



Humber Strategy Comprehensive Review

November 2018

Lucy Marshall - Humber Strategic Planning, Partnerships & Funding Manager

Jenny Connell - Principal Environmental Project Manager



Outline

- Background
- Progress so far
- Where we are now
- Examples of activity
 - Geo-intelligence
 - Environment & sustainability
 - Next steps



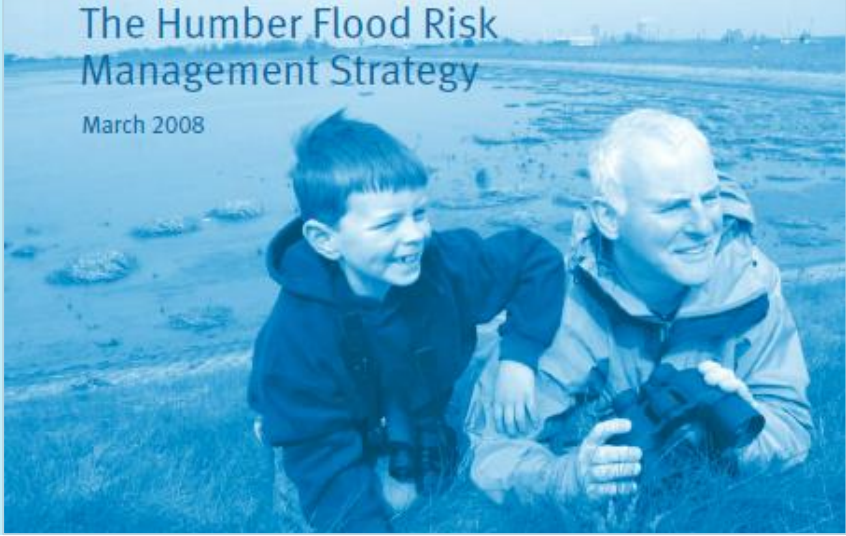
Current Humber Flood Risk Management Strategy



