


GRESHAM COLLEGE

# Greenness in Business and the City

Carolyn Roberts

Frank Jackson Foundation Professor of Environment



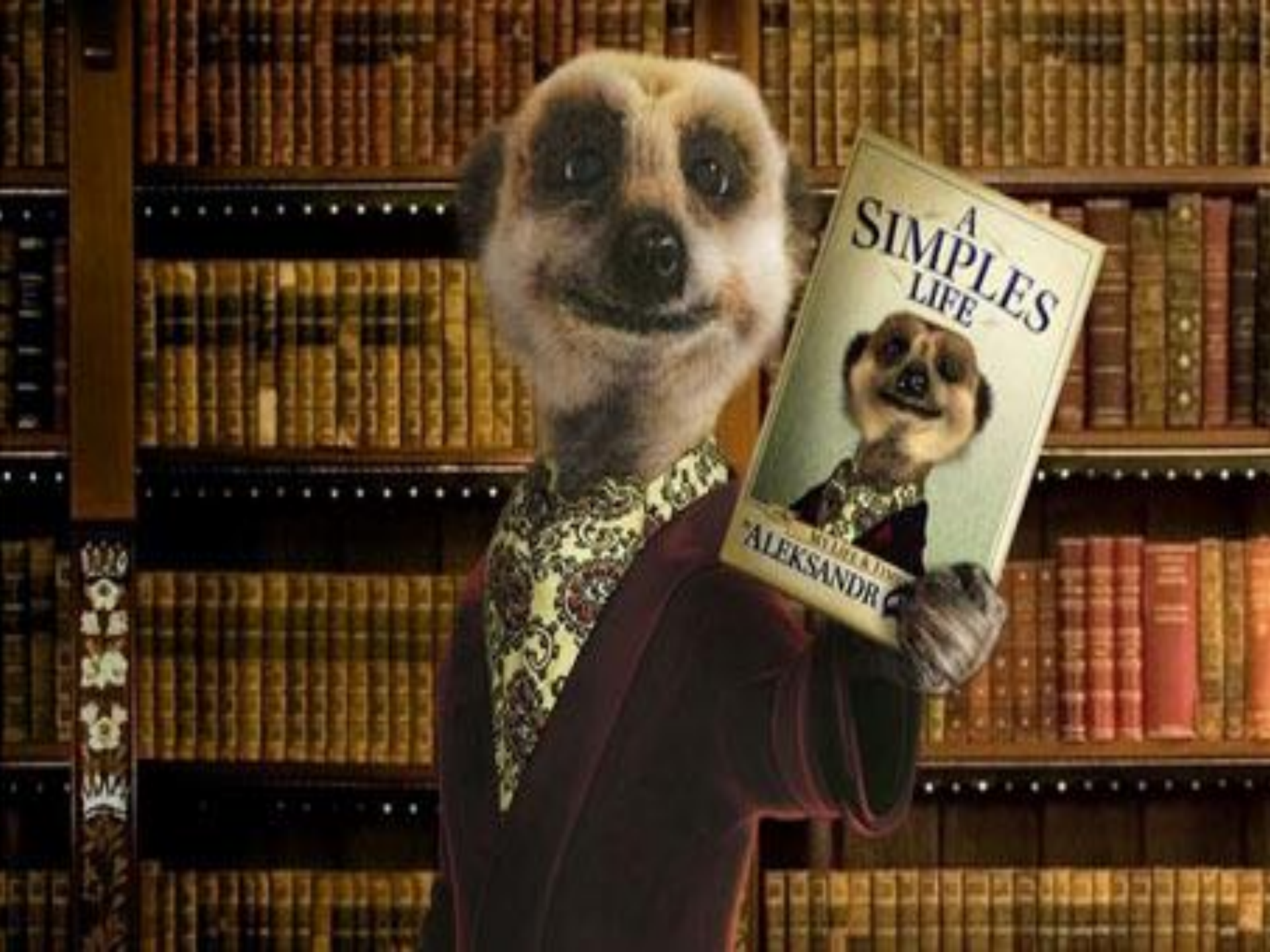
The Knowledge Transfer Network

Visiting Researcher, University of Oxford



**Simples**

**BORING**



A  
SIMPLE  
LIFE

BY ALEX & JIM  
ALEKSANDR






Mark Enzer

Group Practice Manager, Water  
and Environment

Mott MacDonald



# Key questions

- 
- What do we mean by 'greenness' in business and industry?
  - What sort of environmental challenges arise from industrial activities?
  - What are the potential roles of business in addressing environmental challenges?
  - What is the actual role of business today?  
Are they a force for good or evil?  
According to who?



Mark Enzer

Group Practice Manager, Water  
and Environment

Mott MacDonald





Professor Lyla Mehta

Institute of Development Studies

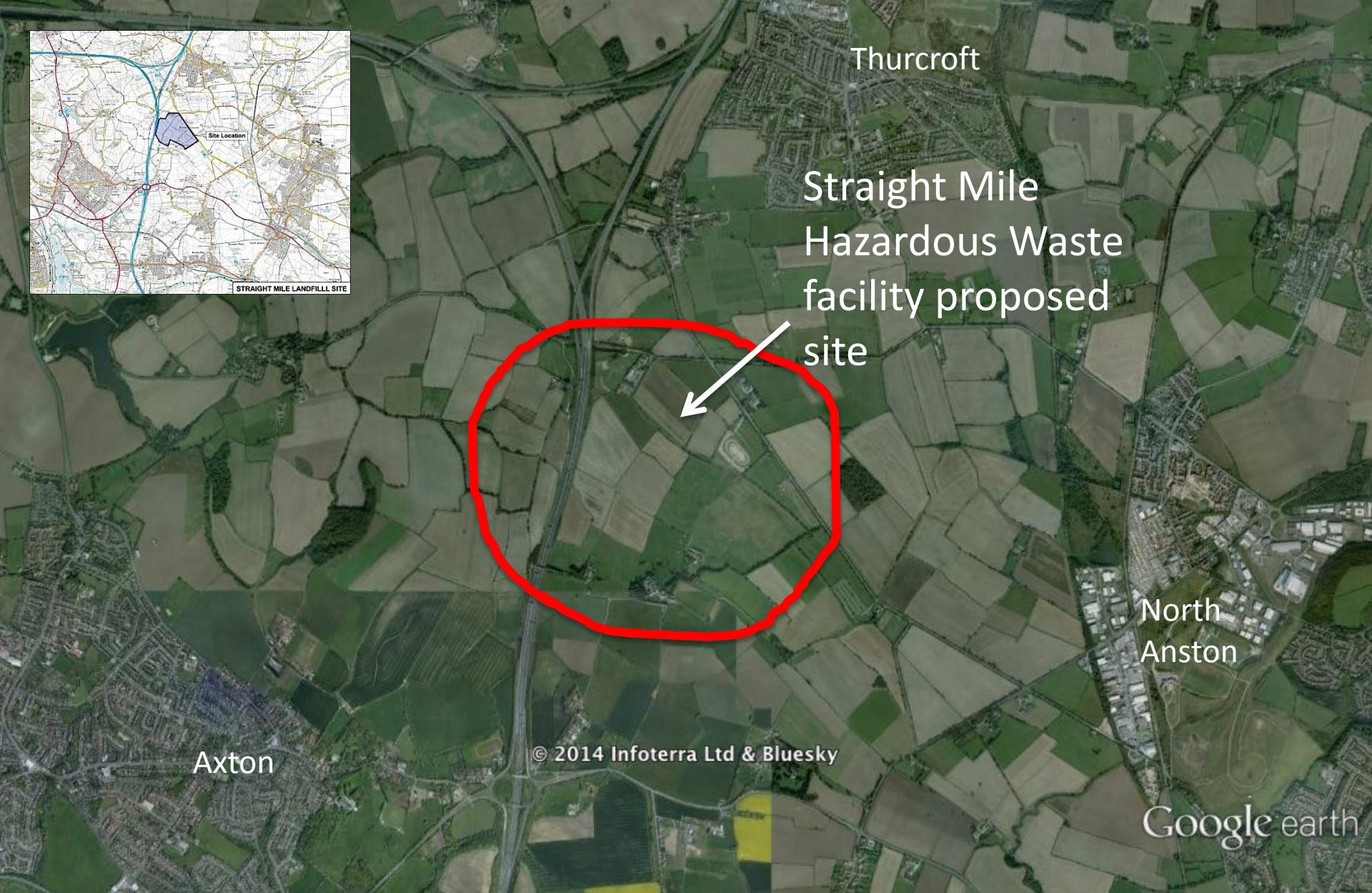
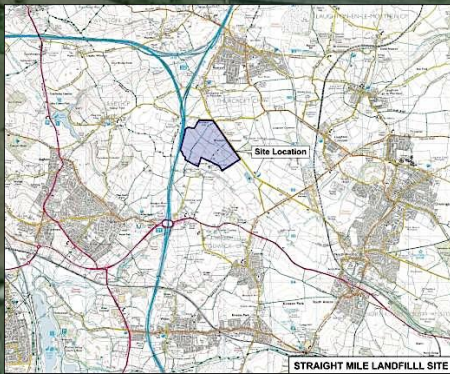
University of Sussex



A **green** story... about 'cleaning  
up' by cleaning up?



