



Carl Lewis

The New

Ecology of Risk:

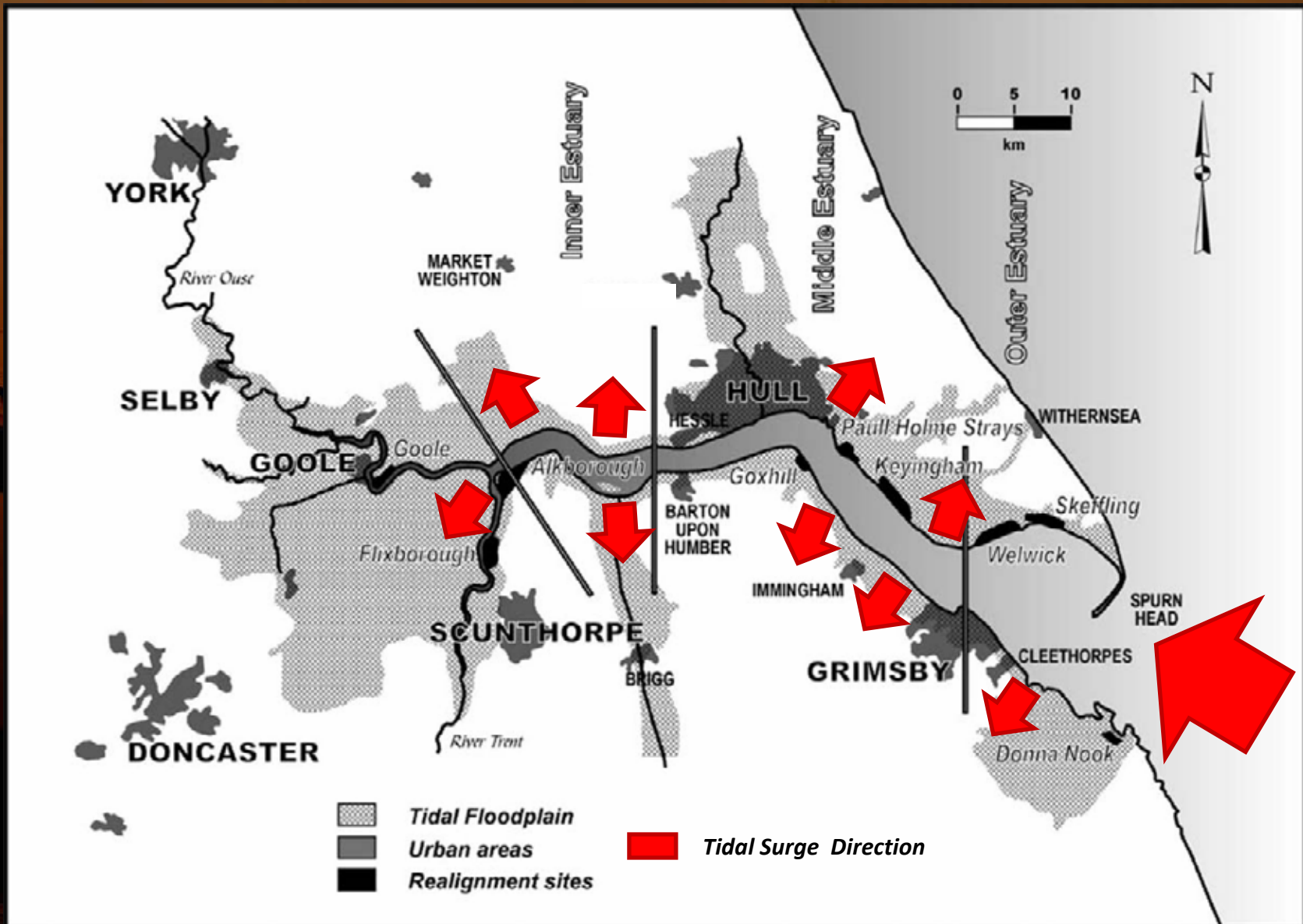
**Flood risk mitigation and economic development
on the Humber Estuary**