planning for the rising tides

The Humber Flood Risk Management Strategy

March 2008



December 2013 Tidal Surge - Highest-recorded water levels

Hull City Centre

19:31pm

19:35pm



Humber Strategy Comprehensive Review

Working together to
manage tidal flood risk



Bassetlaw
DISTRICT COUNCIL
North Nottinghamshire



East Lindsey
DISTRICT COUNCIL



Doncaster
Metropolitan Borough Council



EAST RIDING
OF YORKSHIRE COUNCIL



Hull
City Council



Environment
Agency



Lincolnshire
COUNTY COUNCIL



NORTH
EAST
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COUNCIL



North Yorkshire
County Council



NORTH
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COUNCIL



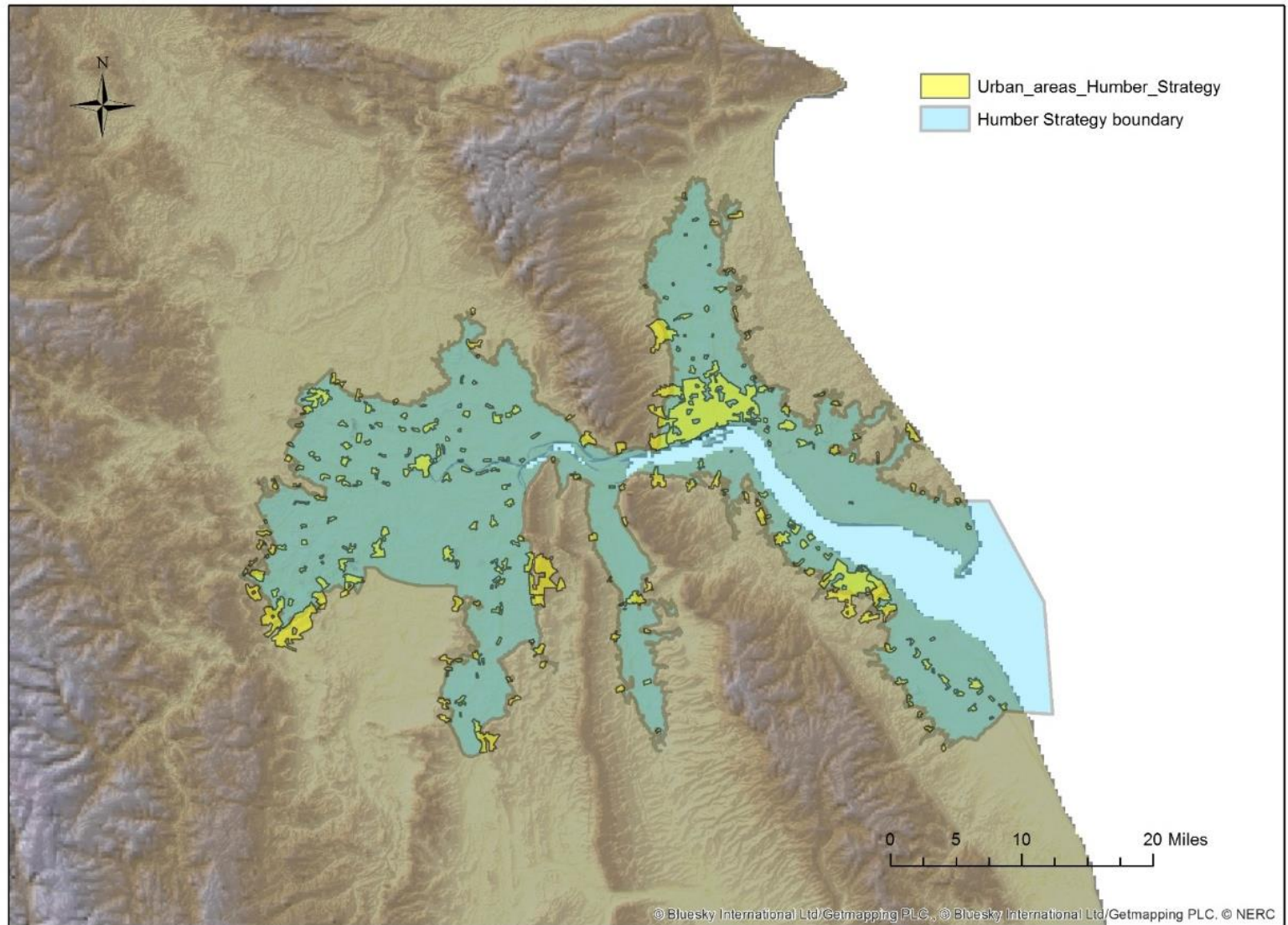
Nottinghamshire
County Council



West Lindsey
DISTRICT COUNCIL



SELBY
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The EA, LAs and the Humber LEP will work in partnership to support sustainable development and a prosperous Humber.

We will do this by redefining the strategic approach to managing tidal flood risk on the Humber for our communities and the Country, setting the way forward for the next 100 years taking into account predicted sea level rise and climate change

