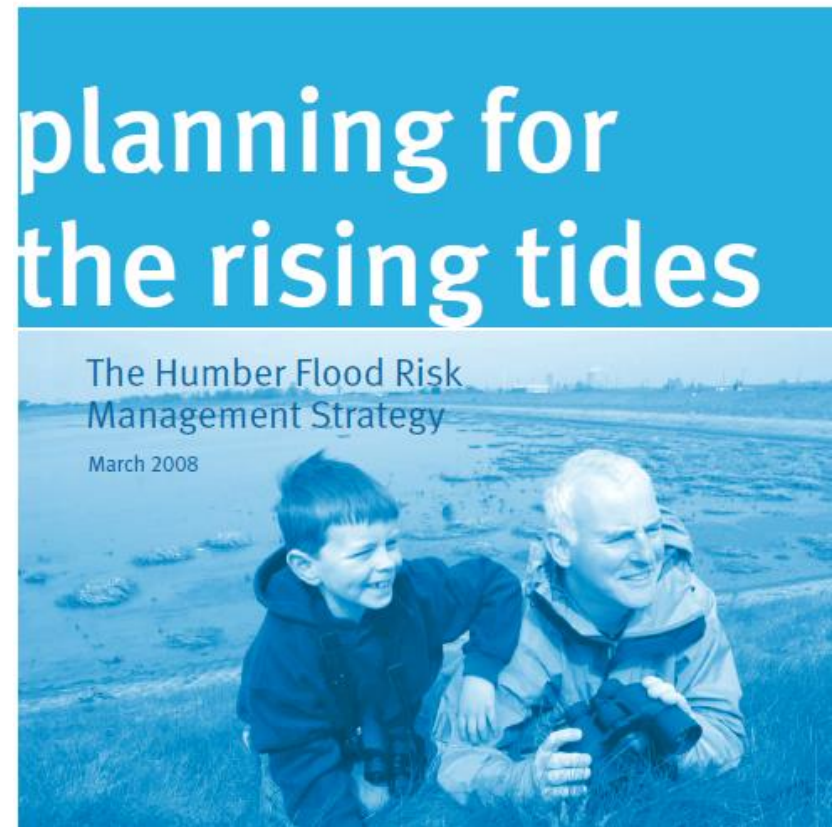


Draft: Likelihood of tidal flooding if we do nothing - 2057



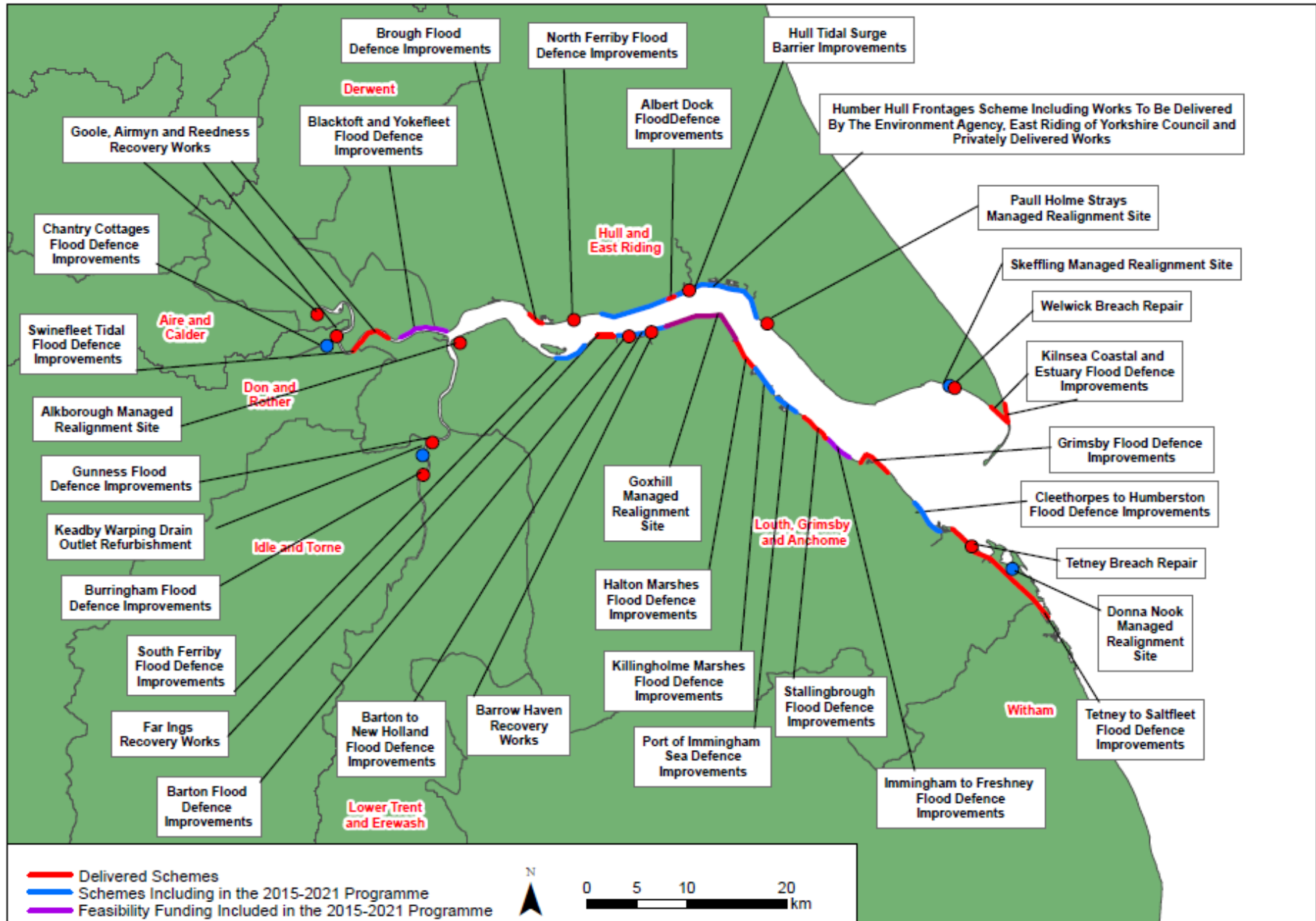
Background

- ➔ The Humber Flood Risk Management Strategy (FRMS) was approved by Defra in 2007
- ➔ The public facing document “Planning for the rising tides” was published in March 2008
- ➔ Set out approach to manage tidal flood risk over the next 100 years





Progress since 2007



2011 update objectives

- ➔ Account for new legislation (Flood and Water Management Act, Floods Directive, etc).
- ➔ New policies such as Partnership Funding, under which nearly all schemes need local contributions in order to be deliverable.
- ➔ Appropriately synchronise the strategy with the Water Framework Directive.
- ➔ Achieve joint adoption of the updated strategy, which leads to **scheme implementation**.

December 5th 2013

A map of the Humber estuary and surrounding land. The land is shown in light grey, and the water in the estuary is white. Dark grey areas represent flooded land, primarily along the southern and western banks of the estuary. A network of white lines represents roads and railways. The title 'December 5th 2013' is in the top left corner.

➔ The storm surge on 5th December 2013 we recorded some of the highest ever water levels on the estuary.

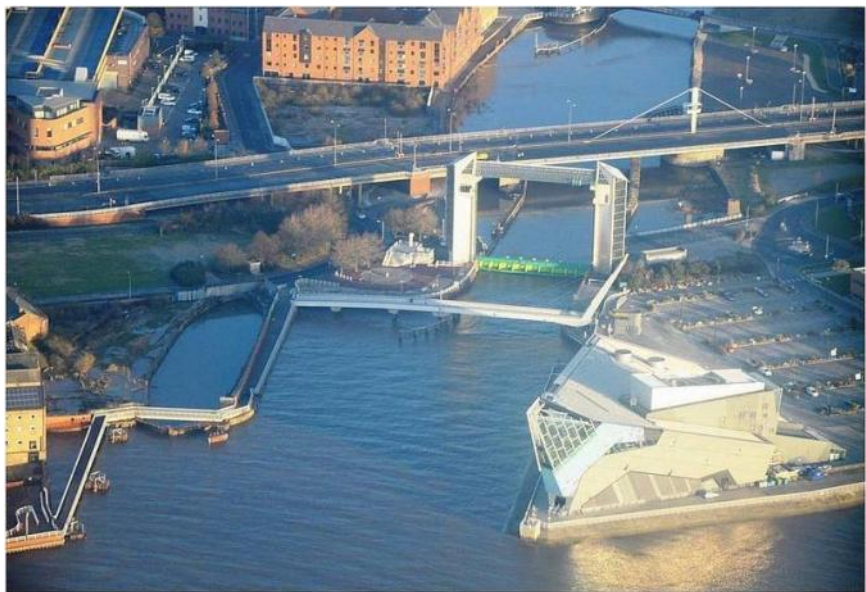
➔ Significant flooding with over 40km of defences overtopped, 2 breaches resulting in nearly 1200 properties and 7000 ha of land flooding.