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Adapted from Edwards and Winn (2006: 167)



Kingston upon Hull



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Grimsby – Cleethorpes



Goole



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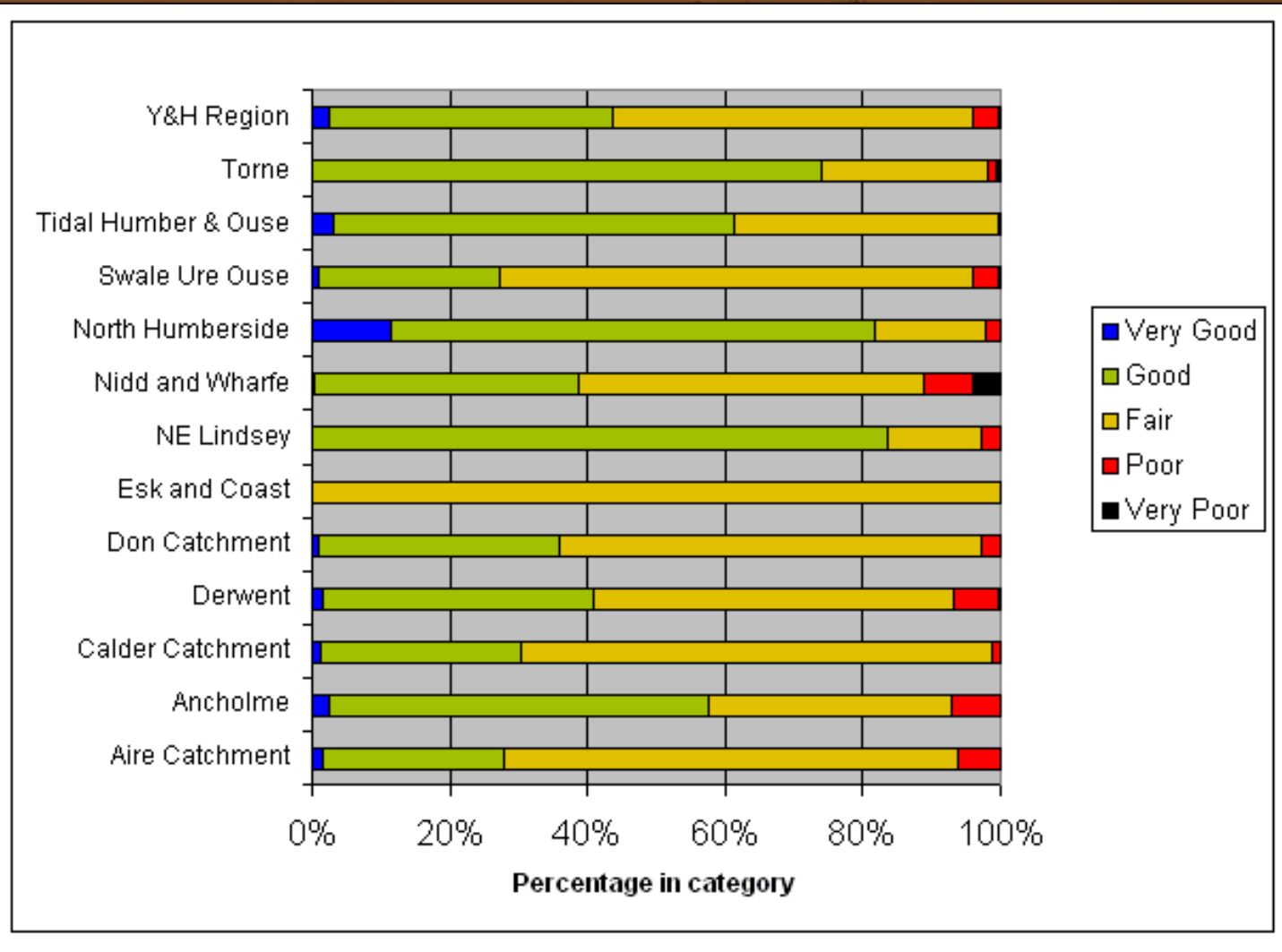
Different 'hard-engineered' defence designs already in place on the Humber Estuary