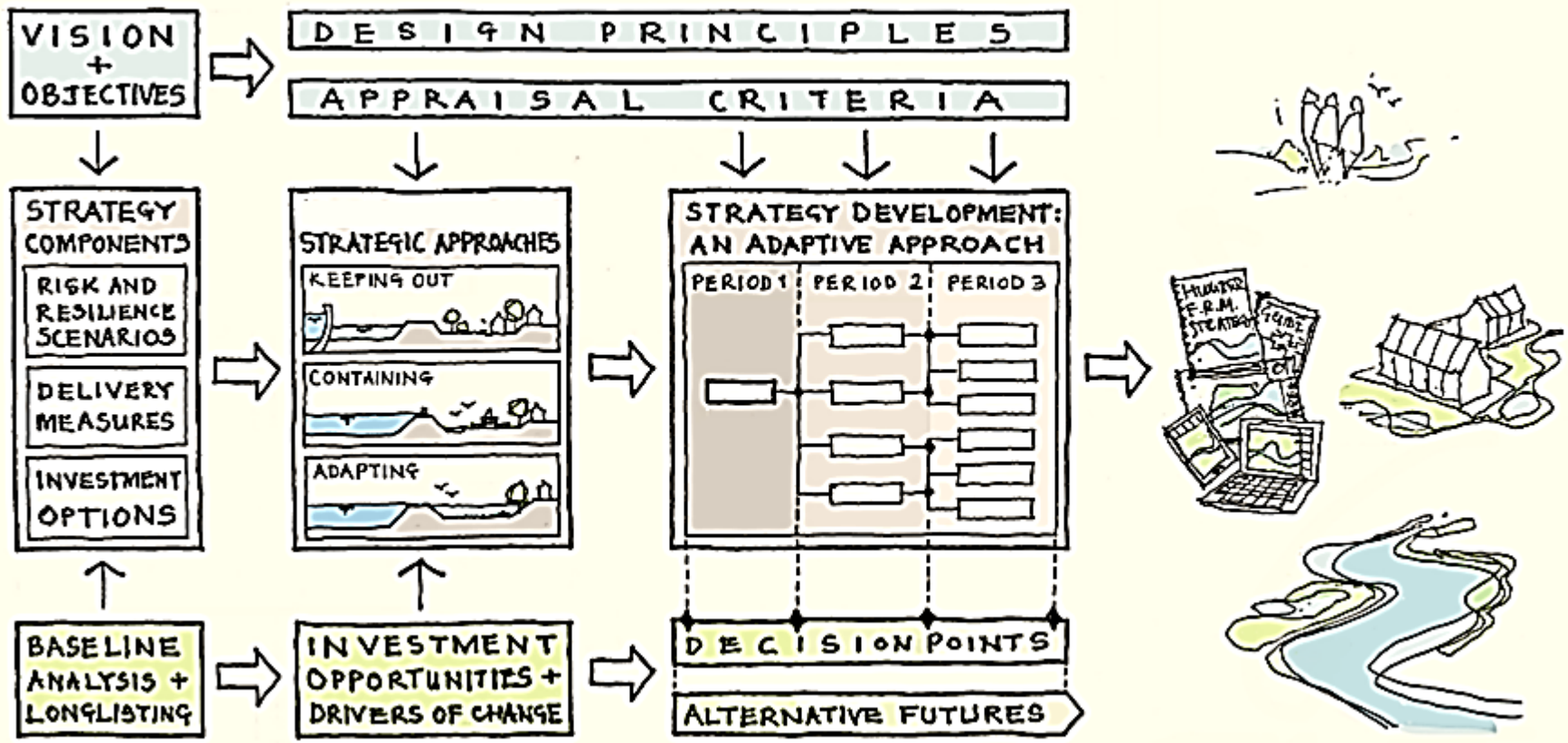


Where we are now

- 12 'long-list' options have been considered
- Starting to assess 'strategic approaches' for managing flood risk



Adaptive approach and pathways - *in development*



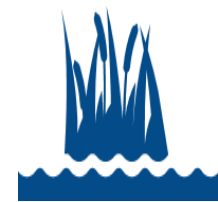
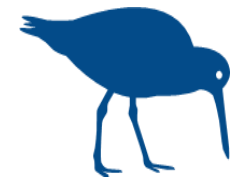
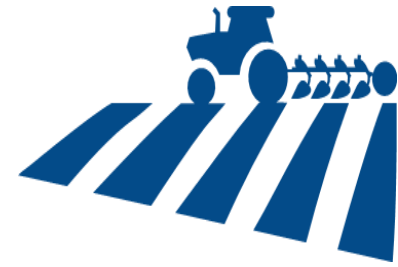
Containing the tide