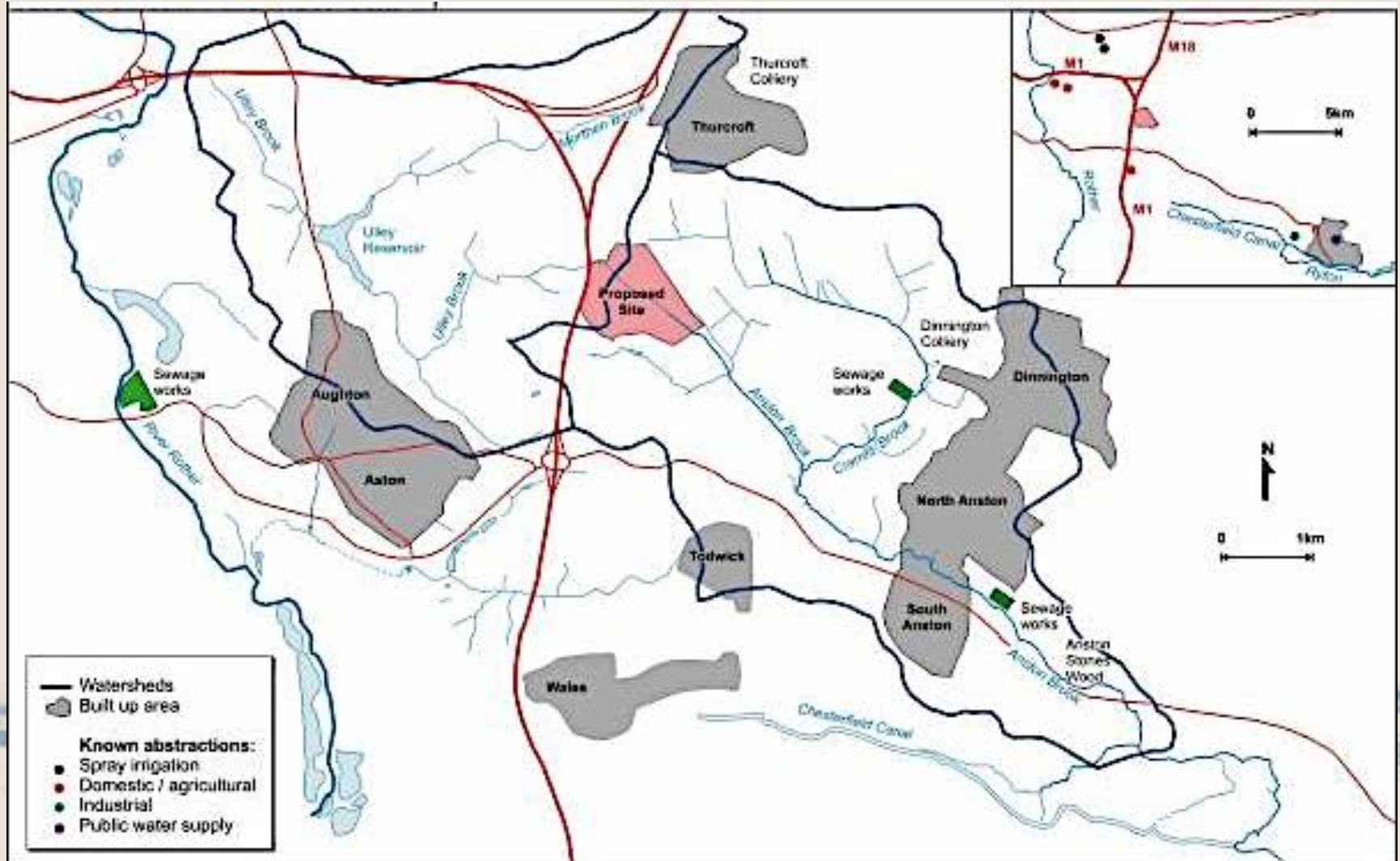




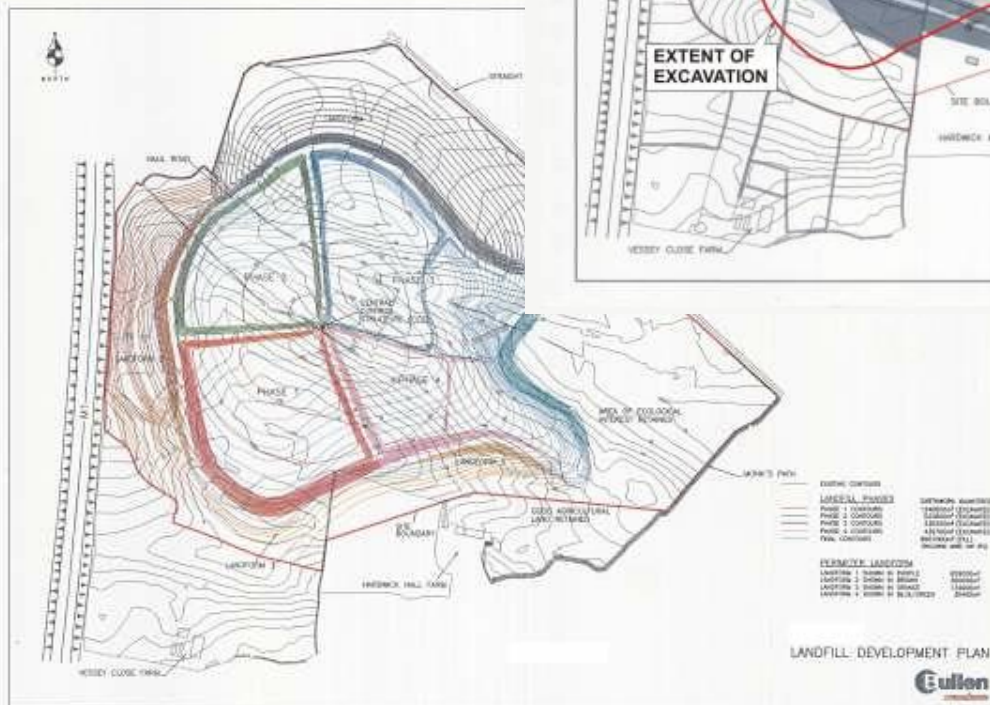
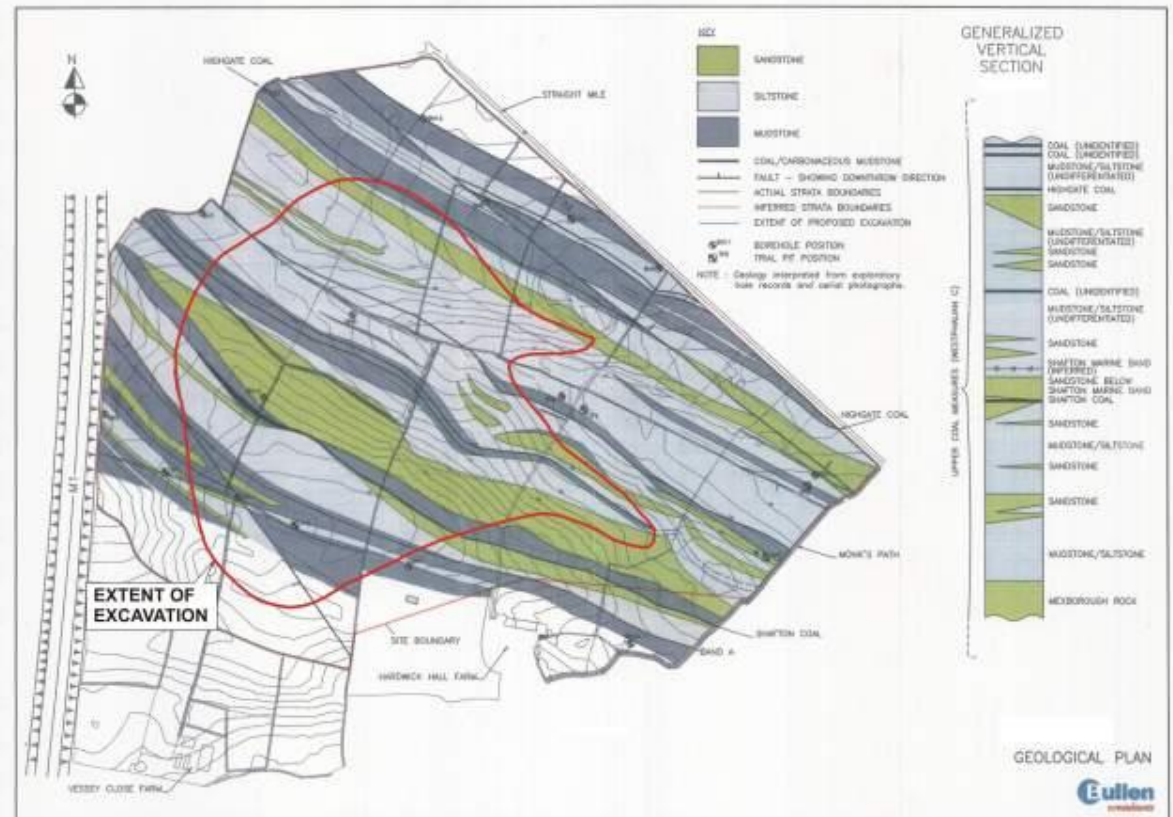
Straight Mile Hazardous Waste site, Yorkshire



