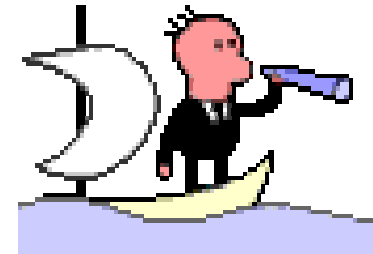


IMPLICATIONS OF THE WFD AND GROUNDWATER DIRECTIVE FOR WATER COMPANIES

**Dr Bob Breach
Head of Quality and Environment
Severn Trent Water**

Water is not a commercial product like any other but, rather a heritage which must be protected, defended and treated as such

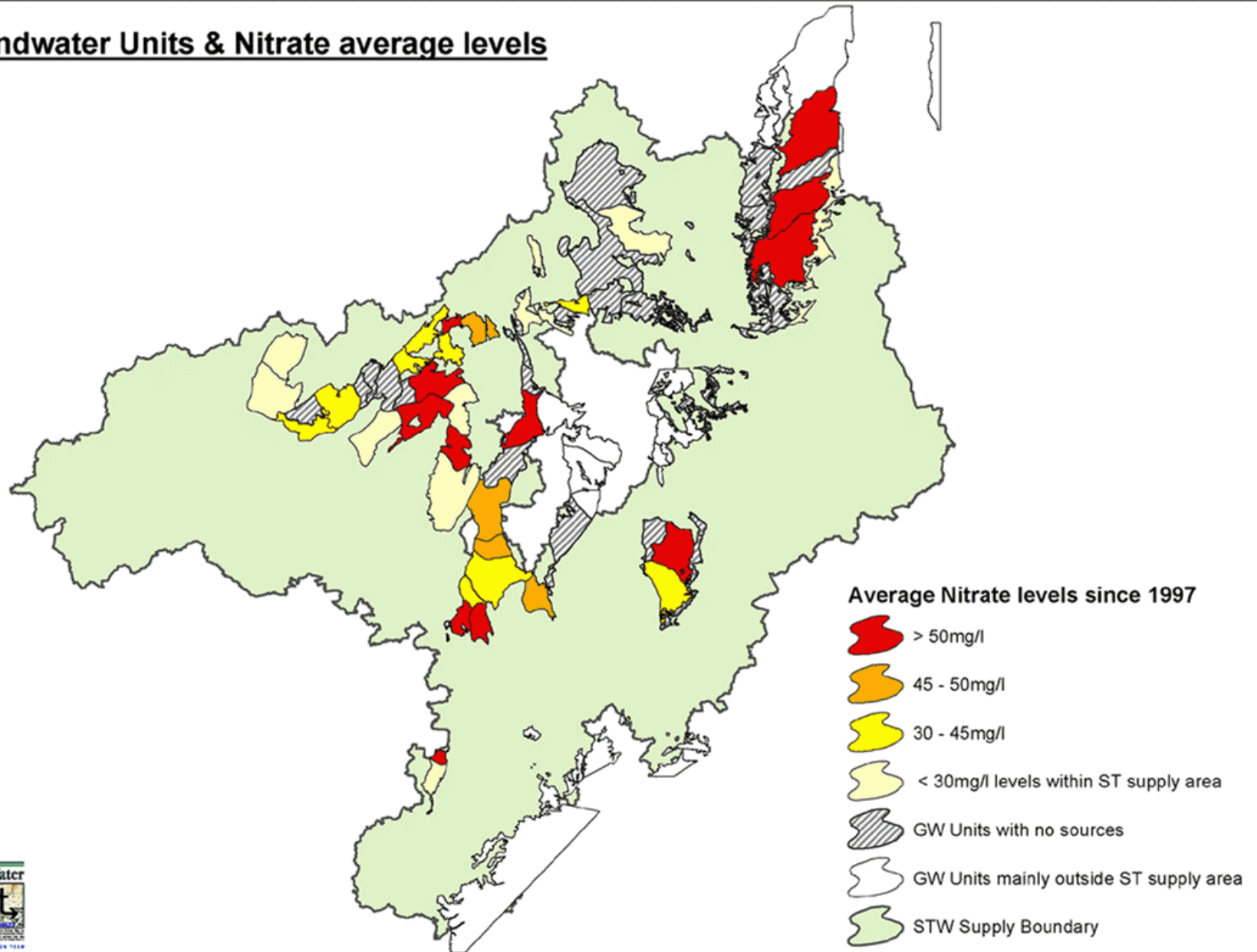


“I see no
nitrate”

