

2009 Groundwater Forum Conference

Changing groundwater priorities  
over the past 15 years

Andrew Skinner

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Formerly, Director at the Environment Agency

# Overview

- A personal view of changes in groundwater perspectives since the mid 1990s
- Set in a longer term context
- From the perspective of science, policy, profession and public awareness
- Forward look

# Groundwater milestones 1939-2009

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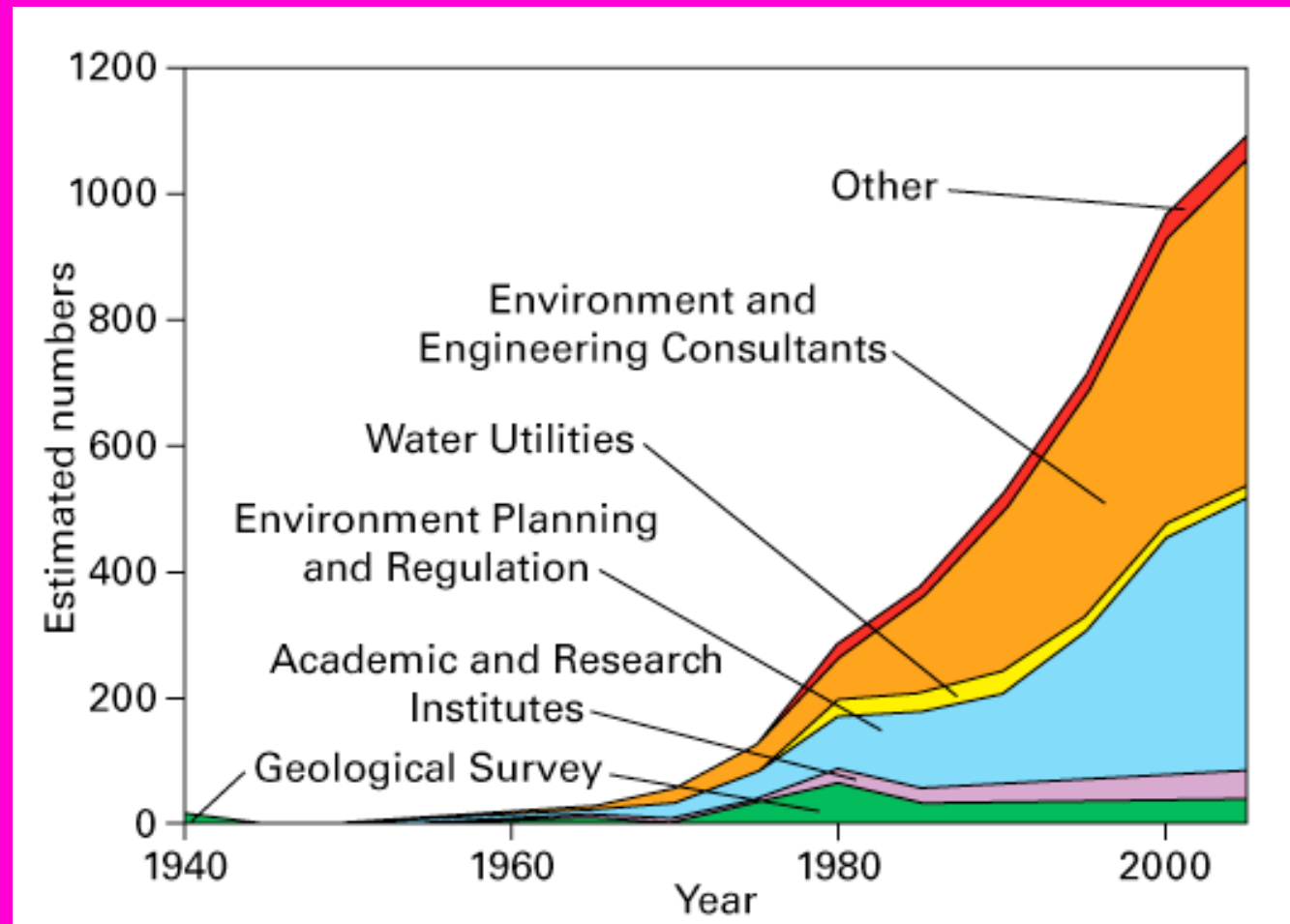
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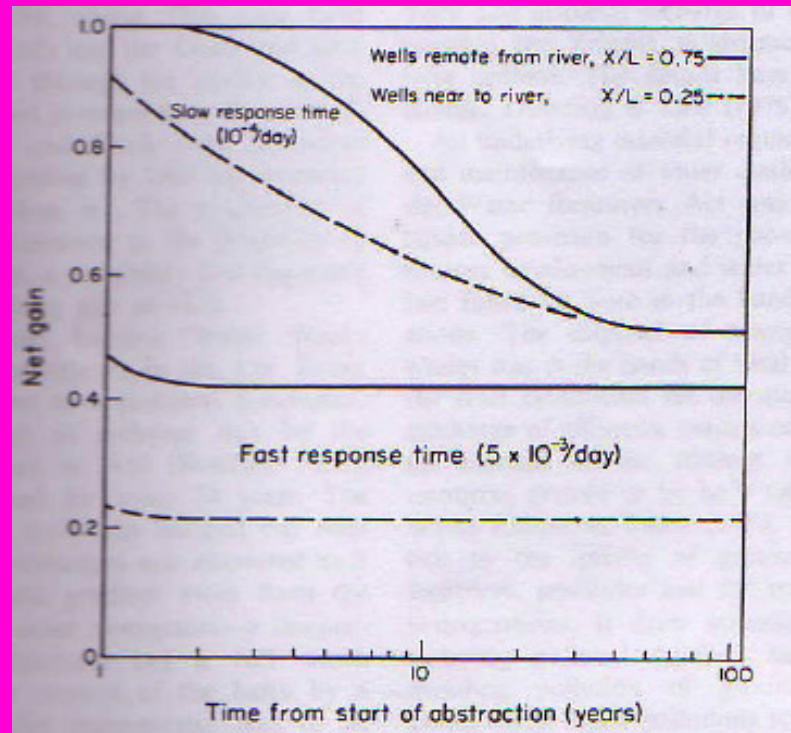
# Groundwater specialists 1940-2005