# Straight Mile Hazardous Waste site, Yorkshire

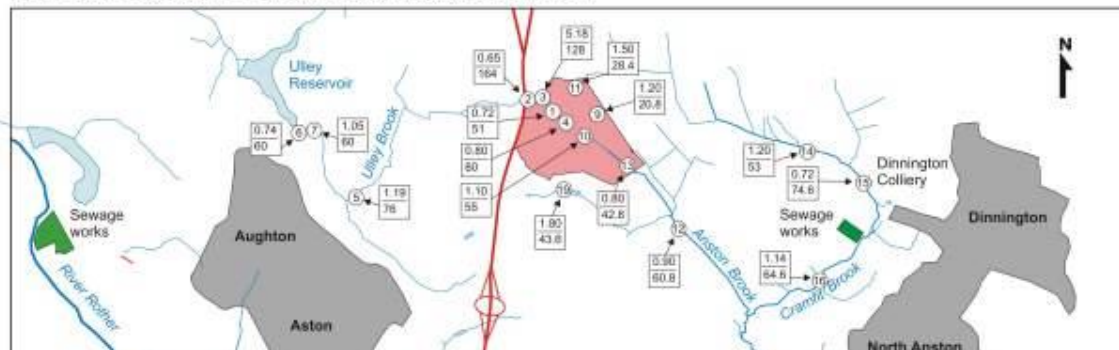


# Straight Mile Hazardous Waste site

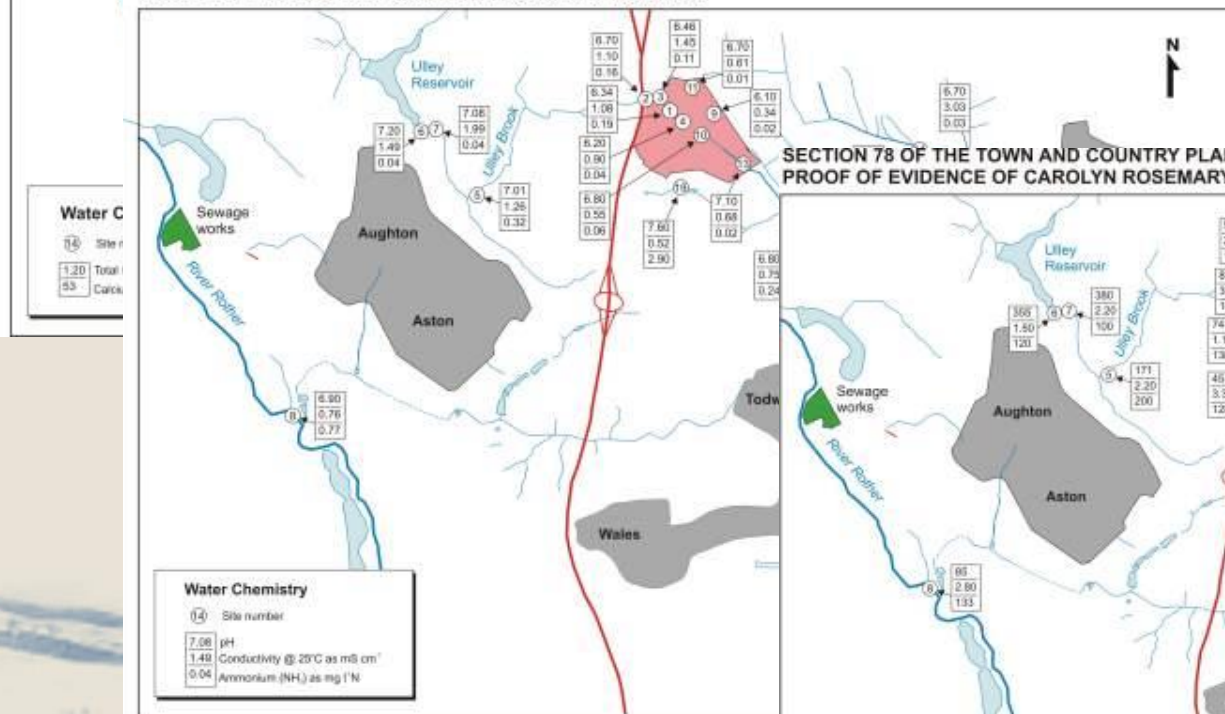




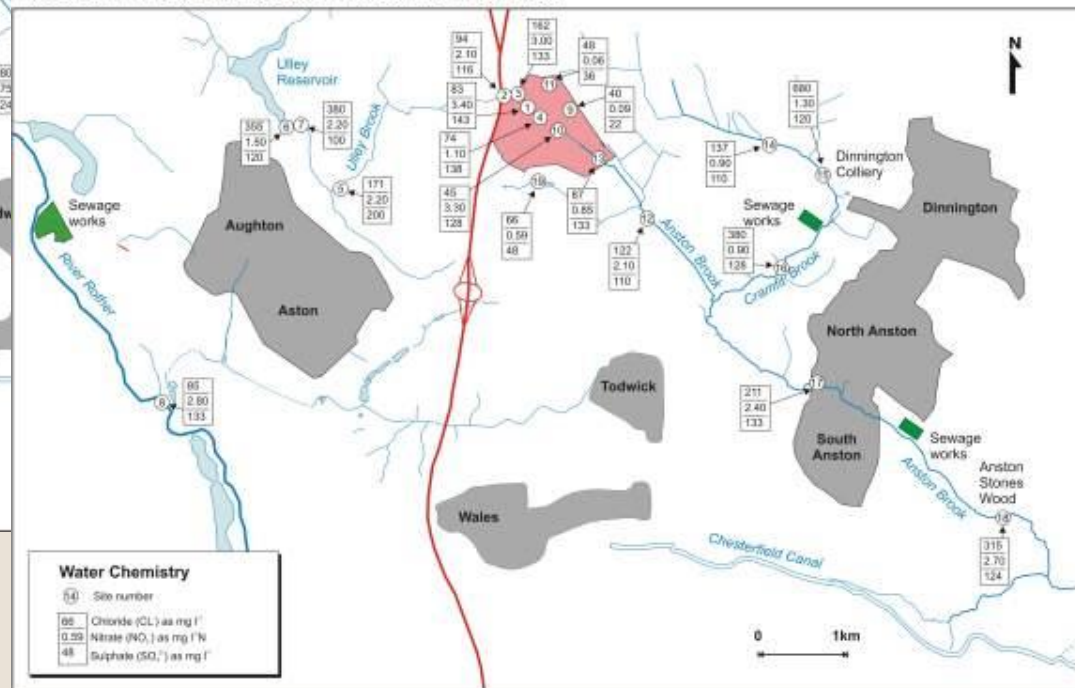
SECTION 78 OF THE TOWN AND COUNTRY PLANNING ACT 1990.  
PROOF OF EVIDENCE OF CAROLYN ROSEMARY ROBERTS



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Straight Mile  
Hazardous  
Waste site



# 'Wicked' Problems

- 
- Are poorly formulated and complex
  - With interconnected physical/scientific and human/sociological dimensions...
  - Where what happens in one place and time affects what happens somewhere else, at a different time
  - Involving many different stakeholders...
  - Who don't agree about what is important...
  - And who use the terminology in different ways...
  - And who cannot agree if the problem has been solved

Based on Horst Rittel and Melvin Webber, 1973



# 'Super Wicked' Problems

- ..... and
- Time is running out
- Those who cause the problem also seek to provide a solution
- The central authority needed to address the problem is weak or non-existent
- Policy responses make decisions that disregard the future and reflect short time horizons