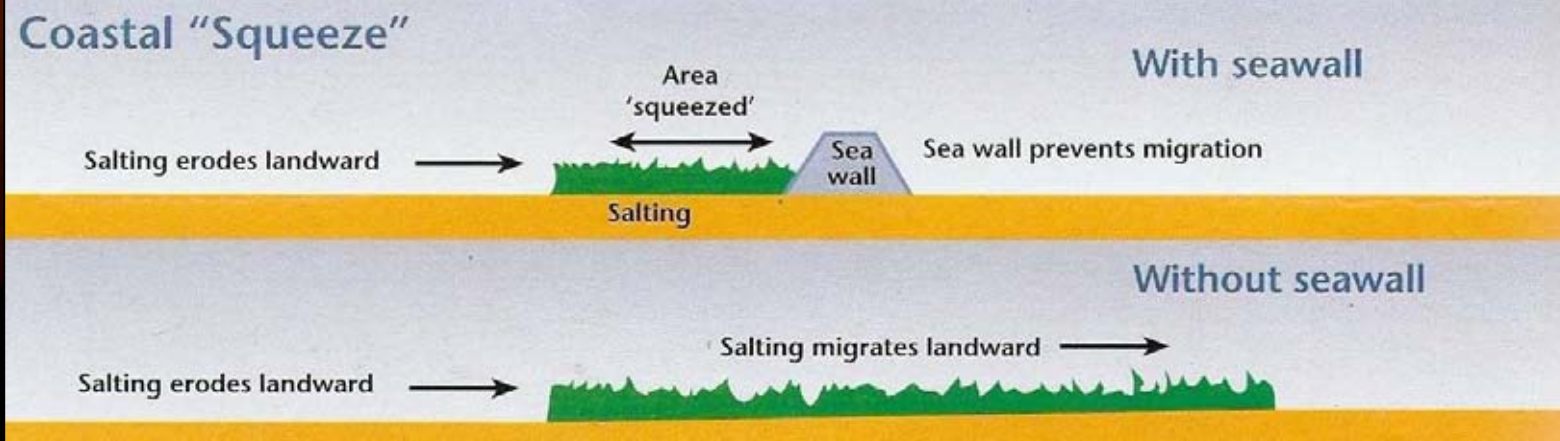
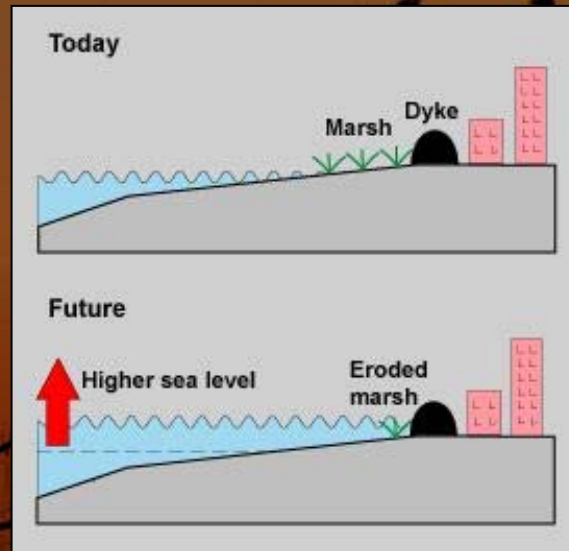
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*Condition of flood defences in Yorkshire and the Humber, March 2006
(Environment Agency, 2006)*