5th December 2013, 19:31



5th December 2013, 19:35



Hull



Welwick



Blacktoft/Saltmarshe



Grimsby

Tidal surge

December 2013

Environment Agency
The Humber



Issued across The Humber - 05/06 December 2013



12,000

Warnings sent directly to homes and businesses



1500 **

People evacuated



Media interviews carried out



156,000

Properties protected by flood defences operated by the Environment Agency and partners

250
KM of Flood defences put to the test



1170*

Properties flooded across the Humber



* figure correct as of 17/12/13. ** approximate figure provided by EA and partners.

produced by Benjamin Carty as part of the Media and FCRM Communications Team, Yorkshire and North East Region

Impacts on the Strategy on our work

- ➔ The flooding produced a new evidence base for flood risk on the Humber.
- ➔ A new 'interim' water level profile was published.
- ➔ Geophysical inspection of the defences has been undertaken.
- ➔ The flooding provided a way for us to much better calibrate our modelling and technical work.

MPs Business Case

- ➡ Following the flooding there was an increased political focus on flood risk activities on the Humber.
- ➡ A cross-party group of MPs put forward a case to Government to request £1.28bn to raise all the Humber defences to a 1 in 200 year standard of protection.
- ➡ The case underwent a technical review by the EA.
- ➡ Secretary of State for the Environment response – work together to undertake a “Comprehensive Review” of the Humber Strategy.