Levin *et al*, 2012



Isabel Carlisle

Education Coordinator

Transition Network



# ECOBLOODYNAMICS.

## POLITICAL SCIENCE

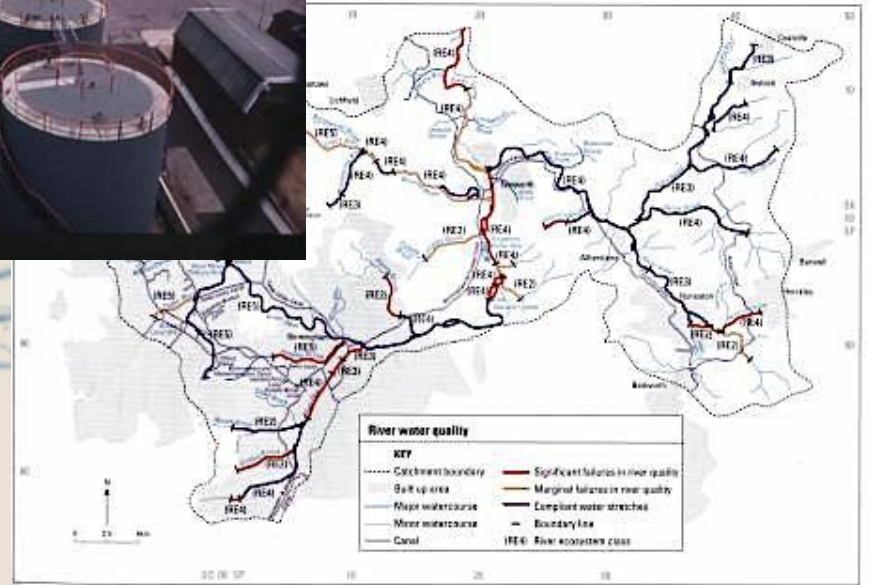
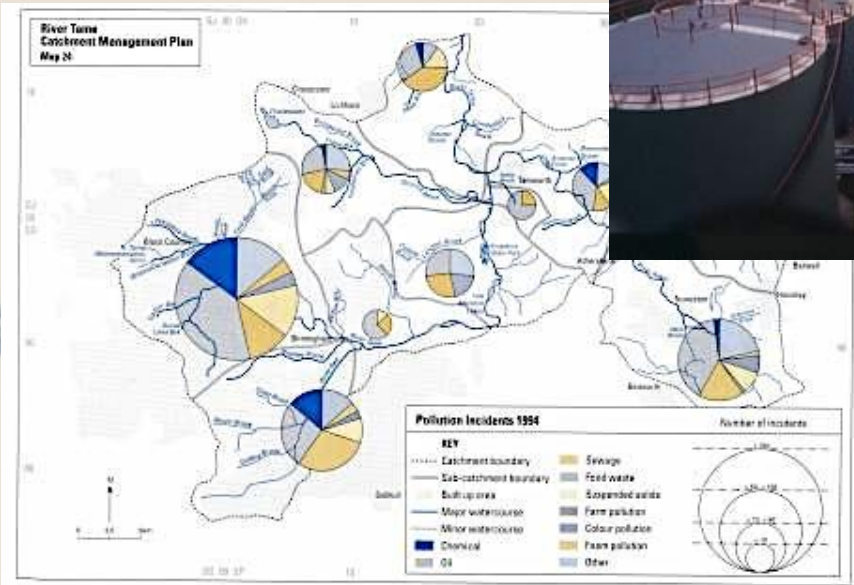
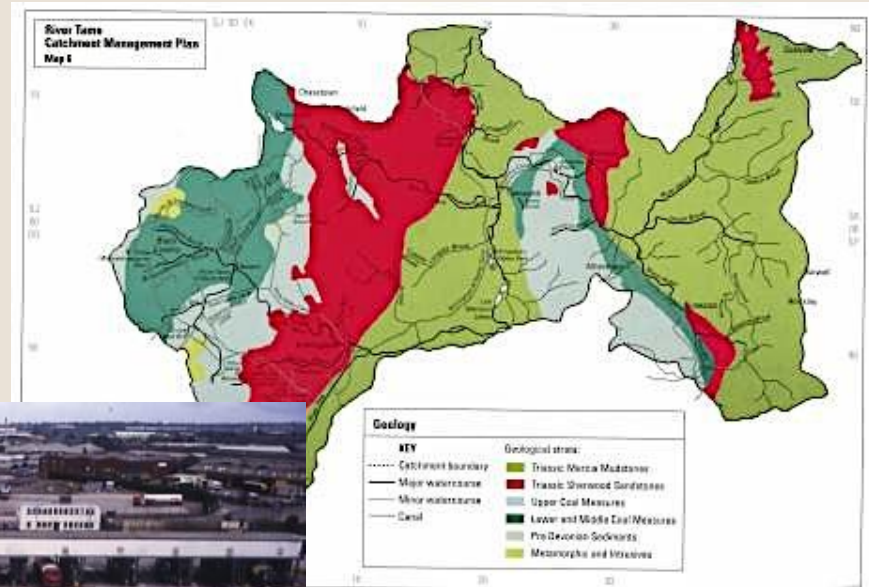
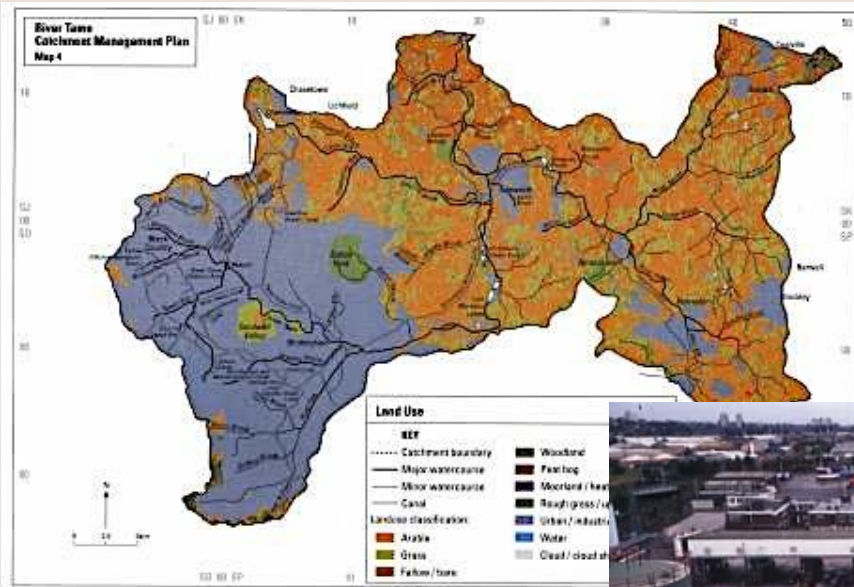




Oil on troubled waters: a story that  
may feature an industrial villain...



# Gulf Oil: Catchment Setting





Site of Gulf Oil Terminal, West Bromwich, 1945

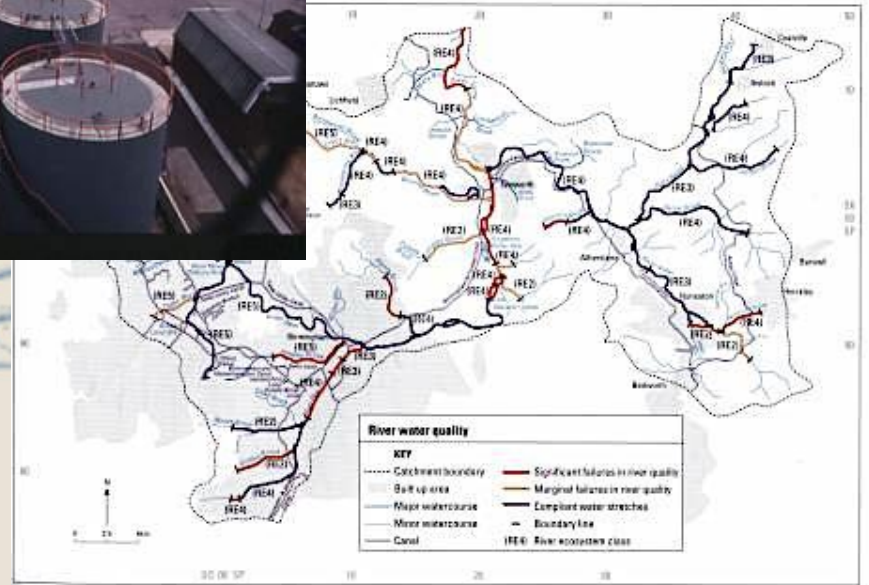
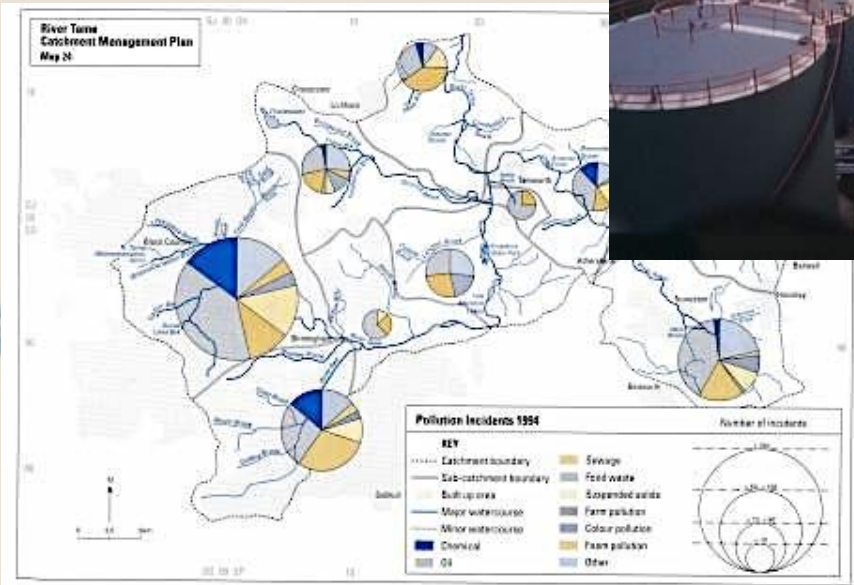
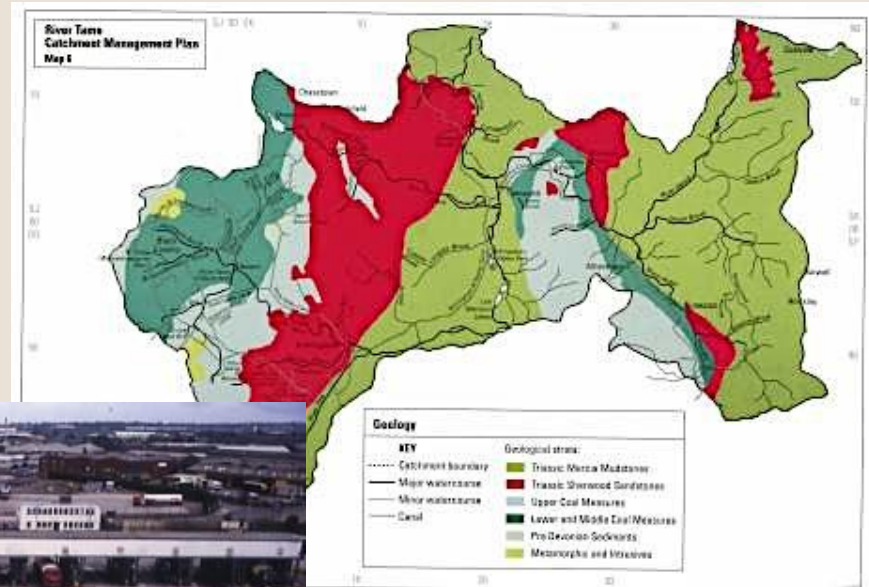
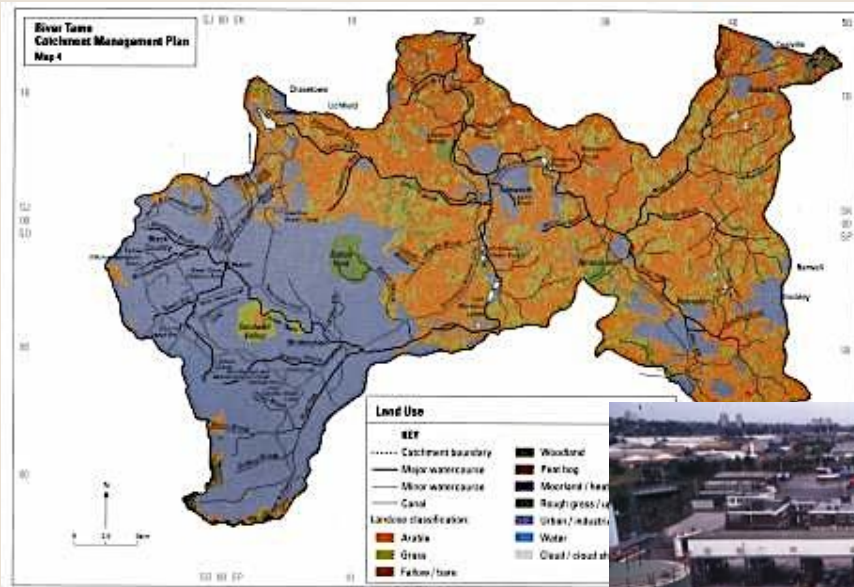