For details and assumptions see Skinner (2008) or [www.groundwateruk.org/html/issues10.htm](http://www.groundwateruk.org/html/issues10.htm)

# Conjunctive Use of Groundwater

## The big idea of the 1970s



Oakes and Wilkinson (1972)

Major focus of hydrogeological work in the 1970s

Few schemes survive in their intended form, especially in the Chalk where aquifer characteristics are often not favourable.

Two major schemes continue, both Permo-Trias; Shropshire Groundwater and the Lancashire Conjunctive Use Scheme (Fylde aquifer)

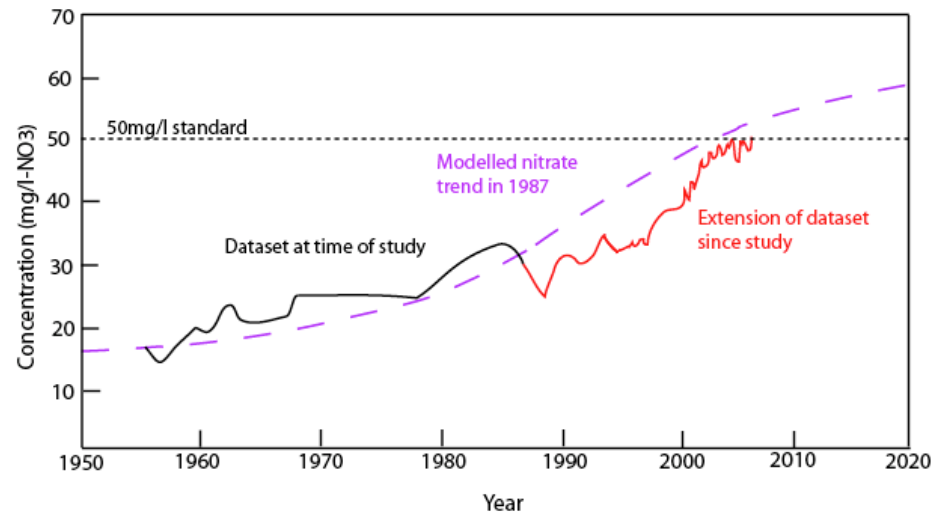
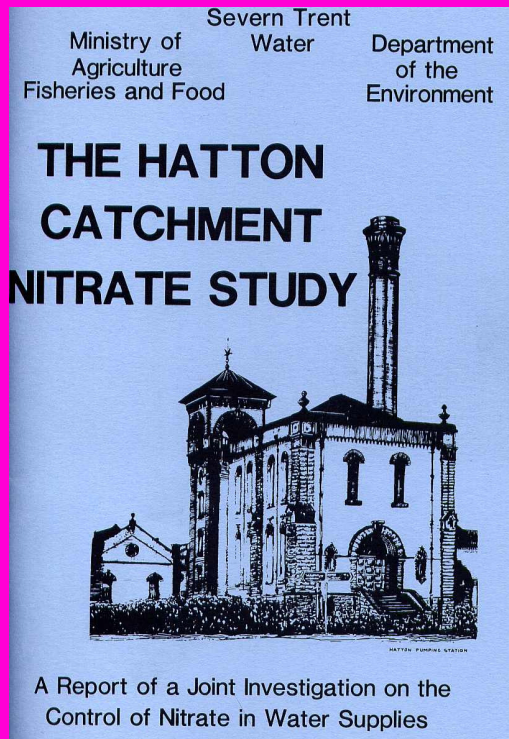
Is it time for consideration of the the better use of storage through conjunctive management and ASR to be reviewed?



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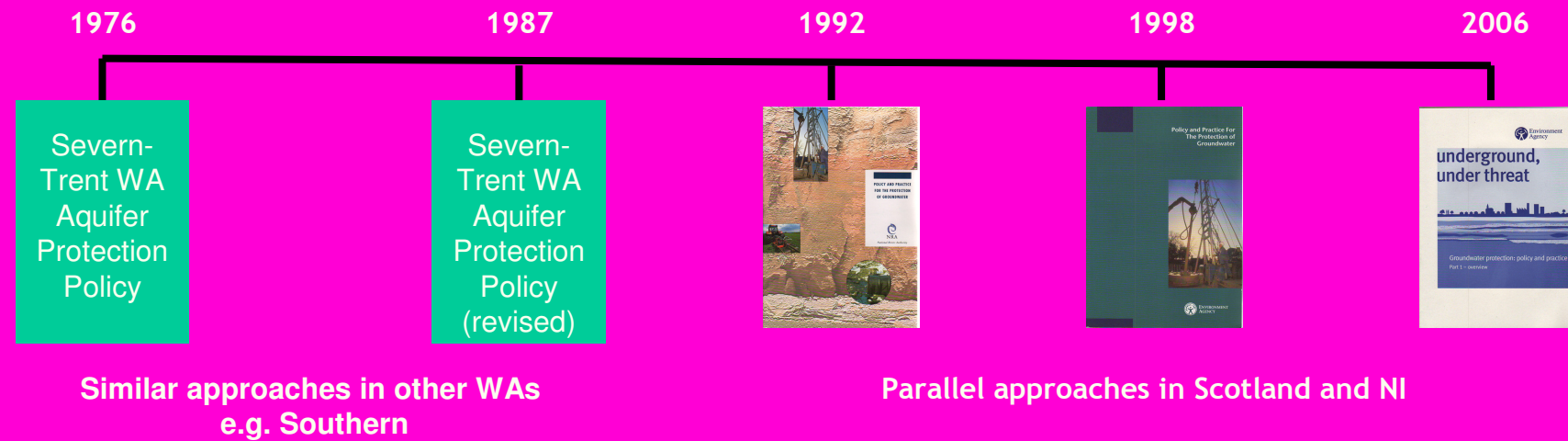
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20 years ago	1989	Creation of the NRA, beginning of a period of substantial professional expansion outside the public sector. Lost opportunity of diffuse pollution controls