The Humber FRMS Comprehensive Review

Helen Todd

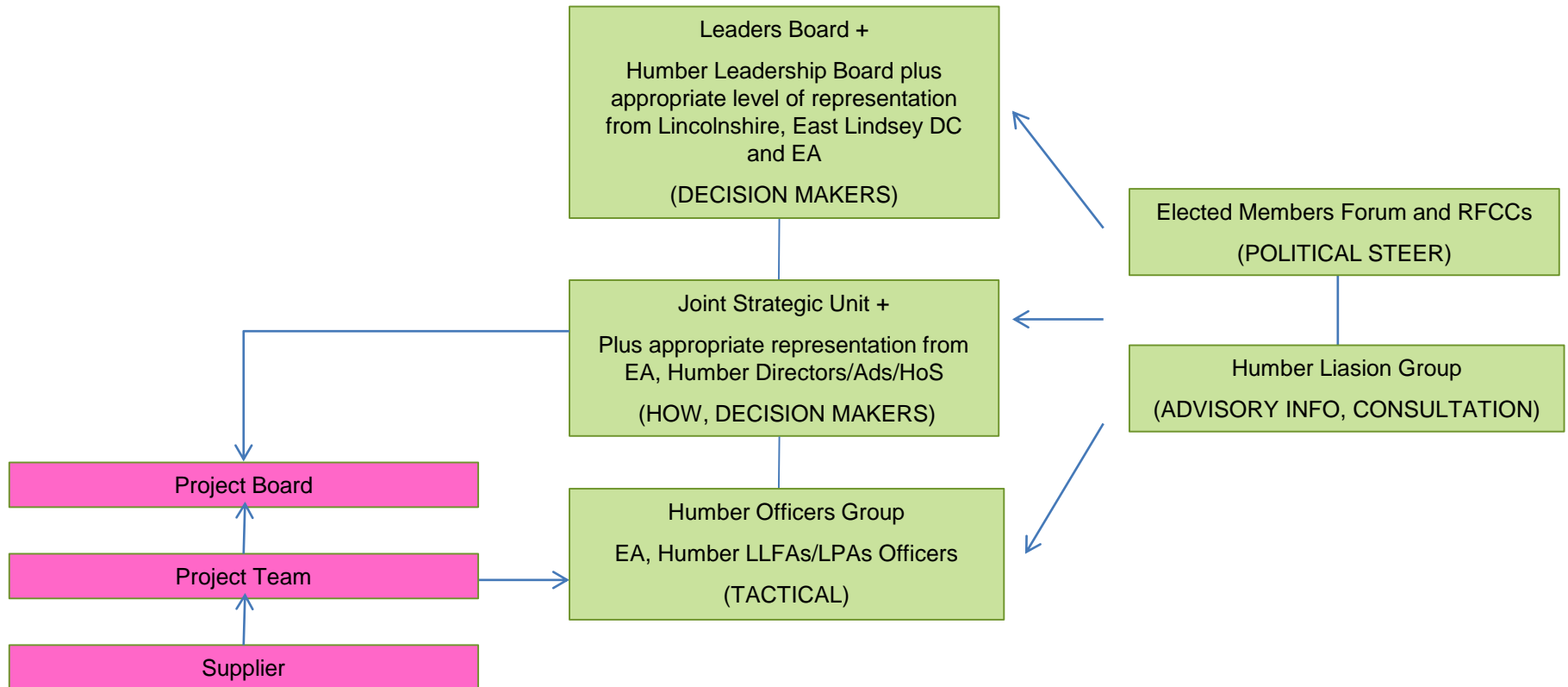
Humber Strategy Comprehensive Review

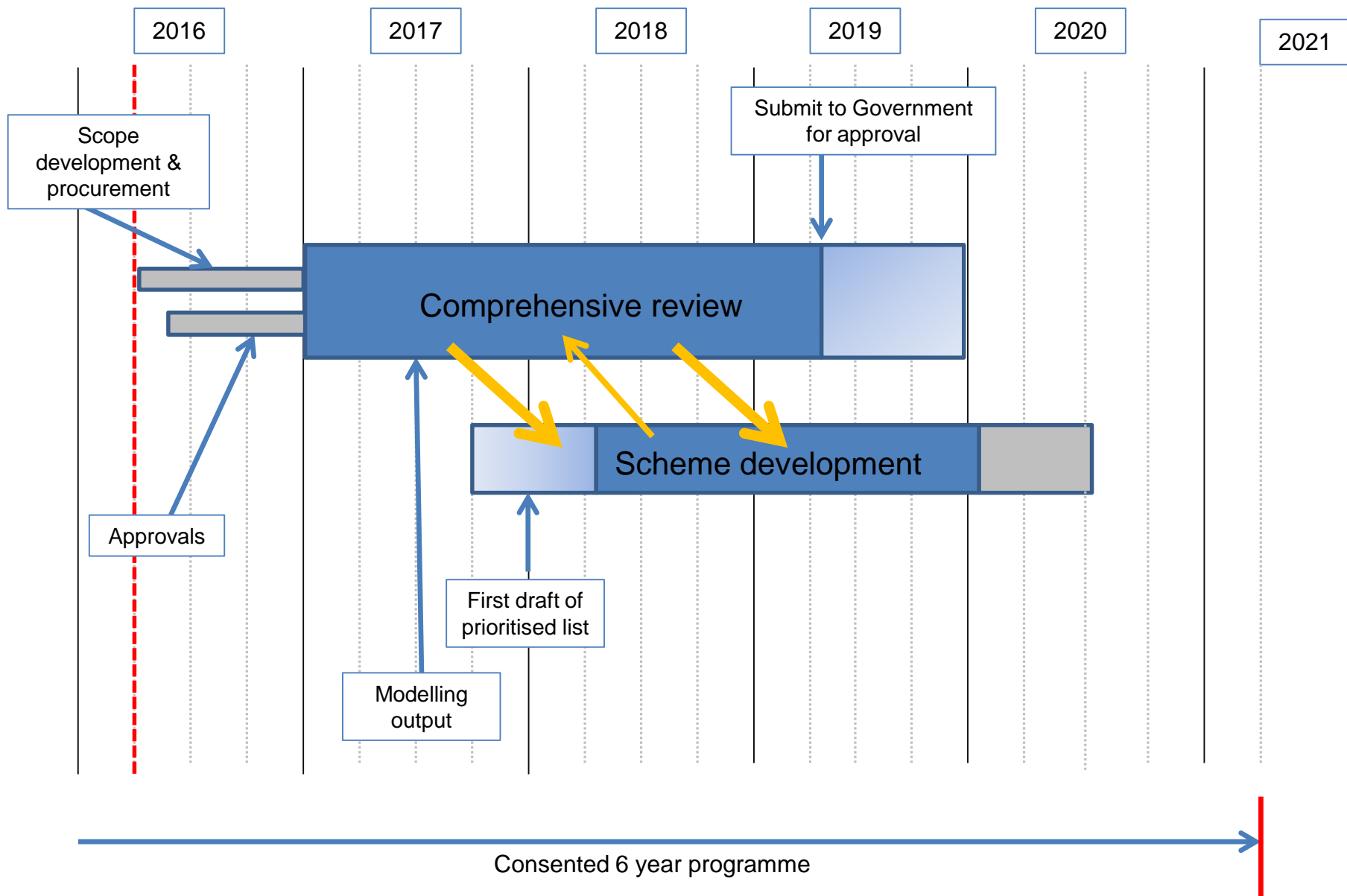
- ➔ Review of the original 2007 Strategy to redefine the strategic approach to managing flood risk over the next 100 years
- ➔ Working in close partnership with the Lead Local Flood Authorities
- ➔ Manage environmental implications