Site of Gulf Oil Terminal, West Bromwich, 1999

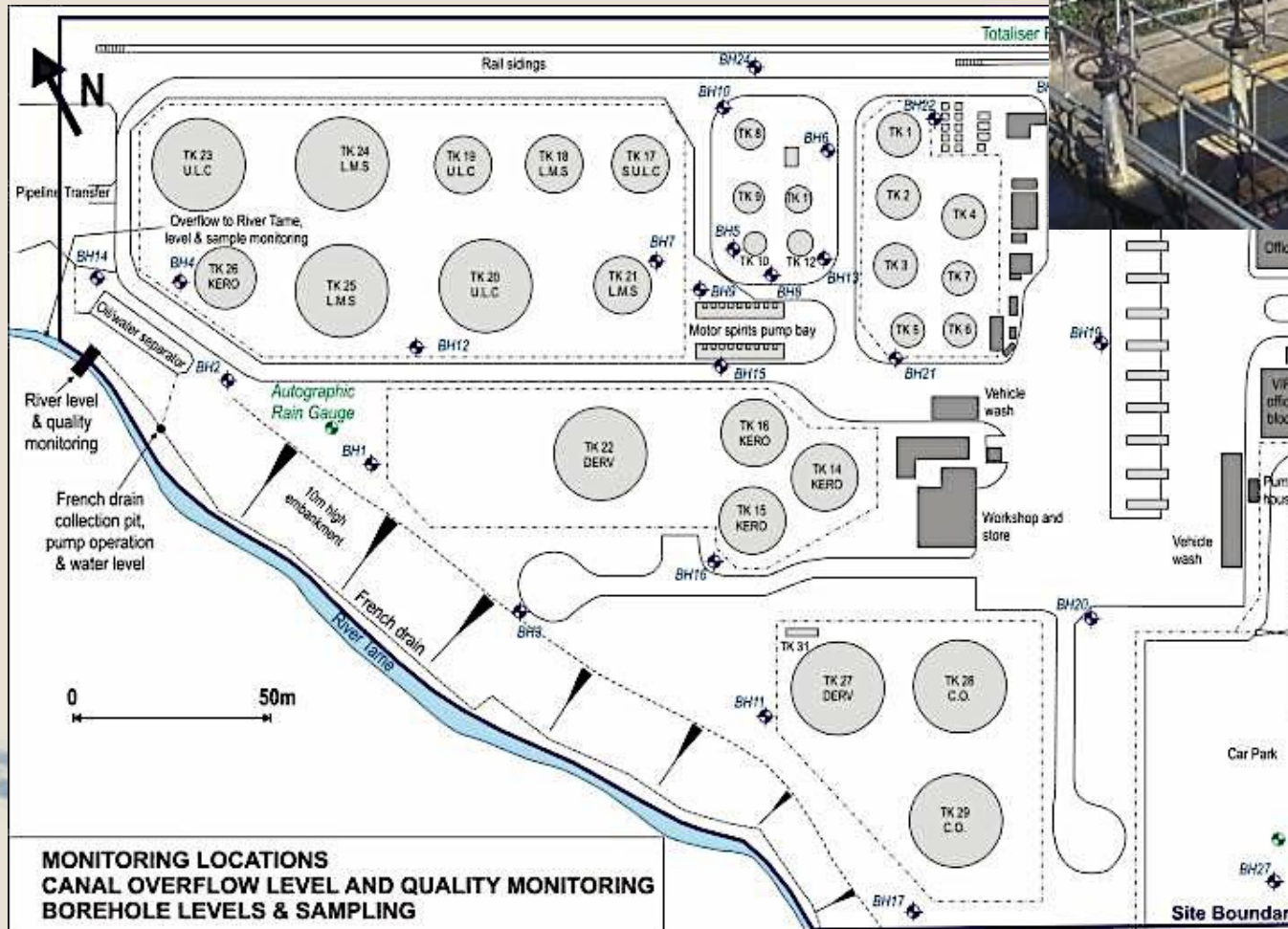


# Gulf Oil: Catchment Setting





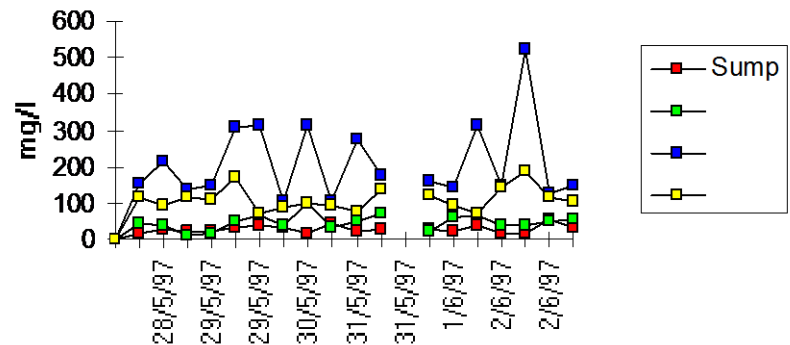
# Gulf Oil Terminal, West Bromwich



# Gulf Oil Terminal



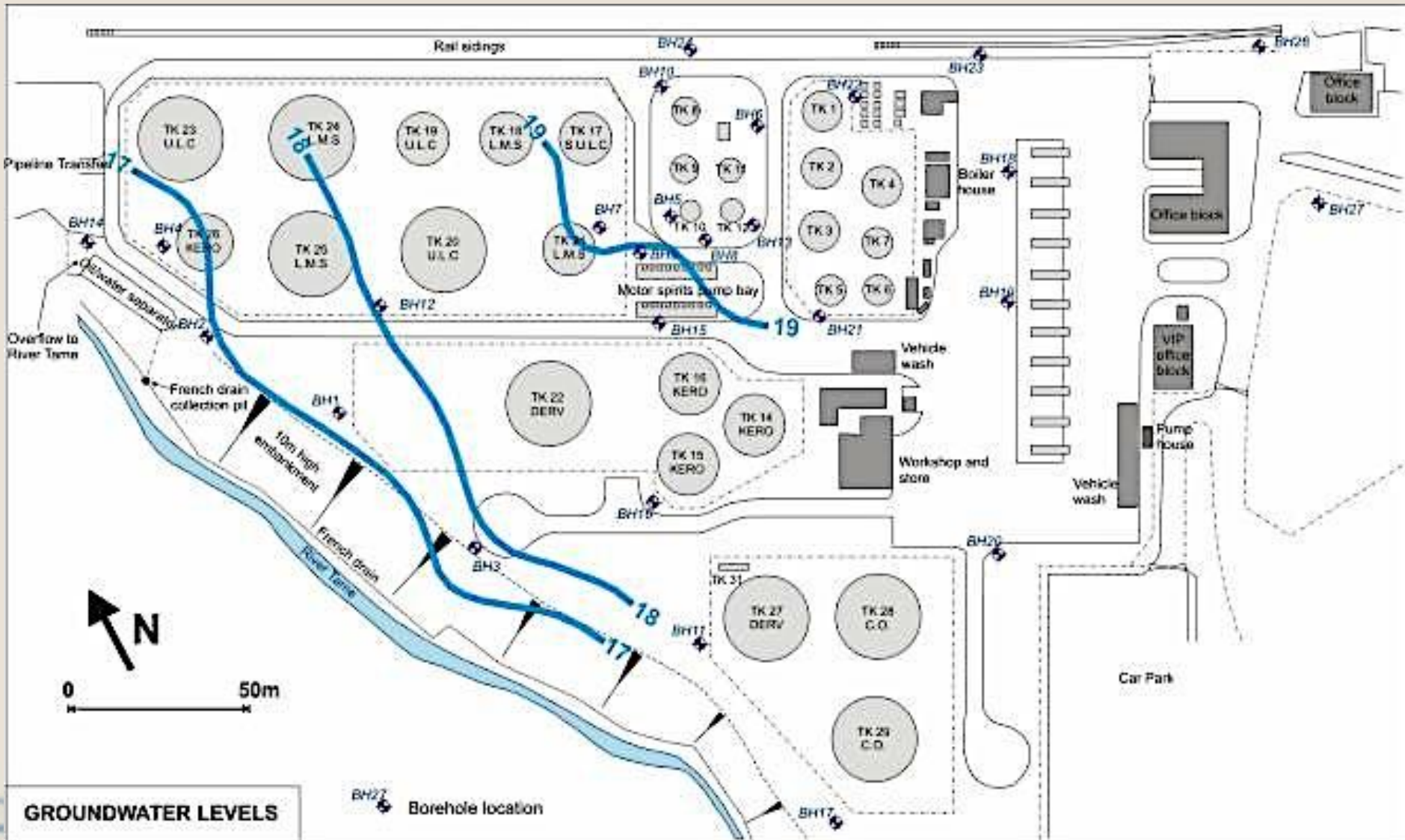
**Sump water quality, May/June 1997**



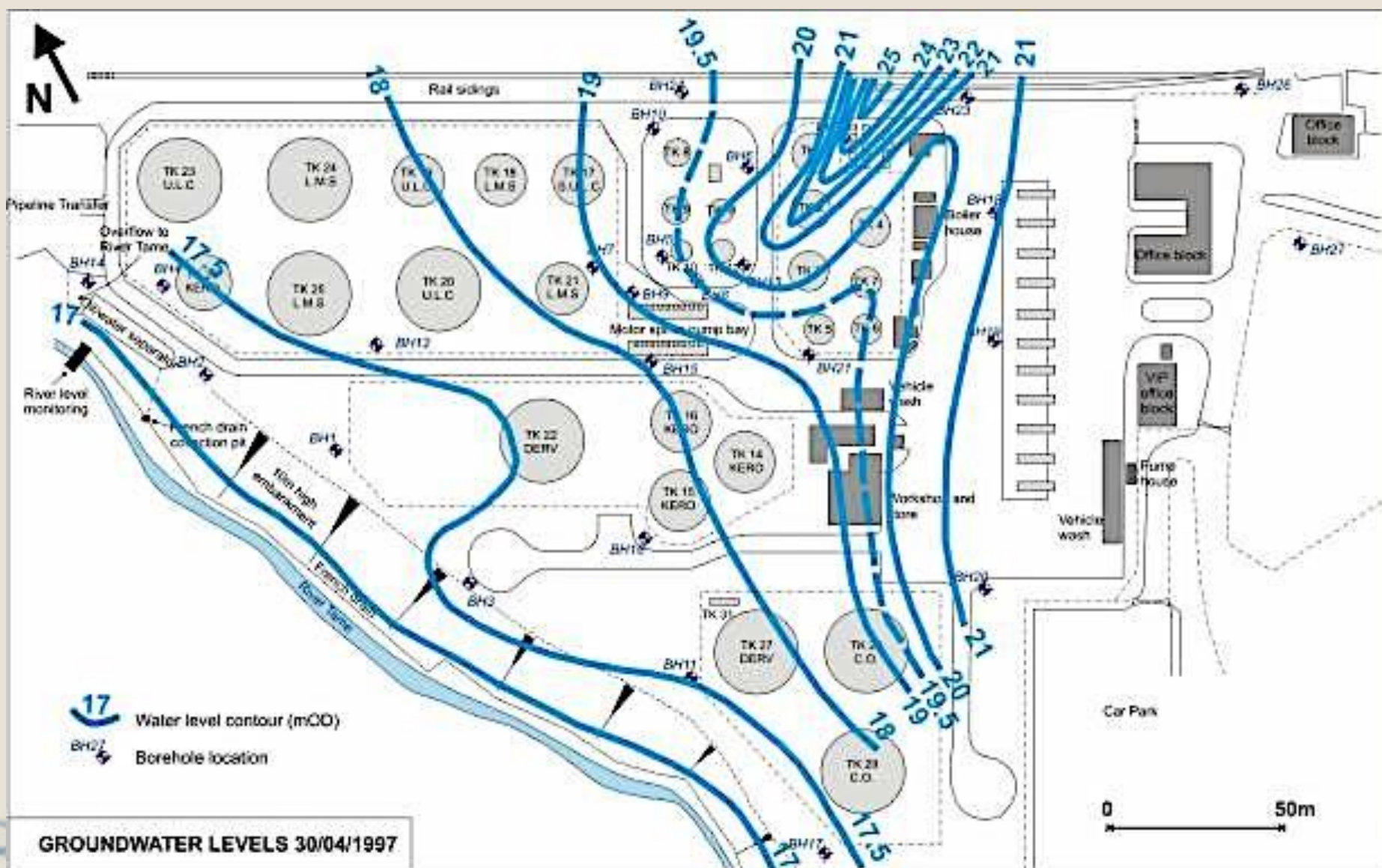
- Site investigation, including borehole installation, monitoring and testing
- Monitoring (quantity, quality), statistical and laboratory analysis