Keeping out the tide

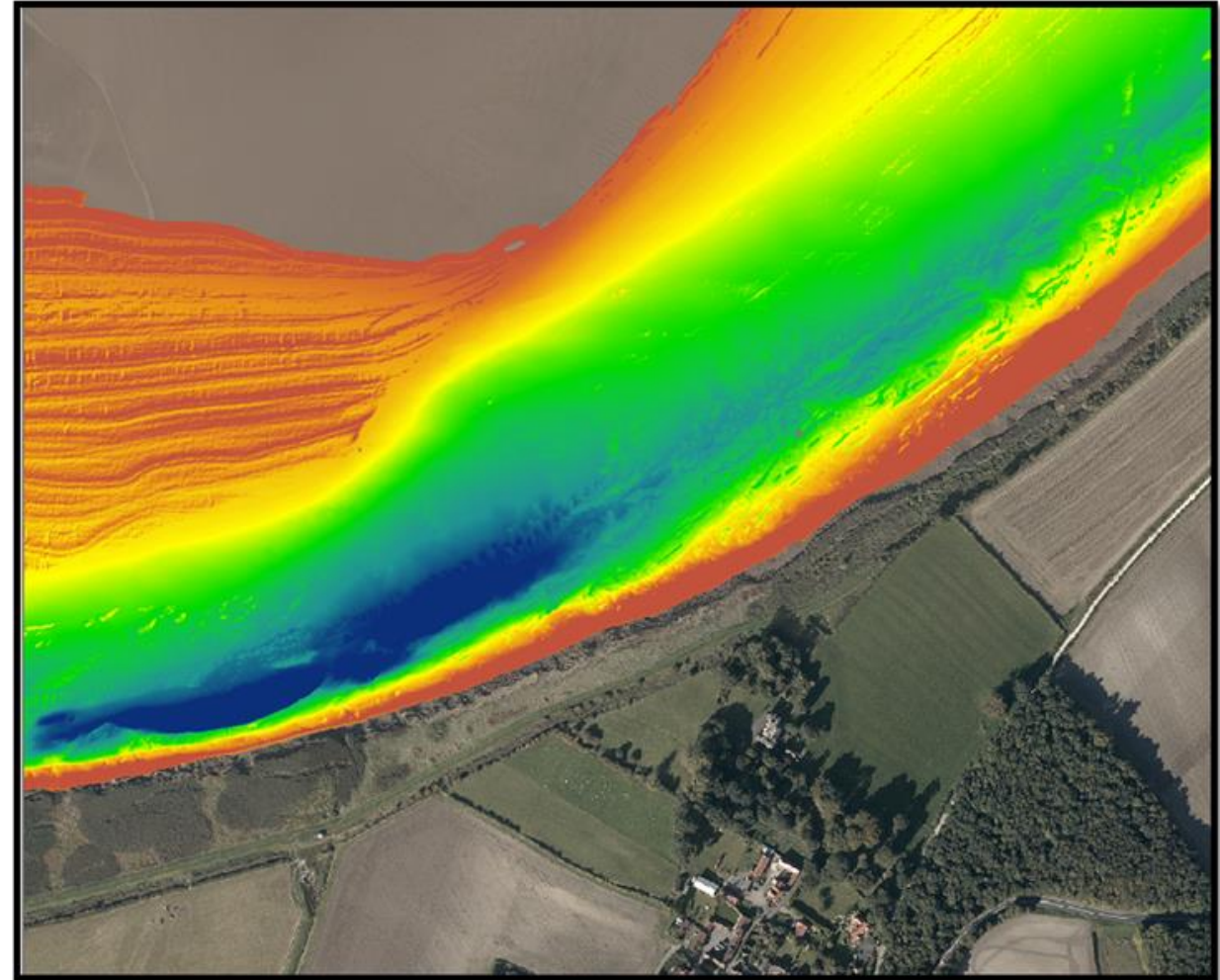