Or an alternative title

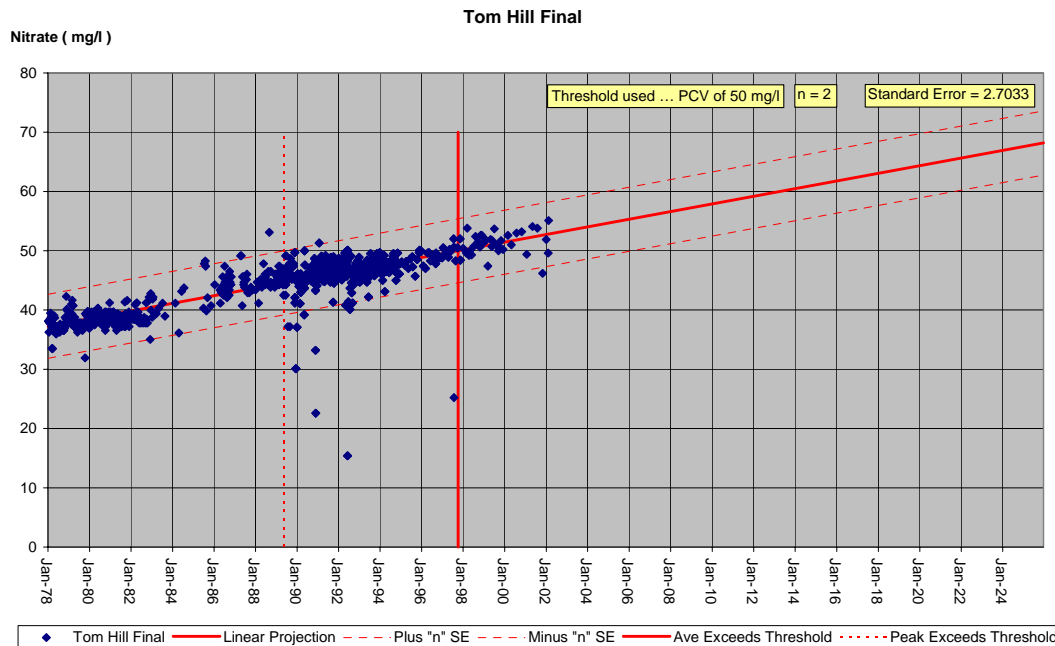
**FIDDLING WHILE NITRATE CONTINUES TO
LEACH INTO GROUNDWATER
– HOW HAVE WE GOT IT SO WRONG ?**

Groundwater Units & Nitrate average levels



Very little doubt about an upward trend !!!

WFD (Article 4.1.a.iii)



“Member States shall implement the measures necessary to reverse any significant and sustained upward trend”

WATER COMPANY PR04 PROGRAMME

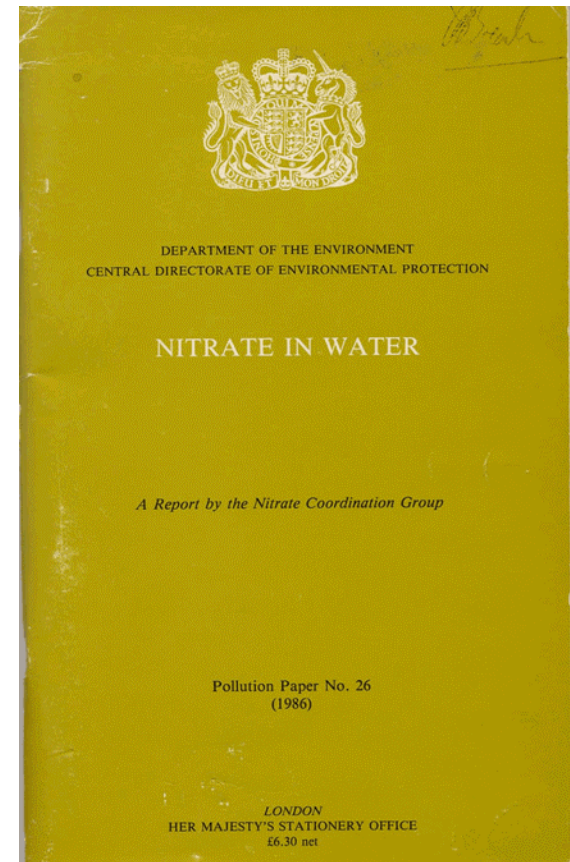
- Severn Trent
 - 16 schemes to prevent nitrate over 50mg/l in supply within the next 7 years
 - Total output 130MI/d
- Nationally three times as many schemes