- Historic map and aerial photograph analysis
- Assembling data from other agencies
- Ground and surface water modelling

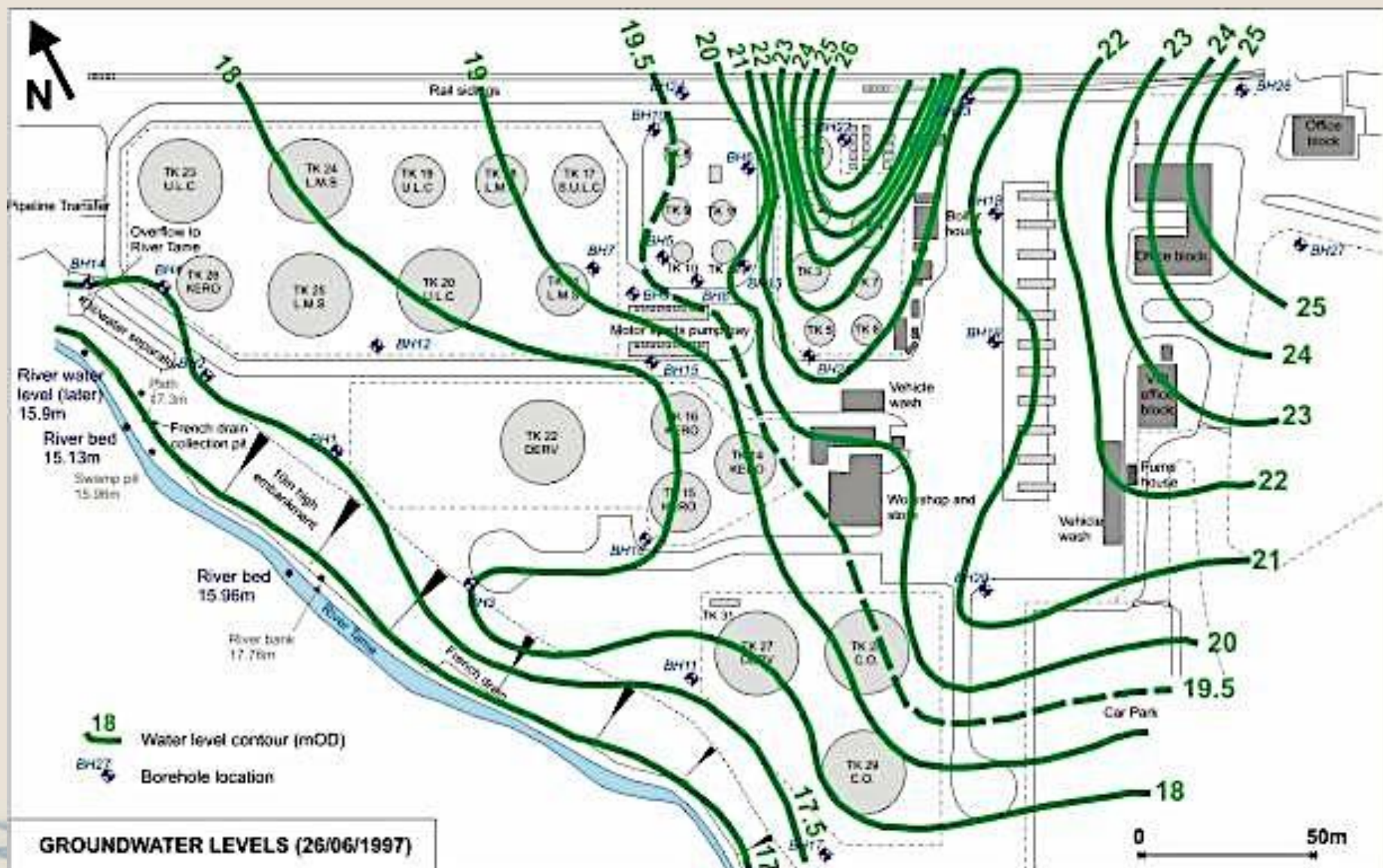
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27/02/97	04:58:20	Interval rea	49.45
27/02/97	04:58:35	Interval rea	47.95
27/02/97	04:58:50	Interval rea	48.45
27/02/97	04:59:05	Interval rea	49.45
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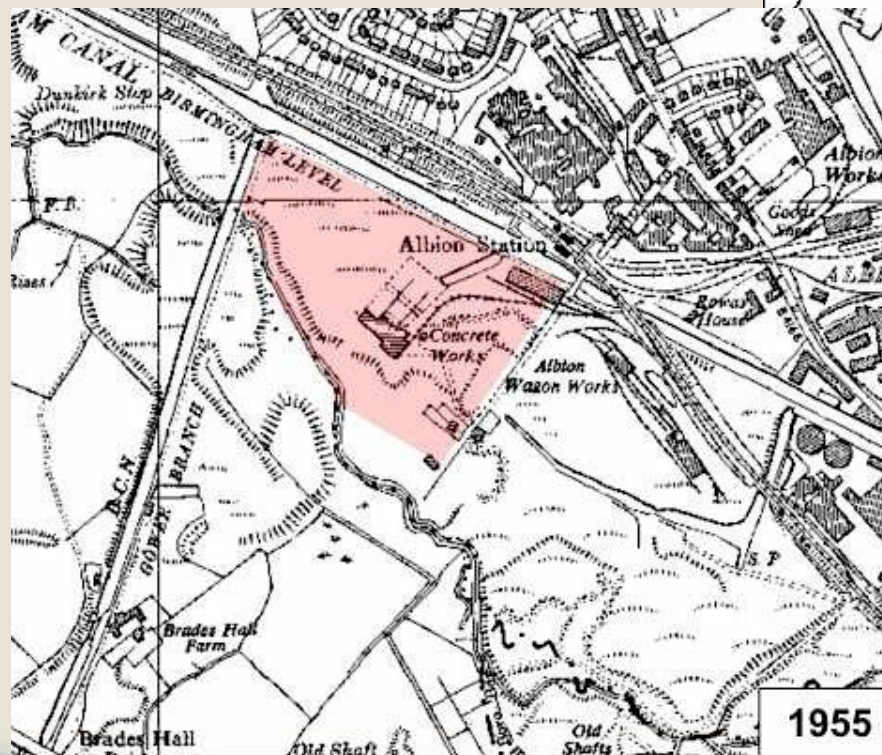