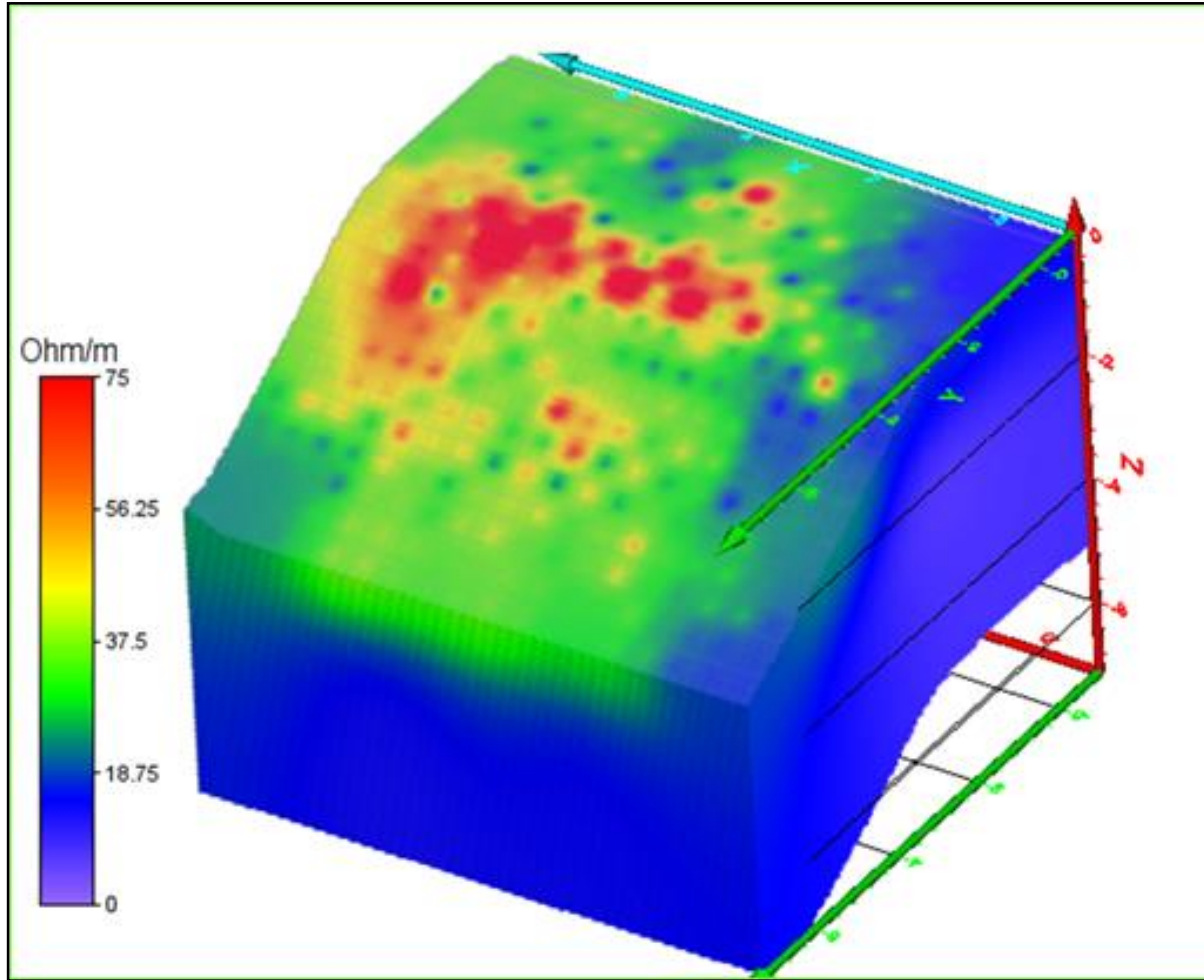
Adapting to the tide