Graphic Illustrations of Coastal Squeeze submerging and eroding salt marsh under higher sea levels



*Alkborough Flats Managed Realignment Site,
North Lincolnshire*

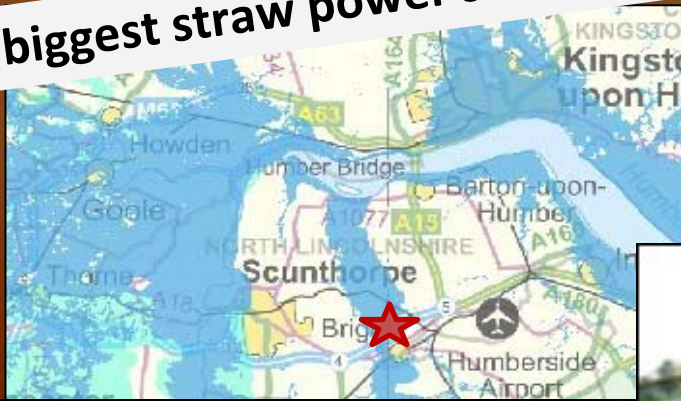


Protected Species: Golden Plover



World's biggest straw power station at Brigg

Fears over green power plant plan



Plans for £80m straw burning power plant withdrawn due to possibility of flooding



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Public and voluntary sector action has been highly publicised



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The Risk Society

- Risks are produced by the science and technology upon which our society is based.
- Risk is socially constructed through our knowledge.
- Environmental disasters act indiscriminately.

BUT...

- Assumes pre-existing knowledge of problem, discounting naturalisation to safety discourse



Two Main types of Knowledge

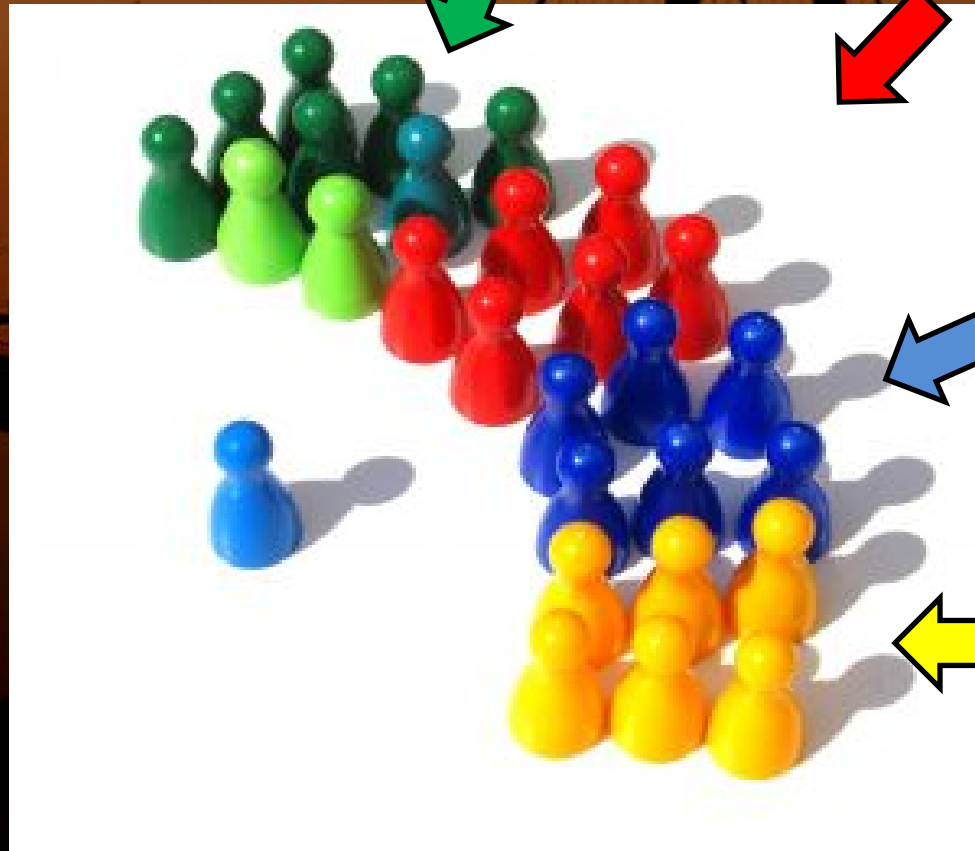
1) Codified knowledge – explicit and easily transferable