The nitrate time bomb

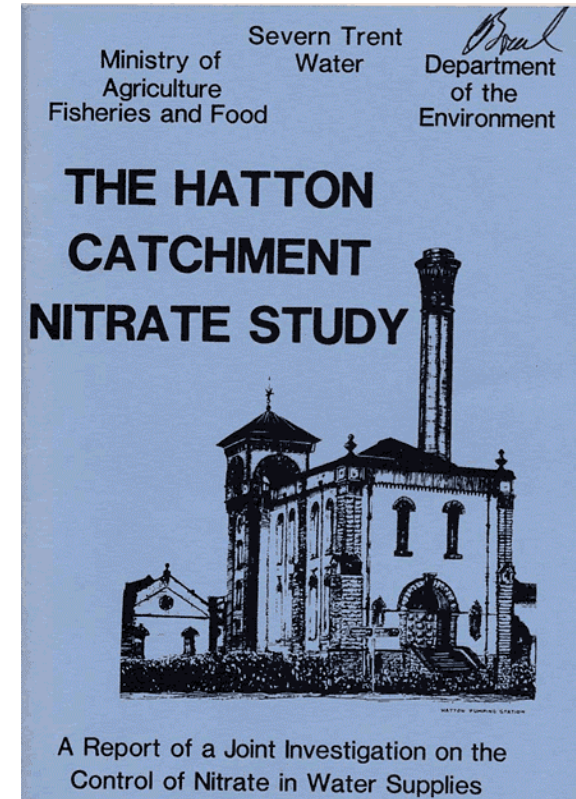
We cannot say we were not warned

- **Nitrate in groundwater 1986**
 - If long term trends continue some ... **50% of Severn Trent's groundwater would require action to meet 50 mg/l (*and similarly for Anglian and Southern England*)**
 - We recommend that nitrate leaching should be taken into account in the development of future agricultural policy and... the approach to CAP