- ➔ Establish funding and investment to facilitate delivery.

Comprehensive Review scope

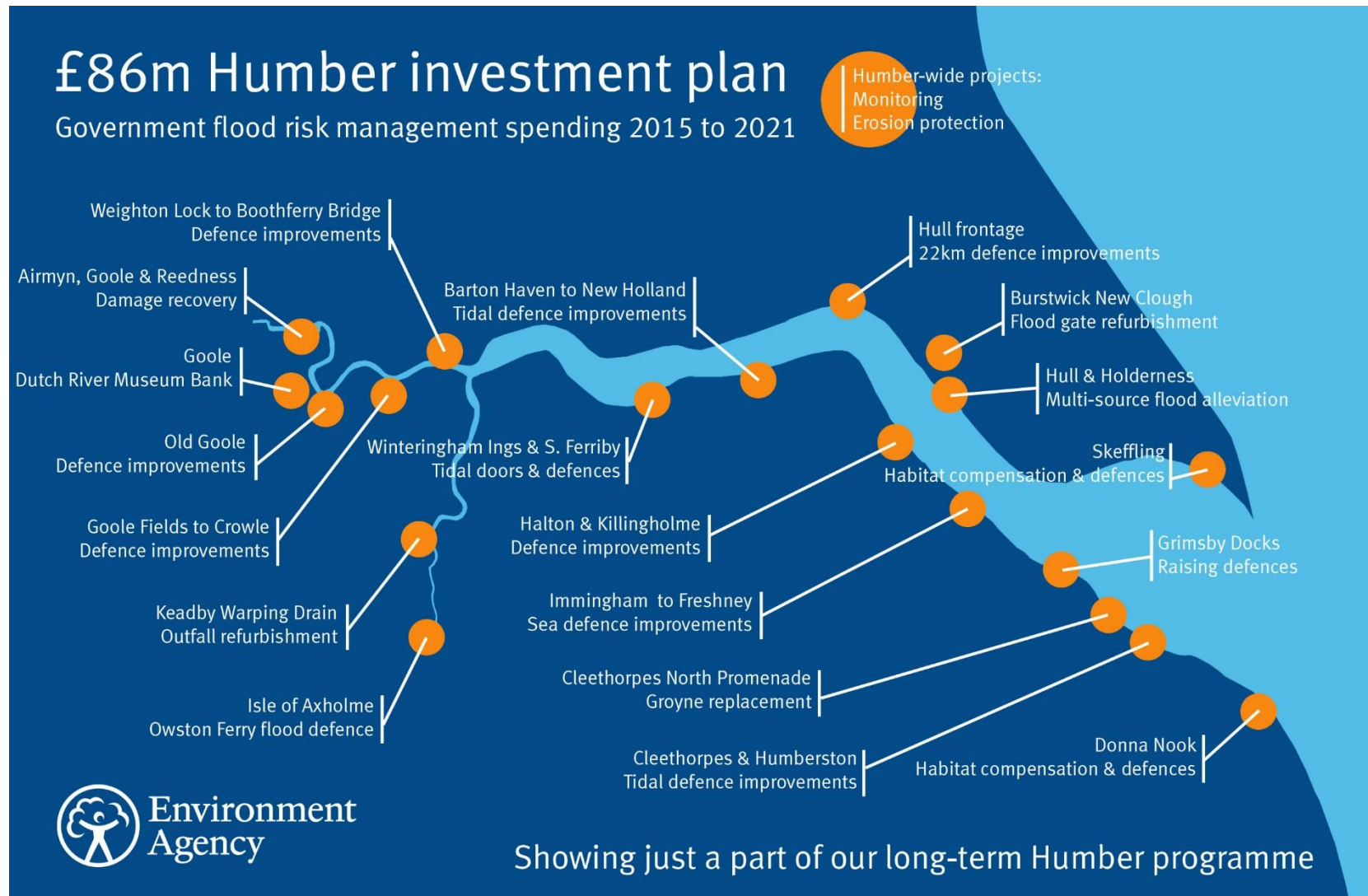
- ➔ Complex estuary
 - ➔ People, Agriculture, flood risk, environmental designations, major industry and infrastructure, need for funding
- ➔ Many aspects to the Comprehensive Review
 - ➔ Technical
 - ➔ Economics
 - ➔ Environmental
 - ➔ Funding and Investment
 - ➔ Communications and Engagement
 - ➔ Outputs