2) Tacit knowledge – context dependent and often personal



General Public

Public Sector



Private Sector

Voluntary Sector

Composition of governance by sector

Research Questions

1) What are the multi-sectoral tensions involved in flood mitigation and economic development in the Humber estuary?

2) How do private businesses interpret the changing scientific and technical understandings of flood risk as communicated by public bodies?



Research Questions (continued)

3) In what way do these understandings of flood risk impact upon the choice of sites suitable for industrial economic development projects?

4) How has the growing concern over sea level rise, flood risk mitigation, and economic development encouraged local stakeholders to plan and execute their activities on an estuary-wide basis?

Methodology



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Most Represented Business Sectors in the Humber study area:

- 1) Construction
- 2) Wholesale and Retail
- 3) Manufacturing
- 4) Transport and Communication



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Humber Business Flood Risk Awareness Survey

Dear X,

Your participation in this survey will greatly assist in assessing 'flood risk awareness' amongst local businesses in our region, which has not previously been investigated.

In return, your business will be privy to important feedback at no cost, which could help in the analysis and mitigation of flood risk specific to your location, as well as contributing towards your Corporate Social Responsibility. The survey findings will be especially useful to local policymakers, who are keen to tailor flood mitigation measures to meet the requirements of current businesses such as your own, as well as future economic developments in the Humber region.

I would be very grateful if you could spare some time to answer the enclosed questionnaire and return it in the freepost envelope provided. It has been specifically designed to take no more than five minutes of your time to complete. An online version of the questionnaire is also available at www.esrc.ac.uk if this is more convenient medium for you.

This survey forms part of my PhD project on Humber Flood Risk and Economic Development at the University of Hull. The research is jointly supervised by the Environment Agency which is responsible for flood defence maintenance in the region. However, your business' anonymity is guaranteed, with all survey data collected being assigned a survey number in place of your company identity. The Environment Agency will not have access to any firm-specific responses to this questionnaire.

Thank you for taking the time to participate in this survey, which will ensure that the business sector is properly represented in future plans for flood defence around the Humber estuary.

Yours sincerely,

Carl Lewis

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Geography Department
The University of Hull
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Email: c.a.lewis@2007.hull.ac.uk



Humber Business Flood Risk Awareness Survey

- Please mark only one box per question unless otherwise stated -

1 Approximately how many people are employed at your Humber business site?

<input type="checkbox"/> Single Entrepreneur Enterprise	<input type="checkbox"/> 50 - 99 people
<input type="checkbox"/> 2 - 4 people	<input type="checkbox"/> 100 - 199 people
<input type="checkbox"/> 5 - 9 people	<input type="checkbox"/> 200 - 249 people
<input type="checkbox"/> 10 - 19 people	<input type="checkbox"/> 250 - 499 people
<input type="checkbox"/> 20 - 49 people	<input type="checkbox"/> 500 people or more

2 What was the approximate annual gross turnover of your company for business year 2007-2008?

£ _____ (Sterling)

3 When did your business begin operating at its current Humber site?

_____ (Year)

4 Please rank the events below to indicate which you consider are most likely to cause flooding on your Humber premises from 1 (most likely) through to 5 (least likely):

- Flooding caused by backflow within drainage systems
- Flooding caused by estuary water overtopping sea wall defences
- Flooding caused by land relief (eg/water running down hill, pooling in depressions etc)
- Flooding caused by rising groundwater when the water table is high
- Flooding caused by river bursting its banks

5 To your knowledge were your Humber premises deemed 'at risk from flooding' by any government body when you first opened?