# Lost opportunity!



Raw water quality, Hatton borehole source, Staffordshire (UK) to 2006 compared with trend predicted in 1987.  
Composite data set, source The Environment Agency

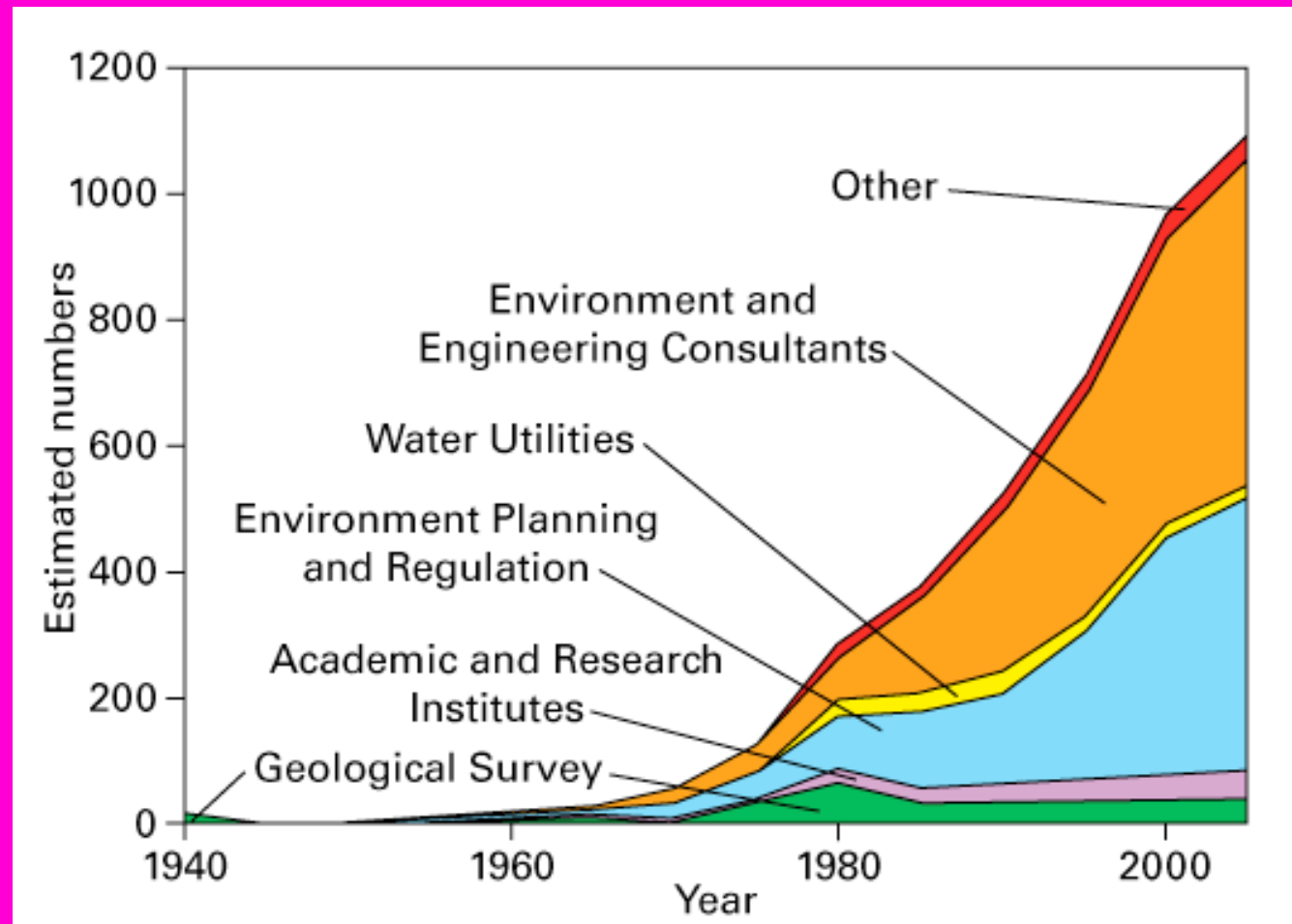
# 30 years of Groundwater Protection Policies