Engagement with partners





The current 6 year programme




The Humber FRMS Boundary Extension

Helen Todd

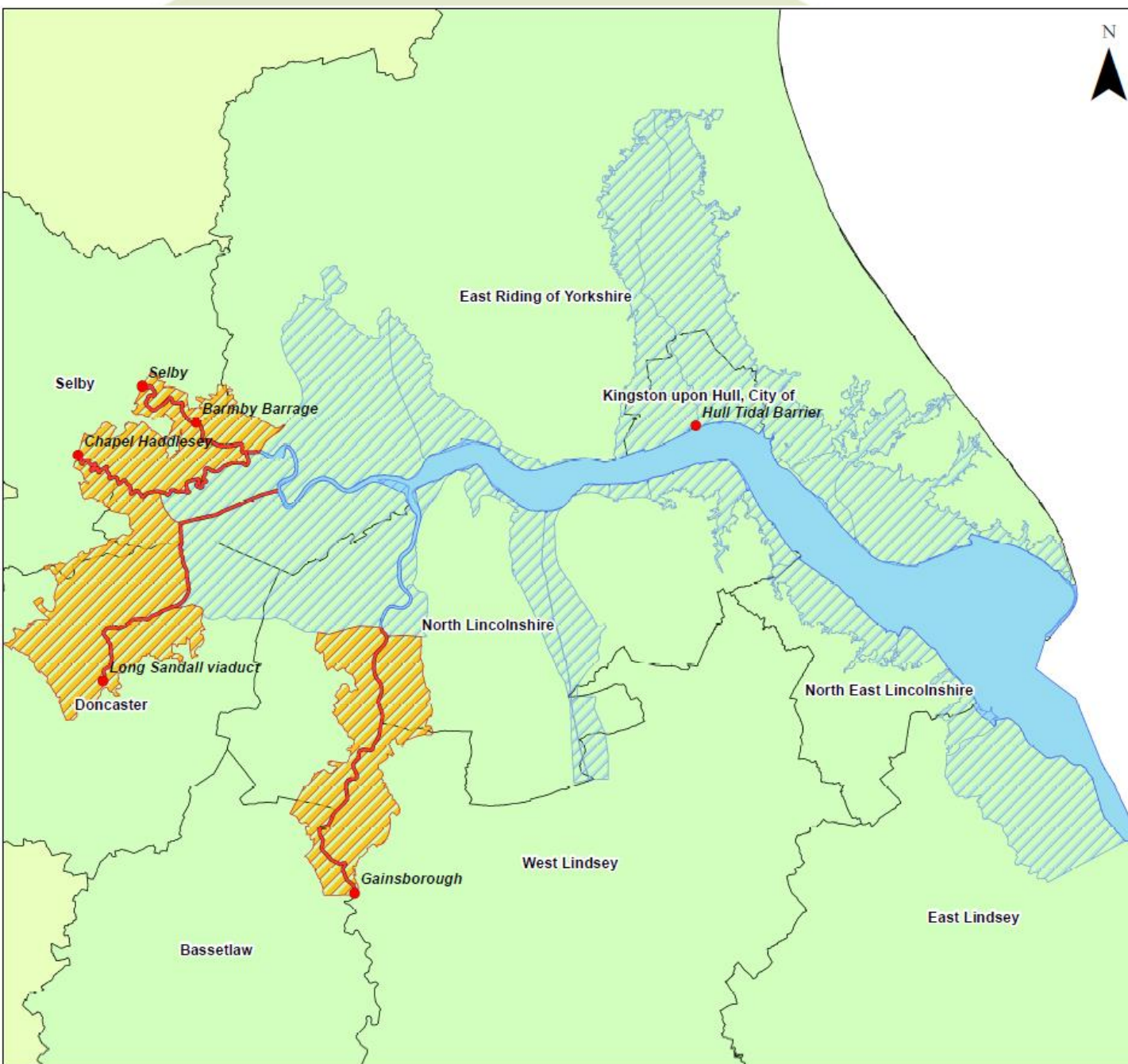
Humber FRMS Boundary Extension Proposal

Legend

- Proposed extent locations
- Proposed strategy extension
- Humber Estuary Extent
- Indicative Humber FRMS boundary
- Humber FRMS Boundary
- Local Authorities

 Kilometers
0 10 20

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Humber FRMS Boundary Extension Proposal

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Benefits of extending the boundary

- ➔ understand the full implications of tidal flood risk to people and property
- ➔ Comprehensively account for the impacts of flood risk management works
- ➔ Maximize the opportunities to better protect people and property
- ➔ Deliver a more strategic approach to delivering our environmental objectives

Incoming Partners - LAs

- ➔ Selby District Council
- ➔ North Yorkshire County Council
- ➔ Doncaster Metropolitan Borough Council
- ➔ West Lindsey District Council
- ➔ Bassetlaw District Council
- ➔ Nottinghamshire County Council

Incoming Partners – wider groups

➔ LEPs

- ➔ Greater Lincolnshire
- ➔ York, North Yorkshire & East Riding
- ➔ Sheffield City Region
- ➔ Leeds City Region
- ➔ Derby, Derbyshire, Nottingham and Nottinghamshire (D2DN)