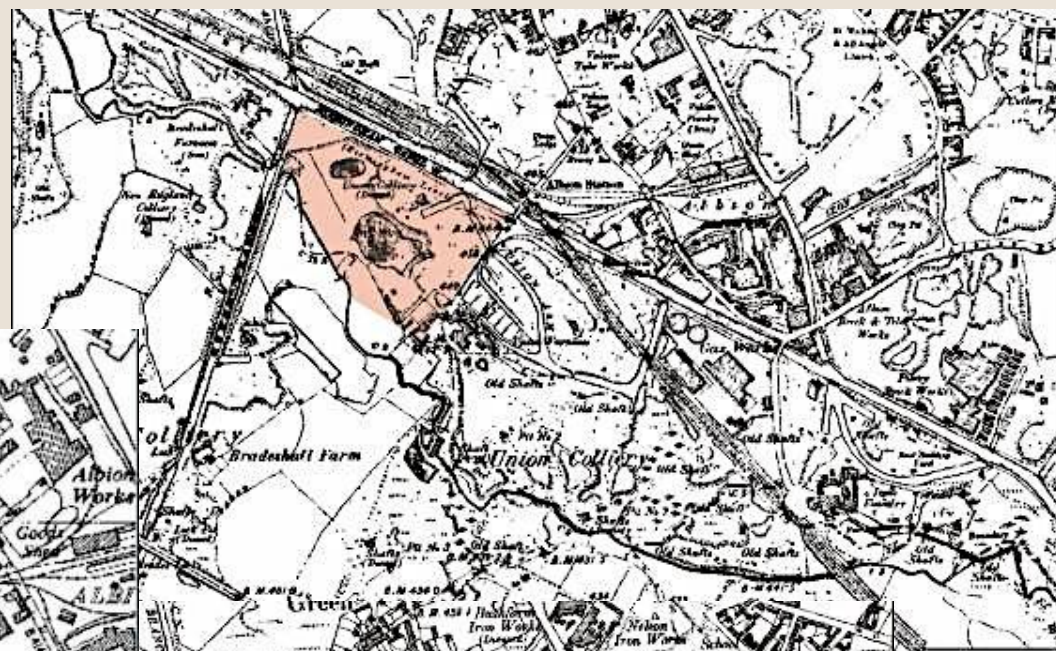




# Gulf Oil Terminal site, 1887-1955



1955



1887



1921

Gulf Oil's UK operation was taken over in 1997/8, and the hydrological findings were subject to publication restrictions.

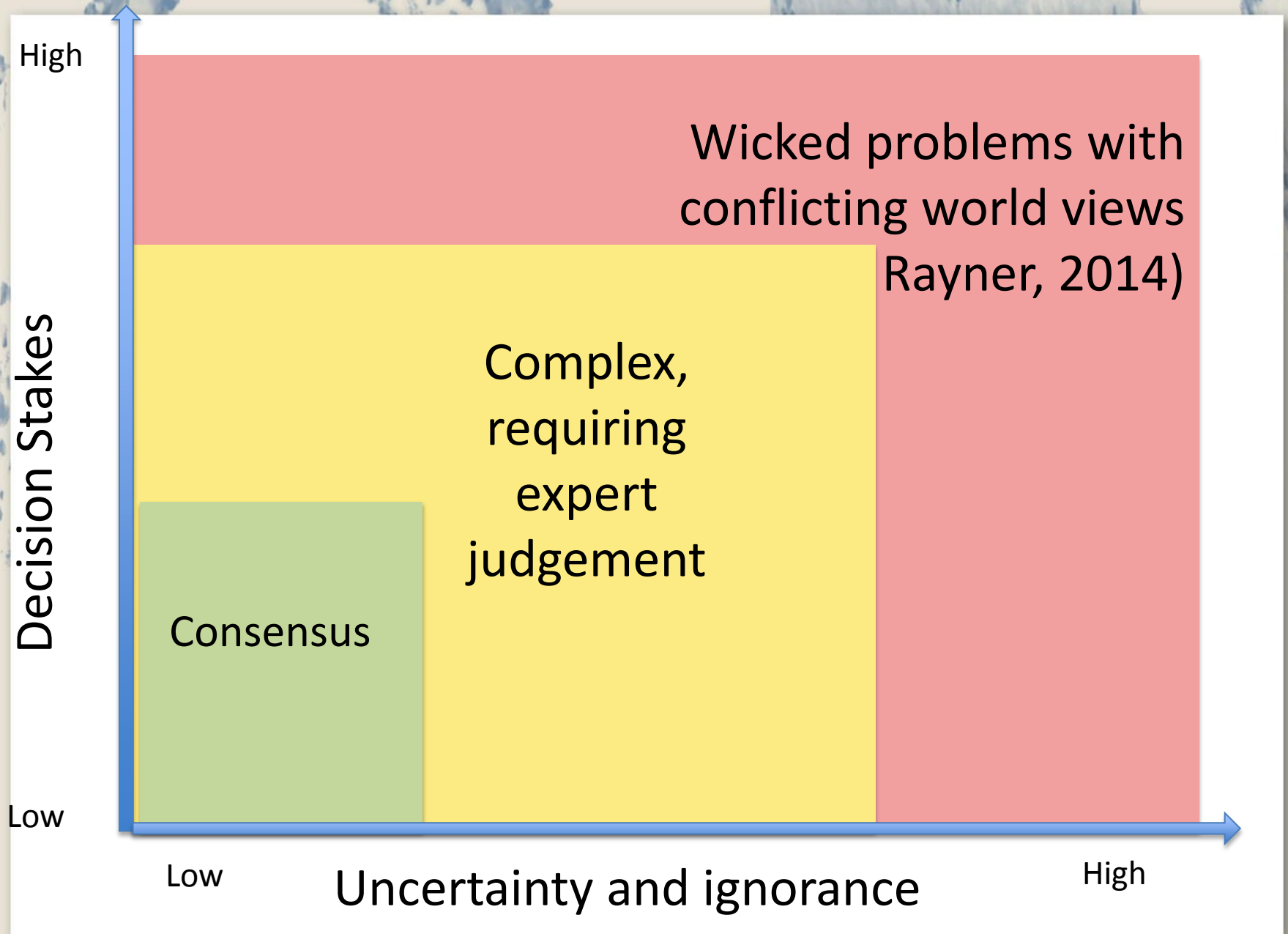






Site of Gulf Oil Terminal, West Bromwich, 2014





# Wicked problems

- Are not usually characterised by lack of data, but by excessive amounts of contradictory evidence held by stakeholders with different world views (Professor Steve Rayner)
- Are not usually resolvable through total consensus, or with an optimal answer, but just need a feasible solution
- It may be a clumsy solution for a complex world (Steve Rayner, again)





# Dr Martin Griffiths

Director and Independent Water  
and Environment Consultant

Pillon Ltd








Stuart Heyward-Higham

Technical Development Director

SITA UK



# The multiple potential roles of business

- 
- As innovators in proactively addressing environmental and related challenges such as future resource shortages
  - As leaders of change
  - As drivers of government policy
  - As motivators of communities
  - As passive recipients of external pressures from legislation or policy
  - As villains



Dr Faith Culshaw

Coordinator

UK Water Research and Innovation  
Partnership, Natural Environment  
Research Council







# Nigel Mattravers

Chairman, Waste and Resources  
Management Panel

Institution of Civil Engineers





Dr Richard Miller

Deputy Director, Innovation in  
Industry

Innovate UK





Paul de Zylva

Head of Nature

Friends of the Earth







# Greenwash?



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‘...carbon  
neutral free  
heat!’ ?