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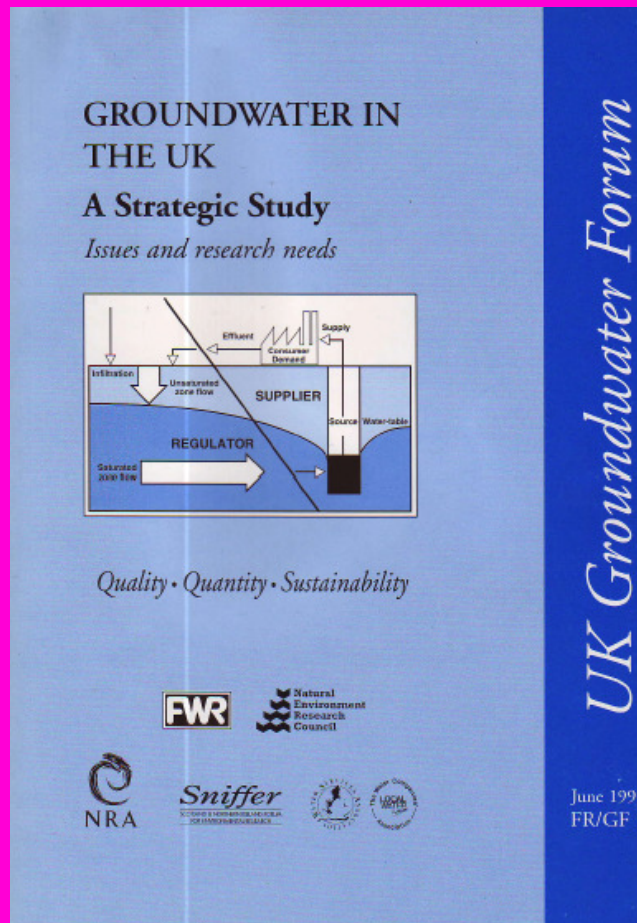


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Now	2009	First river basin plans - whither groundwater?

# 1995 Groundwater Strategic Study



Driven by a concern about fragmentation of research effort and lack of policy understanding