➔ MPs

- ➔ Selby - Nigel Adams (Conservative)
- ➔ Bassetlaw - John Mann (Labour)
- ➔ West Lindsey- Edward Leigh (Conservative)
- ➔ Doncaster North- Ed Milliband (Labour)

➔ IDBs

- ➔ 9 additional IDBs

➔ Nottinghamshire Wildlife Trust

➔ Local Nature partnerships

Boundary Extension

- ➔ Internal EA support.
- ➔ Existing Officer Group support.
- ➔ Support from new authorities.
- ➔ Next steps are to determine a governance structure for the extended area and seek the necessary support to progress.

The Upper Humber Area

Laura Rhodes

Infrastructure

➔ Road

- | | |
|--------|--------|
| ➔ M180 | ➔ A631 |
| ➔ M181 | ➔ A18 |
| ➔ M18 | ➔ A19 |
| ➔ M62 | ➔ A63 |

➔ Rail

- ➔ Multiple standard gauge lines e.g.
 - Hull to Manchester
 - Hull to Doncaster
 - Line to Keadby powerstation



Agriculture

- ➔ Significant Areas of grade 1-3 agricultural land.
- ➔ Grade 1 land generally located in the river valleys.
- ➔ Significant contribution to UK food production.

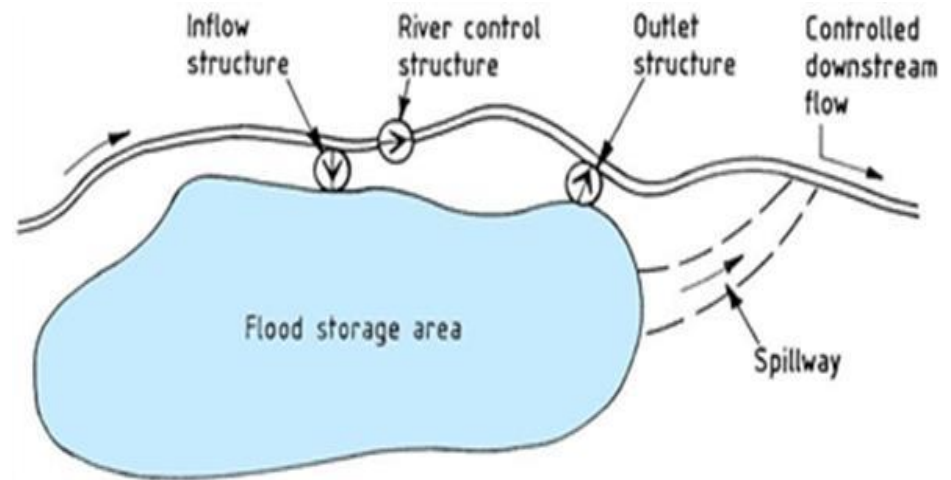


Flood Risk Management

- ➔ The majority of the area is protected by flood embankments.
- ➔ As sea levels rise the standard of protection of these embankments diminishes.
- ➔ FDGiA favours schemes which protect residential properties.
- ➔ The raising of embankments in one area will increase flood risk elsewhere.