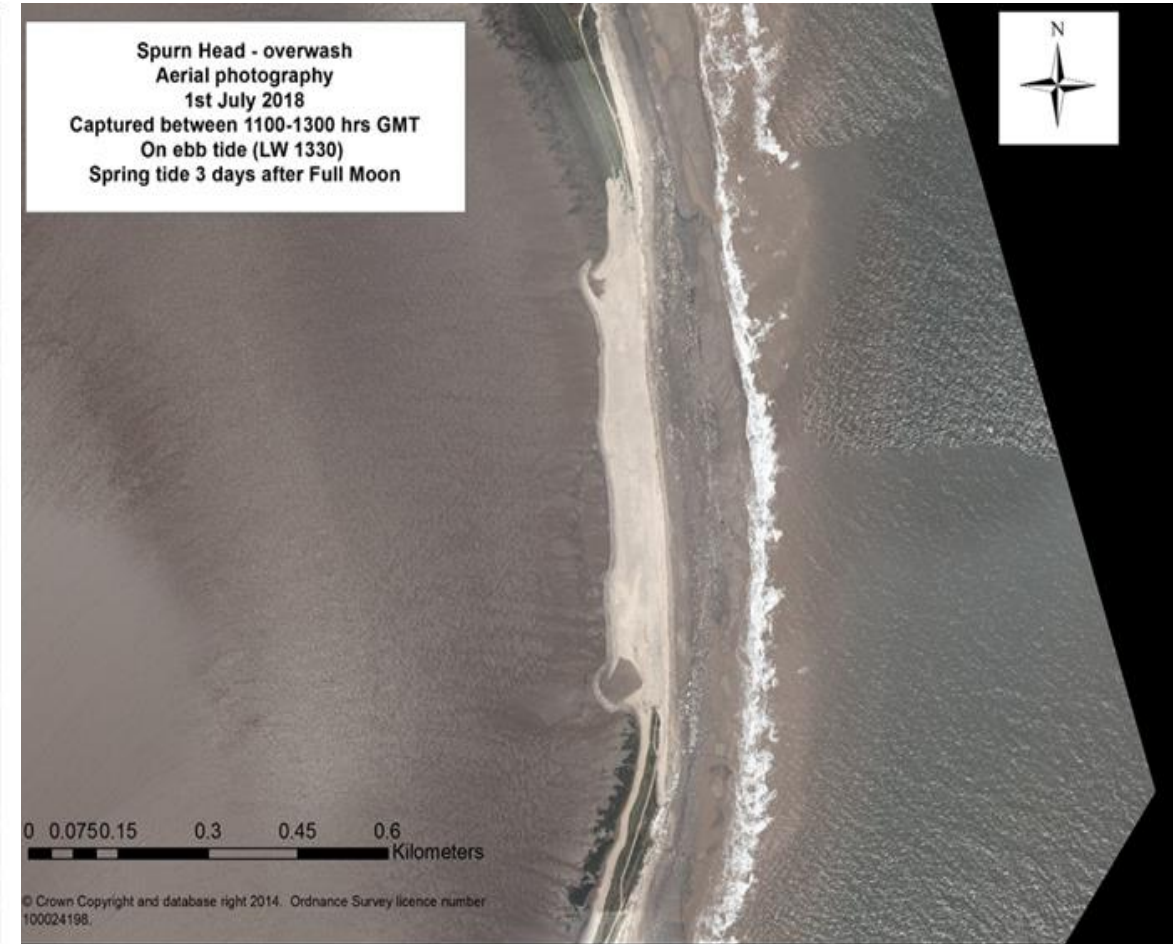
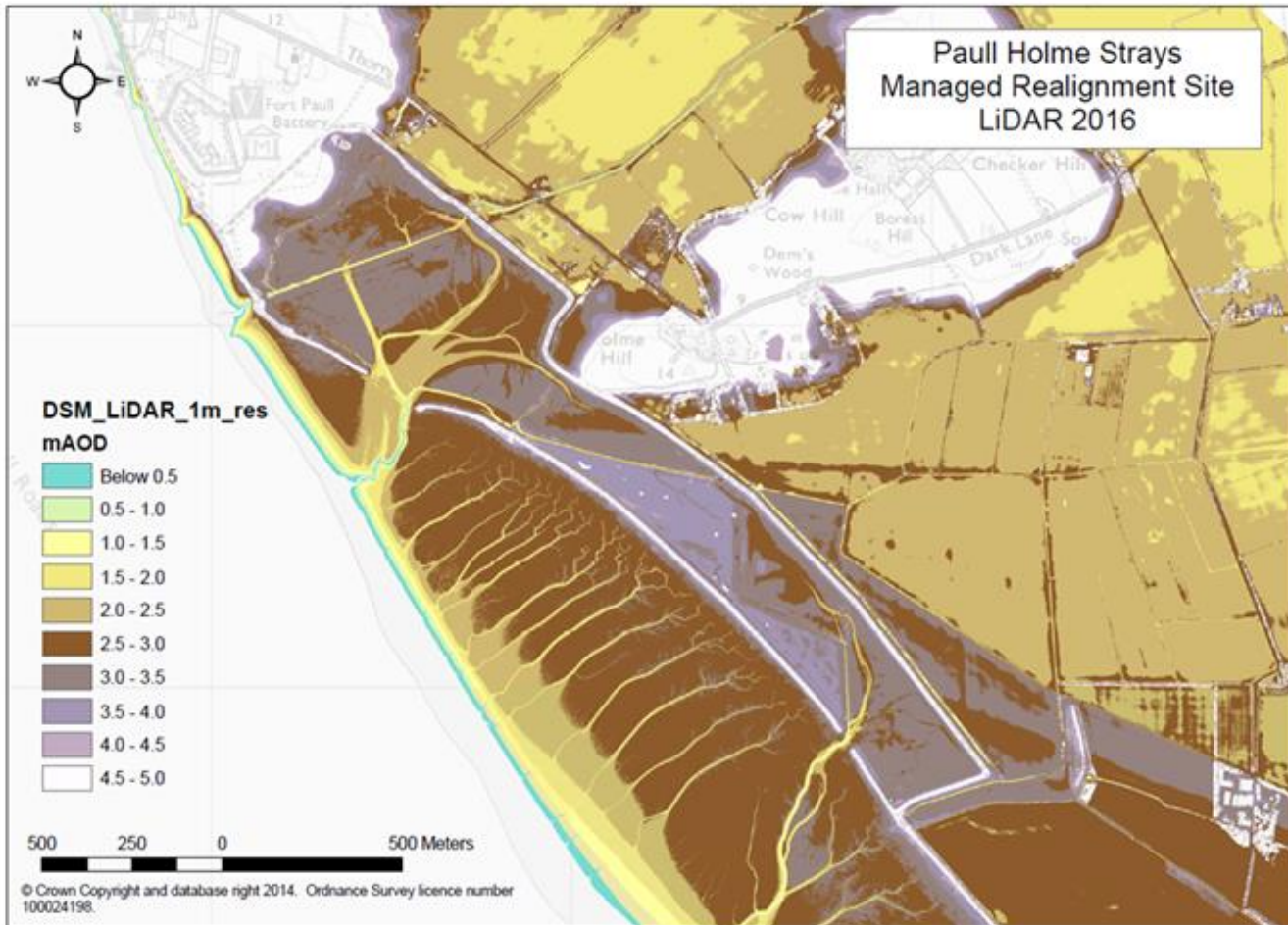
Examples of activity