Yes No

6 How important a factor was flood risk when originally choosing your Humber business premises?

Very important Quite important Not important

7 How important a factor would flood risk be if you were selecting business premises in the Humber region today?

Very important Quite important Not important

Questionnaire: Pages 1 and 2

8 Are you aware of any change in the flood risk status of your Humber premises within the last decade?

Yes → If Yes: a) Has the flood risk: Increased Decreased
 No b) Has this affected your business in any way? (please state below)

9 Has any official flood risk information from the Environment Agency been sent to your Humber business address within the last year?

Yes → If Yes: Was this helpful? Yes No
 No If No, why not? (please state below)

10 Is your business seeking to expand within the Humber region within the next five years?

Yes → If Yes, is flood risk: A major concern for this expansion
 No A minor concern for this expansion
 No concern for this expansion

11 Are you aware of a planning regulation entitled Planning Policy Statement 25 which aims to tackle flood risk?

Yes → If Yes, will this policy influence further development of your Humber site?
 No Yes No

12 On a scale of 1 to 5, how important is the need to manage flood risk within the daily operations of your Humber business? (please circle)

1 2 3 4 5
 Very Important Not Important

13 For comparison, how important was the need to manage flood risk within the daily operation of your Humber business ten years ago? (please circle)

1 2 3 4 5
 Very Important Not Important

14 Has your business suffered any negative effects from previous flooding in the Humber region?

Yes → If Yes: a) Please state approximately when this occurred: _____
 No b) Please tick all consequences listed below that occurred:

Company lost revenue Increased insurance premiums
 Customer loss Operations suspended
 Distribution interrupted Premises damaged
 Equipment damaged Stock spoiled
 Other (please state): _____

15 Has flood risk within the Humber region prompted you to consider moving your business elsewhere?

Yes → If Yes, where would you consider moving your business to?
 No Elsewhere in the Humber region
 Elsewhere in the UK
 Elsewhere abroad

16 Please give a rough estimate as to how long you think it would take for your business to fully recover if a flood event adversely affected your premises.

Less than a week 4-6 weeks 2-6 months
 1-2 weeks 8-9 weeks Over 6 months
 2-4 weeks Unlikely to recover at all.

17 In your opinion, is the current balance of the risks and costs associated flooding in the Humber region adequately addressed by existing flood defences?