Flood Storage

- ➔ Reduces in-channel water levels.
- ➔ Controls water in the flood plain.
- ➔ Includes raised secondary embankments to protect the wider area.
- ➔ More economically feasible.



Future Flood Risk Management

- ➔ A wide range of options.
- ➔ Must be considered strategically across the area.
- ➔ Will include a range of measures.
- ➔ Make the economic case for regional and national beneficiaries.
- ➔ Identify partnership contributions.

A large, light green circular graphic on the left side of the slide. Inside the circle is a white silhouette of a person with their arms raised in a 'V' shape. The person's head is replaced by a stylized cloud or flower-like shape with multiple rounded lobes.

Ongoing projects

Laura Rhodes

Landscape and Investment Study

- ➔ A project considering how Flood Risk Management works can also achieve economic, environmental and social objectives to attract funding.
- ➔ Stakeholder focused.
- ➔ Final tweaks are being made based on the consultation.
- ➔ Final documents will be available in early September.

Melton Ings - restoration of estuary frontage

This project will deliver works to restore the estuary frontage at Melton Ings and prevent the leaching of contaminated substances (including arsenic and lead) into the Humber Estuary. The site at Melton Ings (Copper Pass) is heavily contaminated as a result of a historic smelting operations. Previously the site discharged into the estuary causing significant pollution to the water environment. The contaminated site was later contained to prevent the discharge or leaching of pollutants.

Over the last 5 years significant erosion of the frontage has occurred in this area. As the frontage erodes the contaminants previously contained on the site will come into contact with the estuary. The Environment Agency expects that this would likely lead to a failure in WFD status for the Humber Middle Water body and also a risk to human health. As there is no flood risk issue in this area the works cannot be delivered through the FCRM GIA programme. As part of the project the Agency would also look to deliver improvements to the frontage to improve habitat and with partnership support could also look at delivering other benefits such as increased access to the frontage.

The Agency's WFD medium term plan includes a funding bid for this project, but WFD funding will not be adequate and the EA will be seeking other contributions to enable delivery of this work.



Eroded estuary frontage at Copper Pass

Exemplar case study - Milton Creek, Sittingbourne

An accessible trail along Milton Creek re-connects Sittingbourne to the wider Swale Estuary marshes, bringing valuable leisure, recreational and health benefits to an urban population.

Viewing points are carefully sited alongside the historic wharves, enriching the experience of the Creek and drawing attention to its working industrial heritage as a centre for manufacture and transportation.



Seating wall at one of the historic wharves



Milton Creek trail

Water for Farmers and Wildlife

- ➔ A joint RSBP and EA project, the NFU is a supporting partner.
- ➔ Considers how water management can have benefits for, flood risk, farming and wildlife.
- ➔ Phase 1 now complete- assesses the technical feasibility of the techniques and the economic benefits of delivering these. A summary and technical report is now available.
- ➔ Phase 2 is now underway- this will look in more detail at the application of these techniques on individual landholdings, how the techniques can be integrated into larger flood risk management projects, and at water quality issues identified in Phase 1.

Water for Farmers and Wildlife:

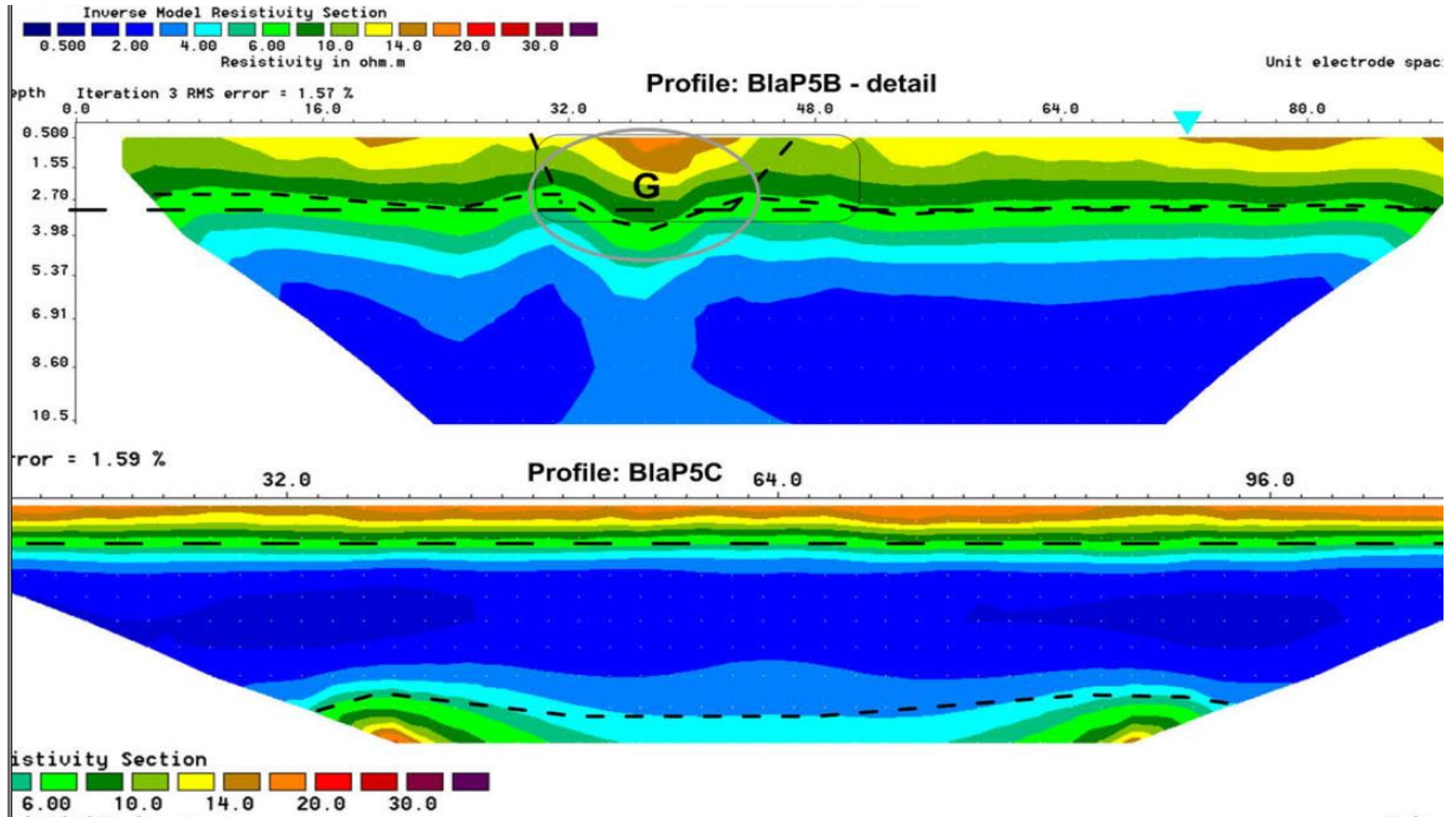
a summary report on the joint
RSPB/Environment Agency project