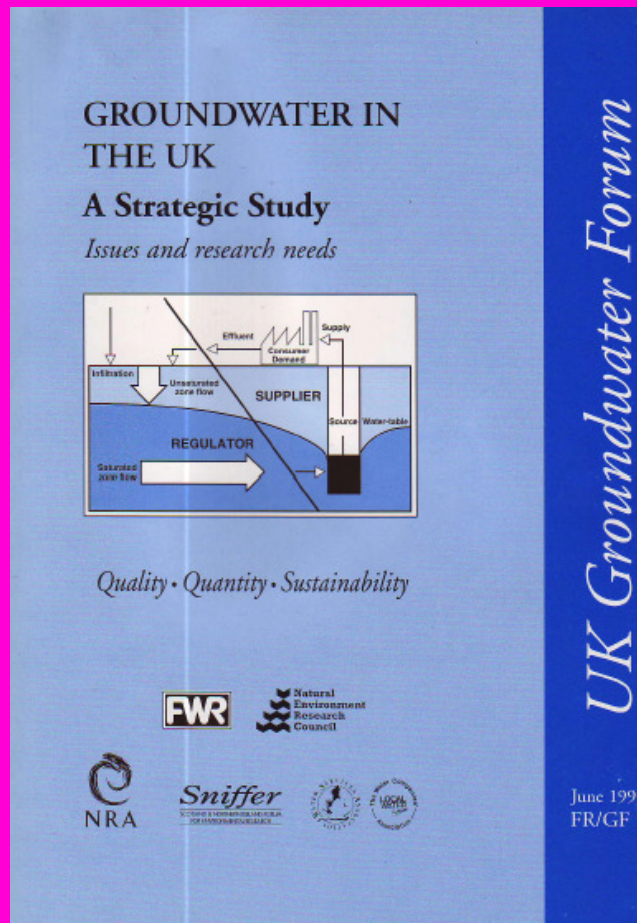
UK wide stakeholder input

Proposed a national groundwater research agenda

Recommended the continuation of the Forum to promote dialogue on and wider understanding of groundwater



# 1995 Groundwater Strategic Study



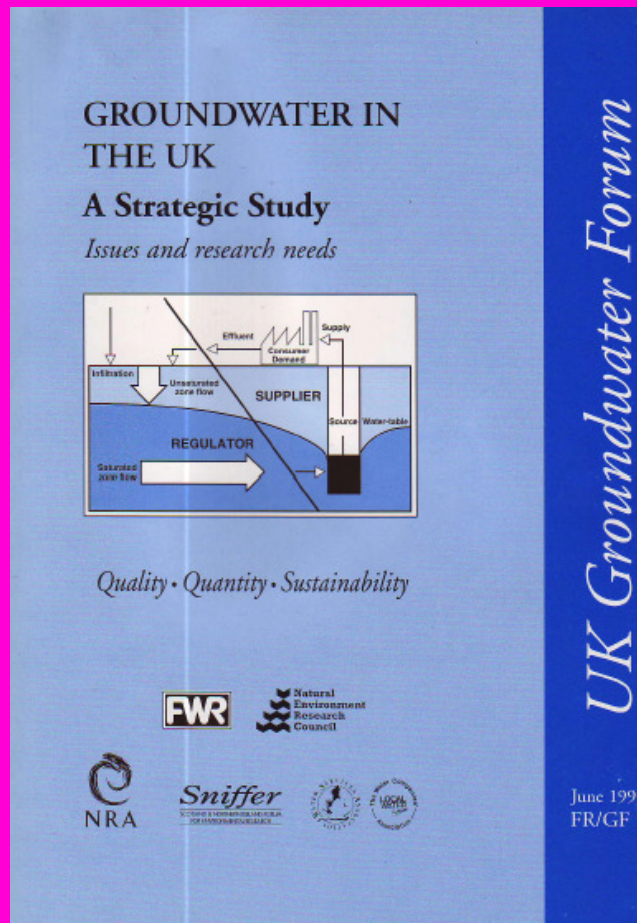
Main outputs of the initiative have been in outreach and stakeholder coordination

- Professional dialogue
- Public and popular information
- UK and Ireland wide co-ordination

A driver for the LOCAR thematic research programme



# 1995 Groundwater Strategic Study



But the report shows how much perspectives can change in 15 years

- Pre-dates EPA part IIA
- Pre-dates WFD
- “underground” rather than “catchment” in focus
- Narrow perspectives on land and water interaction and on groundwater and ecosystem function
- Little challenging on tools (data and modelling)
- Nothing on training and professional development

# My view from 2009

Three successes

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### Professional development