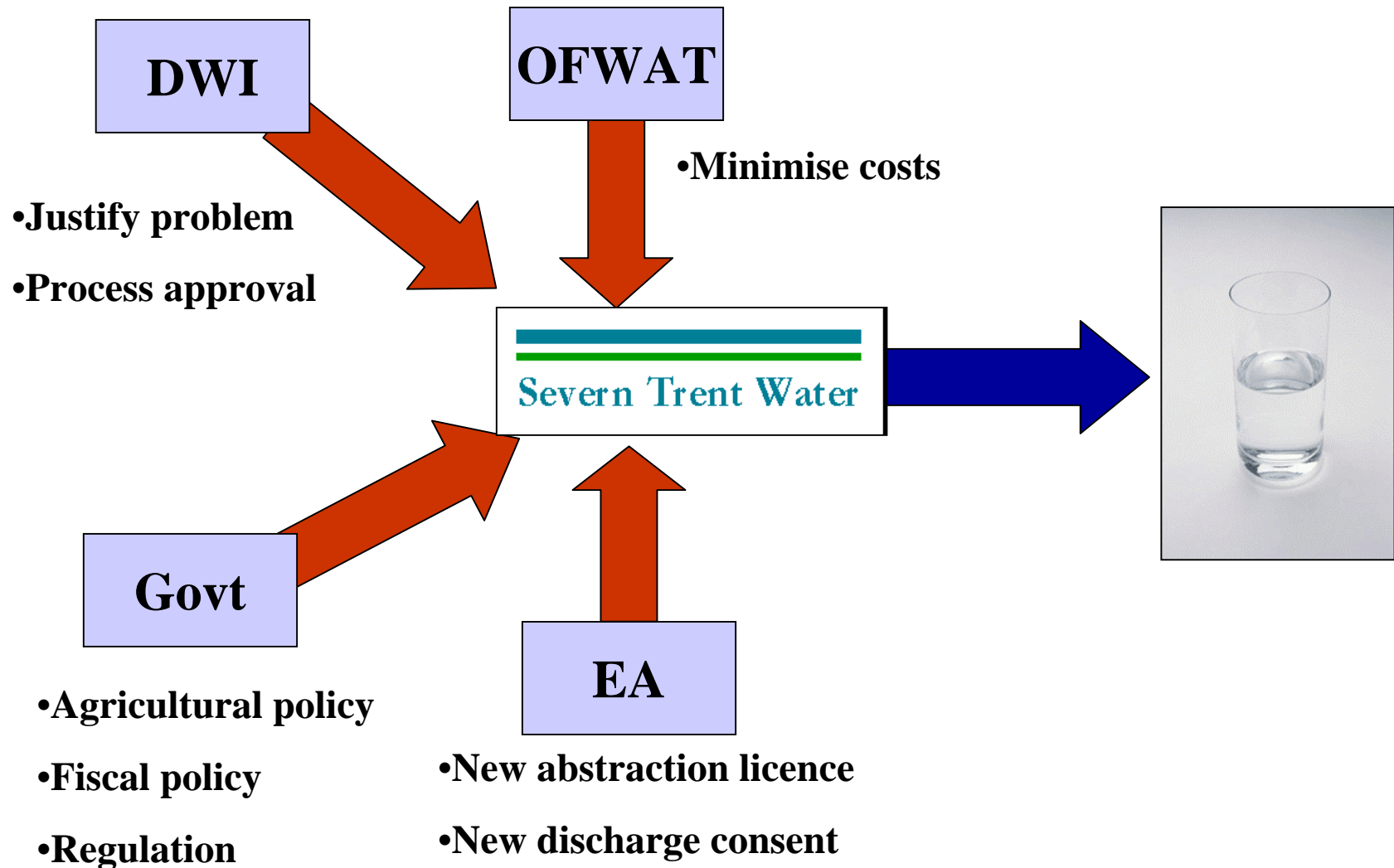


The Hatton Catchment Nitrate study 1988

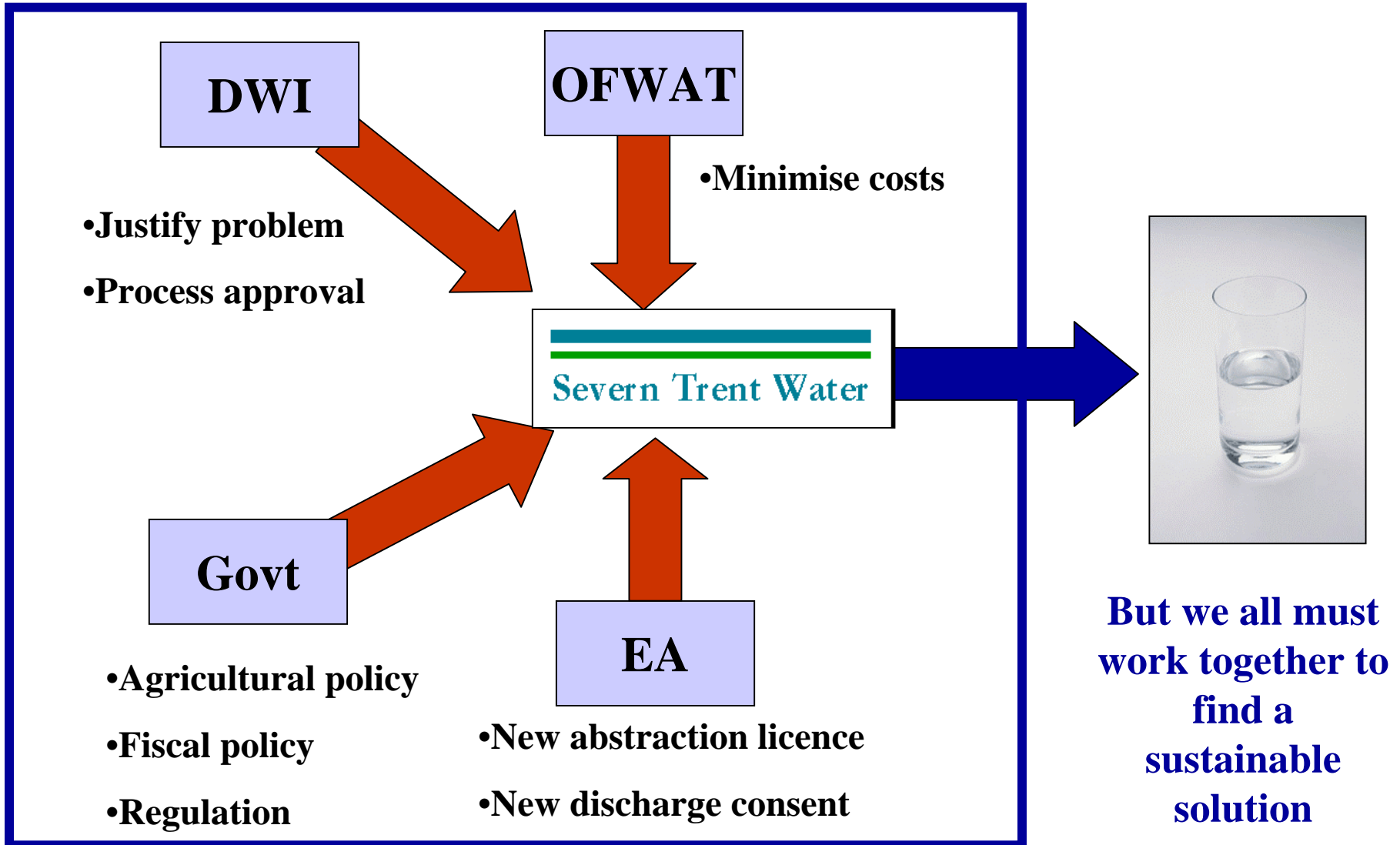
- Action by STW to blend its supplies can defer the impact but it will not obviate the eventual need to install complex and currently unproven treatment plant
- The necessary improvements in nitrate leaching cannot be achieved simply by improvements in the management of present land use
- To achieve the desired effect, restrictions on land use must involve a reduction in the intensity and area of arable cropping and extensification of grassland management