This shift is in my opinion not just ‘greenwash’ and a concern with the public image of the company that CEOs wish to convey, but is taking place as a reflection of the need to manage resources such as energy and raw materials efficiently in an era of ‘smartness’ – smart cities, smart utilities, and ‘the internet of things’







Julie Hill

Chair, Waste and Resources Action  
Programme (WRAP)  
and Associate, Green Alliance





# Lord Smith of Finsbury

Formerly Chair, Environment  
Agency

Currently Chair of the Advertising  
Standards Authority, and Chair of  
a UK Taskforce on shale gas



# Simplifying strategies for wicked problems

Nancy Roberts, the Core Lab, California



## Hierarchical

Top down, rational and analytical approach. Simplify, and apply scientific procedures to analyse and solve



## Competitive

Use expertise and craft to mobilise resources until a market solution is reached, usually involving developing an innovative new product



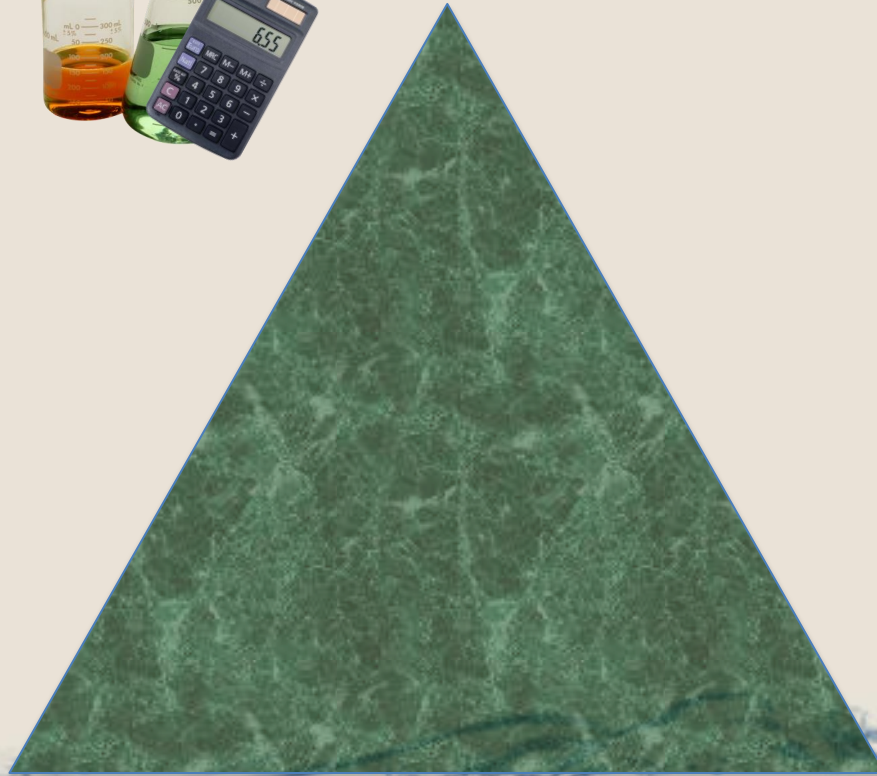
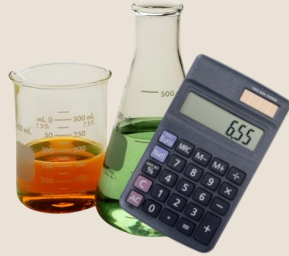
## Egalitarian

Open up the problem to stakeholders through consultations, civic organisations, citizen juries, local advisory groups to reach a decision



# Different World Views

## Hierarchical



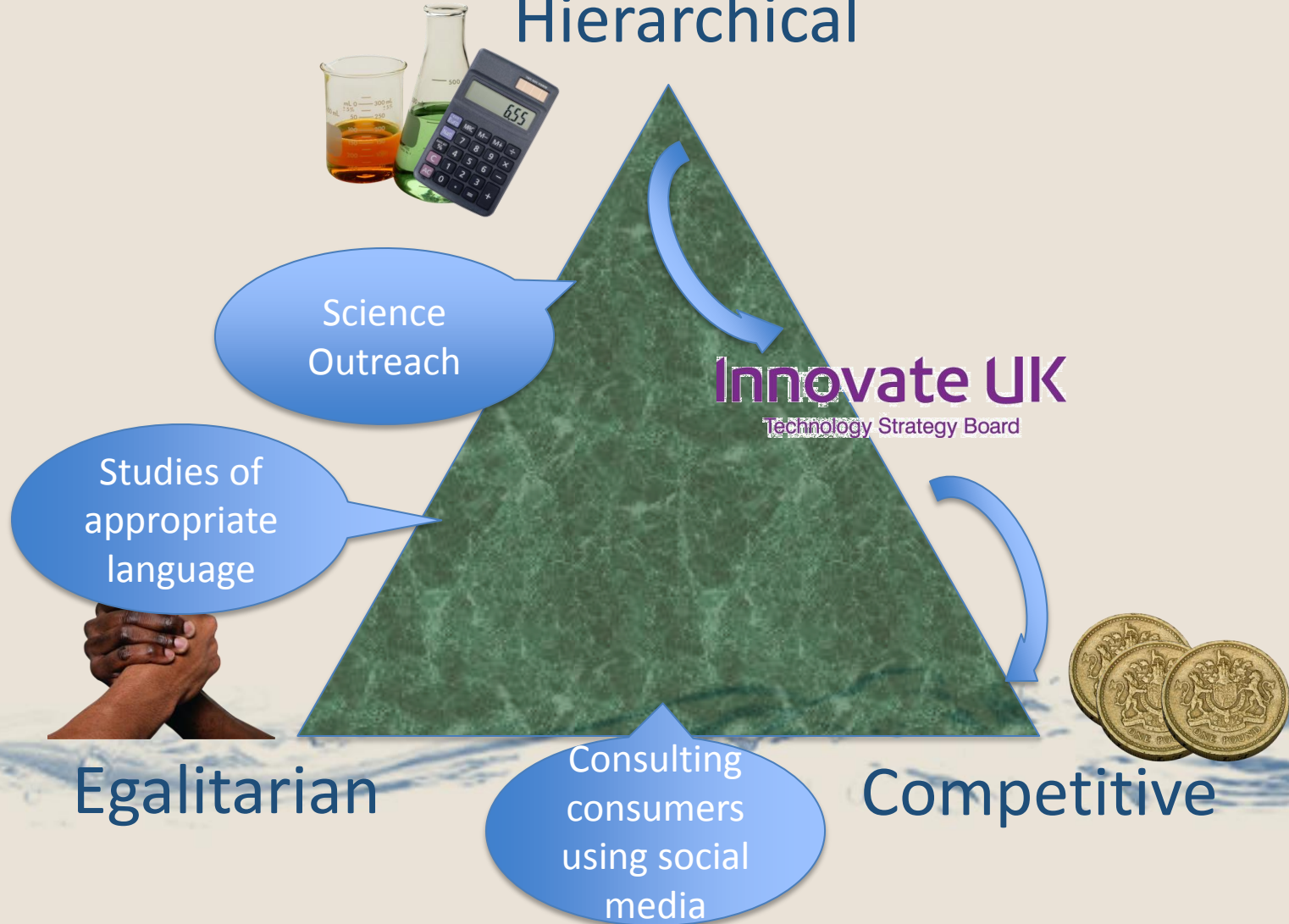
Egalitarian



Competitive

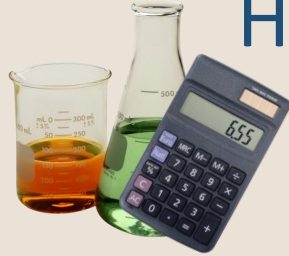
# Different World Views

Hierarchical



# Different World Views

Hierarchical



Collaborate  
and occupy the  
middle ground



Egalitarian



Competitive



Please join me for my next lecture:  
Educationally 'Green': Environmental  
Research, University Teaching and Campus  
Greening  
15 January 2015  
6pm Barnard's Inn Hall

Thanks to Darren Walker, of the Institution of  
Environmental Sciences, for providing the graphics  
backgrounds to the slides