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### Risk based approaches

- scientifically underpinned pragmatism

# My view from 2009

Three challenges

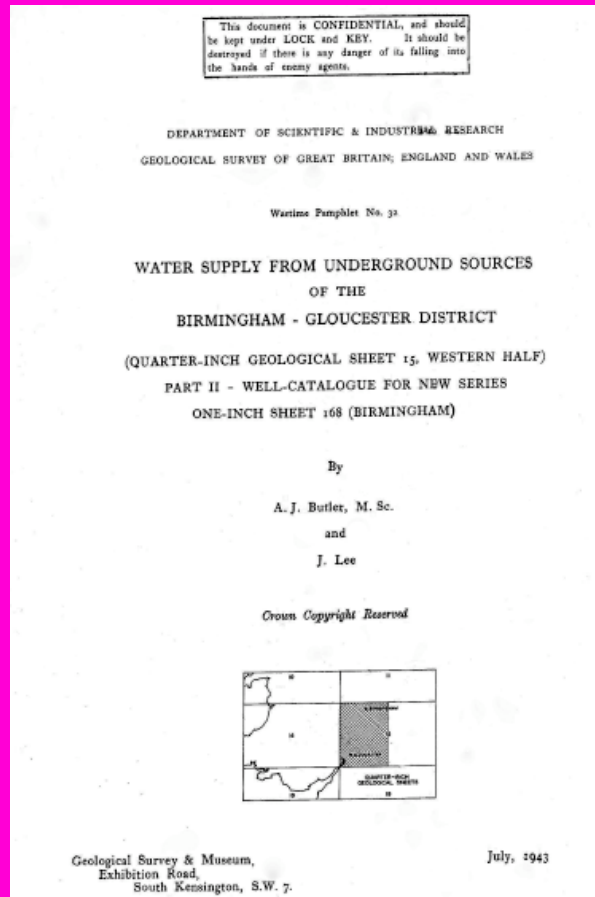
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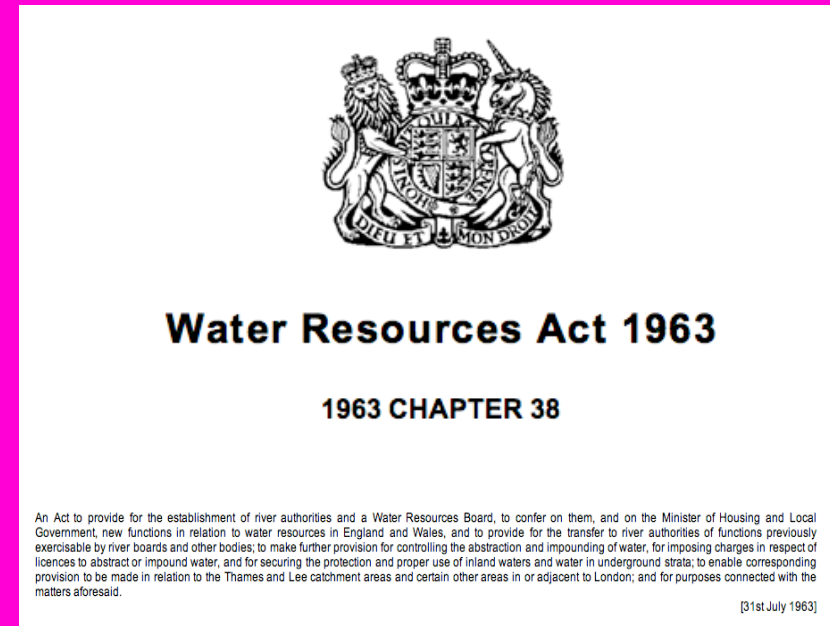
### Datasets

- Obtaining and maintaining the right datasets for today's and tomorrow's decisions

# Invest in data!



1940s



1960s



# My view from 2009

## Three challenges

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### Science funding

- Making the best of a limited/reducing resource

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### Making the right small decisions within the big picture

- Coping with the complexity of catchments and engaging stakeholders

“Groundwater (management) will  
continue to require  
nerve, verve and imagination.” ■

Downing 1993