Geo-intelligence on the Humber (1)



Geo-intelligence on the Humber (2)



First some context....



<https://www.un.org/sustainabledevelopment/sustainable-development-goals/>



Local context....



....we will deliver **multi-benefit schemes**, seeking to deliver **environmental, sustainable and wider enhancements**, through our flood risk management works.



Making it happen

- Environment and Sustainability workstream
- Encompasses landscape, Sustainability Appraisal (incl SEA), water environment, Habitats
- Additional parallel projects – Landscape and Investment study and Farming for water and Wildlife
- Projects – how we are implementing

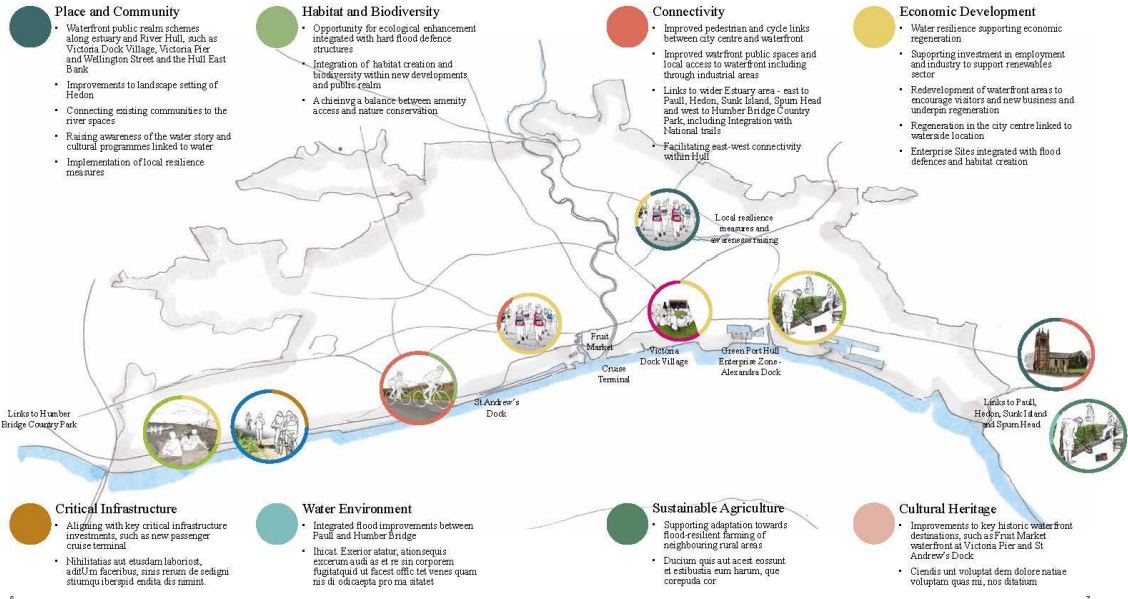


Environmental design

High level reporting of key design principles, linked to SA assessment objectives