Yes No

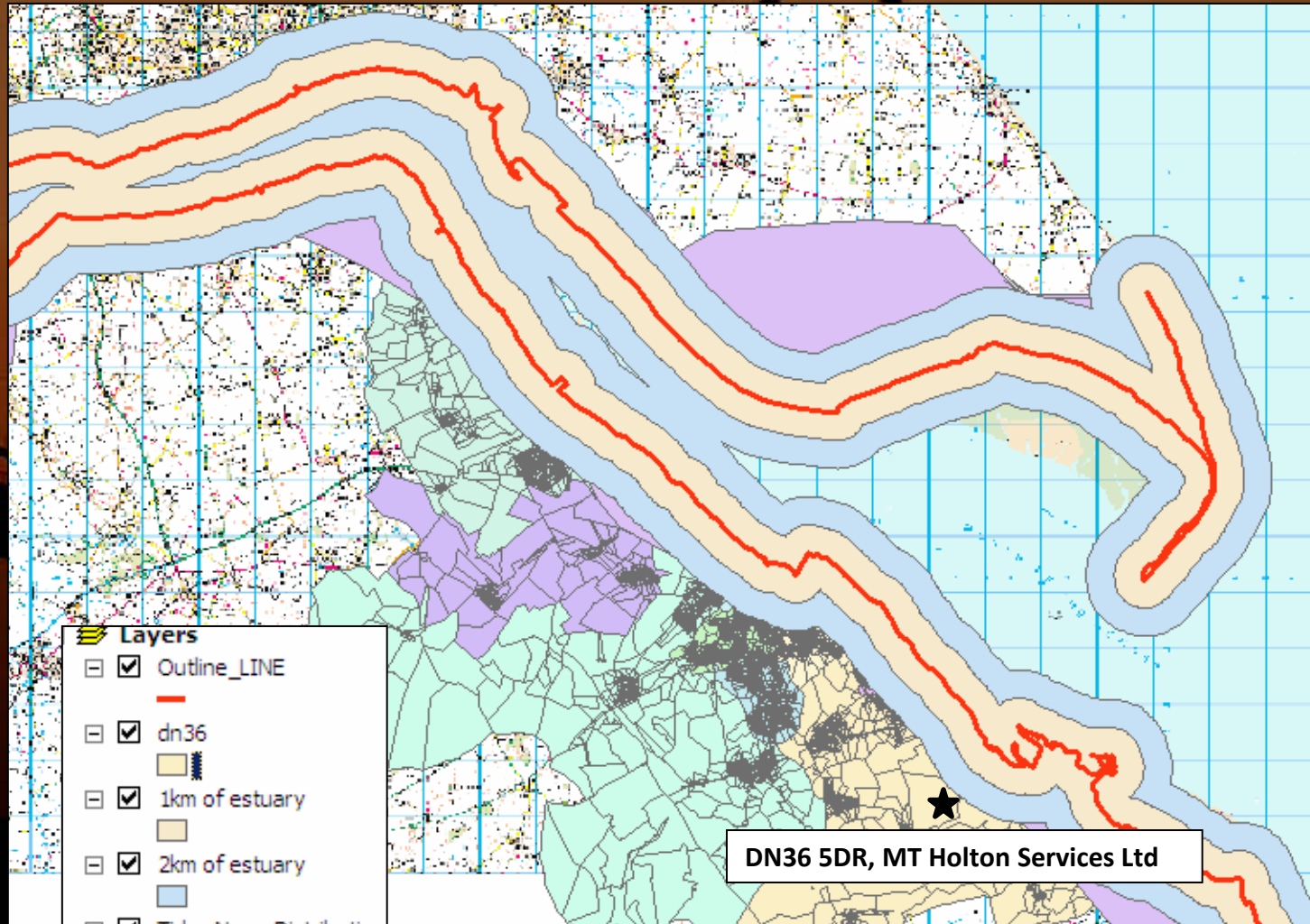
18 To build a more in depth picture of flood risk issues in the Humber region I would like to speak in more detail with representatives of approximately 50 businesses who completed this questionnaire. Would you be willing to be contacted as such a representative within the next few months?

Yes → If Yes, please provide your name and telephone number/ email below:
 No _____

Thank you for completing this questionnaire. Please return in the Freepost envelope provided.

Carl Lewis, PhD Research Student, The University of Hull Tel: 02482 465035 Email: c.a.lewis@2007.hull.ac.uk

Questionnaire: Pages 3 and 4



- Layers**
- Outline_LINE
 - dn36
 - 1km of estuary
 - 2km of estuary
 - Tides News Distribution
 - 3km of estuary
 - 4km of estuary
 - EA Flood Zone 3

★
DN36 5DR, MT Holton Services Ltd

The location of any business, and the 'layers' of information it intersects, can be seen immediately



Summary

- 1) Flood governance not balanced
- 2) Economic development potentially compromised
- 3) Uncertainty over why businesses appear to 'disregard' flood risk
- 4) Need to understand business perceptions and communication of flood risk
- 5) Better integration of private sector into flood risk governance should secure economic development

Acknowledgements

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CASE Partnership

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Prof David Gibbs - University of Hull

Dr Sally Eden - University of Hull

Andrew Barron – Environment Agency Humber Strategies



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