Defence Integrity

- ➔ A cost-effective assessment to assess the structural integrity of our flood defences.
- ➔ The survey programme includes a number of defences on the Ouse, Dutch River/Don and Aire.
- ➔ Where issues are identified borehole investigations provide a more detailed assessment of the issue.

River Ouse



River Ouse



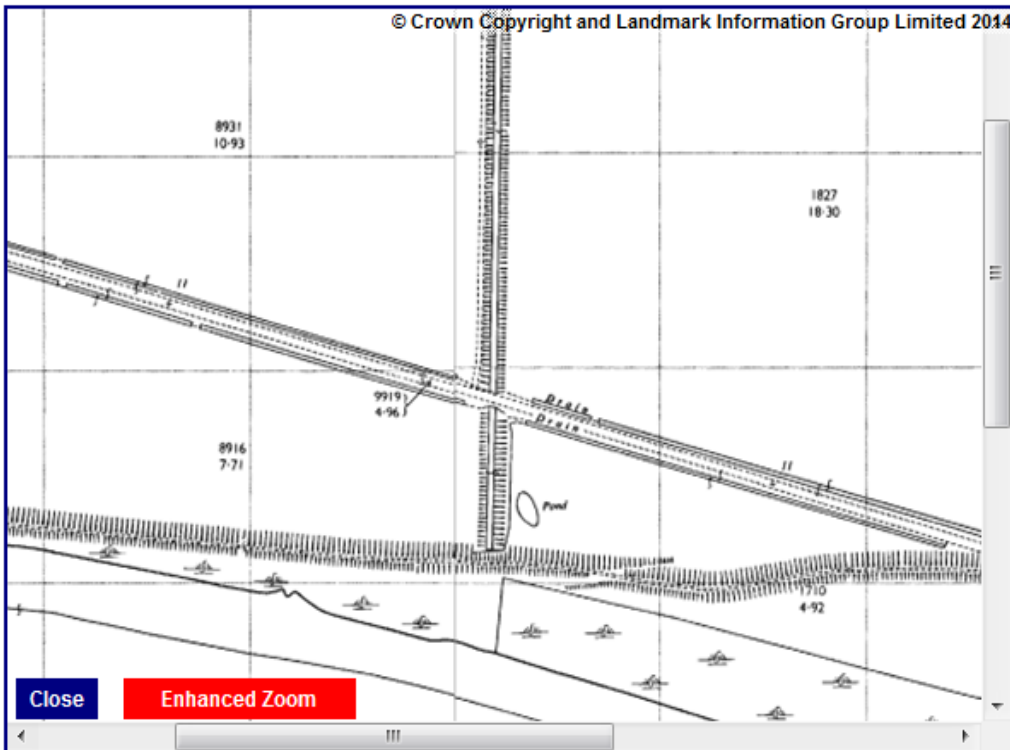
River Ouse

old maps

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Water Level Project

- ➔ Objective is to provide a robust and defensible water level profile for the estuary and its tidal tributaries.
- ➔ Some of this work is research and development, and progress has been slow due to the complex nature of the work.
- ➔ Initial outputs available in Spring 2017.
- ➔ The project will inform significant amounts of future capital investment.

Questions?

Engagement with partners