2 Hull Waterfront

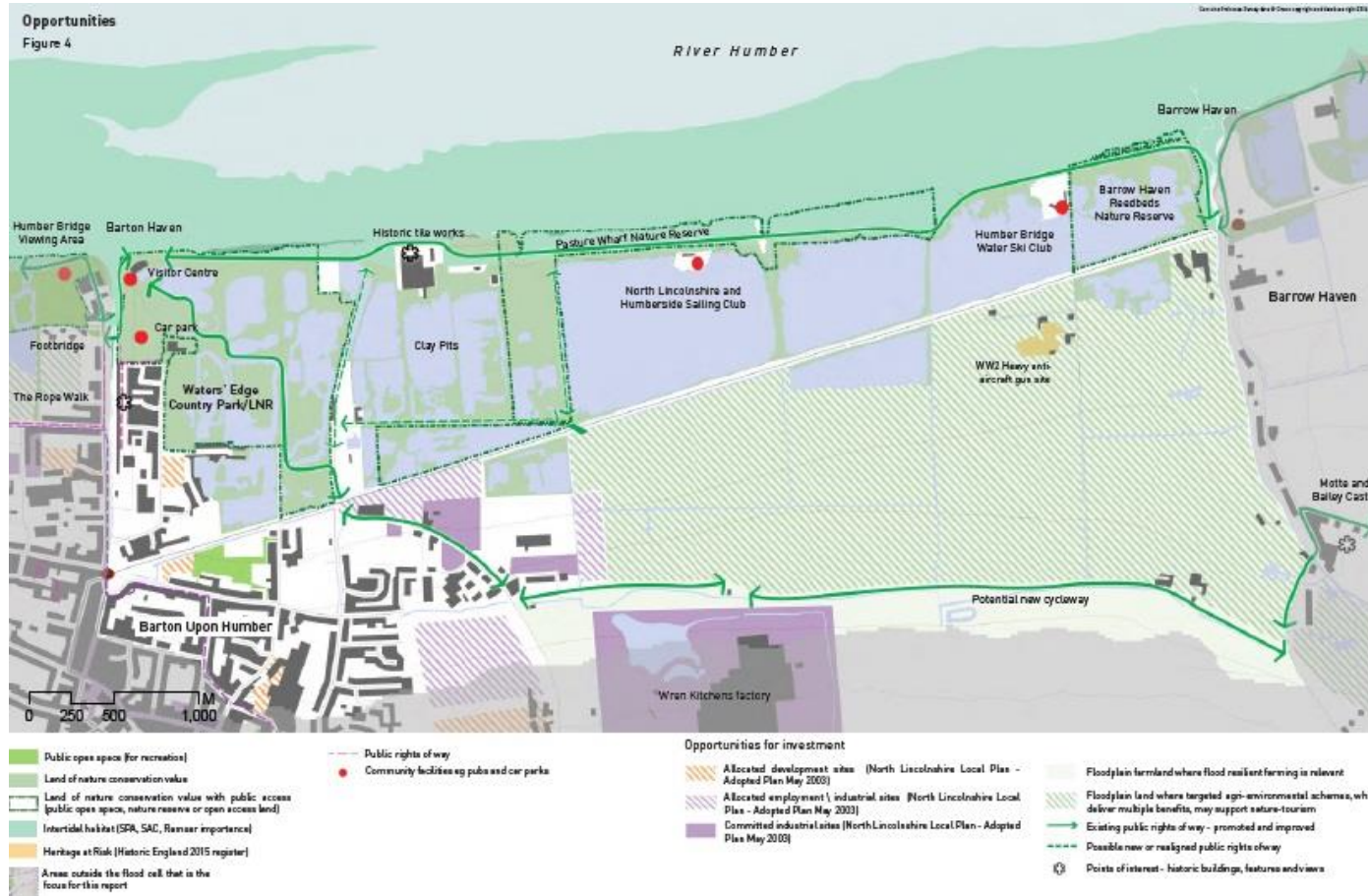
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Emerging Study Areas



Identifying opportunities



Sheils Flynn, 2016, Humber Landscape & Investment Study, Report for the Environment Agency



Increasing flood resilience on a small scale

- by re-profiling additional drainage ditches to include wide, reed-filled berms, combined with creation of small-scale water storage areas at the junctions of drainage ditches.



... and on a more ambitious scale

- by creating areas of wet grassland with high capacity for water retention designed to help protect nearby high grade agricultural land. The location of such wet grassland zones would be influenced by local patterns of drainage and relative land levels. This approach could also conserve historic field patterns, archaeological features and the landscape setting of villages and farmsteads. It could be associated with farm diversification for nature tourism.



Water for Farmers and Wildlife

- Partnership project between Environment Agency and RSPB.
- Project is about creating temporary wetlands. Initially looked at in the US, but also in the Netherlands.
- Integrates farm management, habitat creation and flood risk management objectives.
- Applicability is around the inner Humber estuary.



Temporary wetlands

- Large areas of arable land are shallowly flooded between 1 – 4 years
- Improves soil condition
- Provide financial benefits
- Creates habitat for migratory birds



Bare trial plot at Yokefleet (Environment Agency, 2018)



WWNP - The Humber context



'Natural'

Reedbed, dunes and saltmarsh acting as erosion protection to flood defences.

HEEEP – identified opportunities to reinstate reedbed to protect existing inner estuary defences



'Emulating Natural'

Reconnecting the flood plain (MR)

Alkborough Flats – Managed realignment scheme to create habitat compensation and flood protection



'Engineered Restoration'

Farming for water and Wildlife

Small scale engineered temporary storage to provide flood risk and agricultural benefits



'Engineered enhancements'

Artificial roost area

Being developed for Humber Frontages – roost area to attract SPA birds to provide much needed high tide roost



What's next?

- Develop and appraise Strategic Approaches
- Engagement ahead of consultation mid-2019
- Please get in touch if you'd like to be involved: HStrategy@environment-agency.gov.uk



Thank you