THE SOLUTIONS ARE NOT EASY



THE SOLUTIONS ARE NOT EASY



MINISTERIAL GUIDANCE

- **DWI...has advised that there may be scope for more cost effective blending solutions as an alternative to nitrate removal treatment.**
- **The Government will expect water companies and regulators to ensure that cost effective solutions to these problems are identified.**

PROTECTION OF GROUNDWATER

- **Should be able to abstract and treat with only simple treatment !!!**



We do not want all of our groundwater plants to have expensive, energy intensive non sustainable treatment

SO WHAT ARE WATER COMPANY PRIORITIES FOR GROUNDWATER ?

1. Quality

- Prevent further deterioration (~NITRATE)
- Progressive restoration (~ NITRATE)
- Measures to prevent accidental pollution

2. Quantity

- Need for more innovative and intensive groundwater augmentation including controlled recharge
- Recovery of polluted aquifers

3. Environment

- Responsible abstraction (of course)
- Minimise impact of pipe infrastructure

Consistent approach ... Implications of Changing Groundwater Quality for Water Resources and the UK Water Industry ... WR/09

- Action by the industry and regulators
- A project aimed at a consistent approach to trending and appropriate monitoring of groundwater quality
- Joint Industry and EA funding
- Best practice guidelines for all to use
- Compilation of evidence that groundwater quality deterioration has impacted public water supply
- Supports the data requirements for the WFD
- Supports the analysis required to implement the WFD



**ENVIRONMENT
AGENCY**

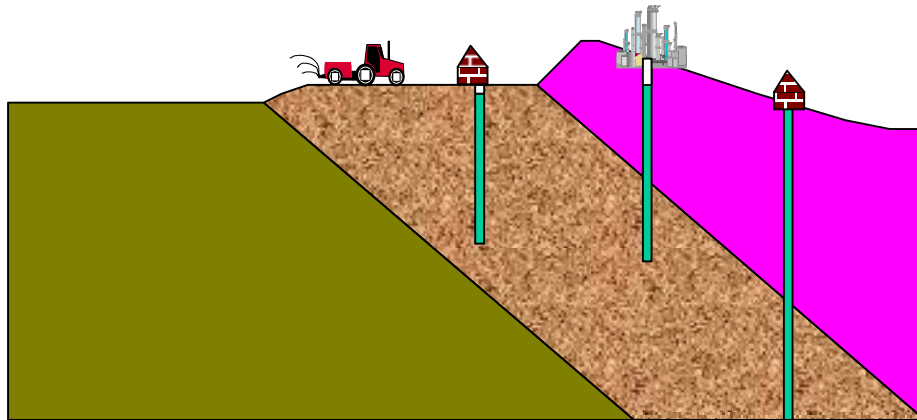


**British
Geological Survey**

NATURAL ENVIRONMENT RESEARCH COUNCIL

HOW DOES THIS FIT WITH THE WFD AND GROUNDWATER DIRECTIVE ?

- **Proper implementation of Article 7 of WFD**
- **Effective measures for trend reversal**
- **Real efforts on sustainable augmentation of groundwater yields**
- **Proper application of polluter pays principle as required by Art 9**



PROTECTING OUR WATER RESOURCES

Article 7.1

Identify within each river basin all bodies of water used for the abstraction of water intended for human consumption

SPECIAL PROTECTION AREAS - WATER SUPPLY (SPAWS)

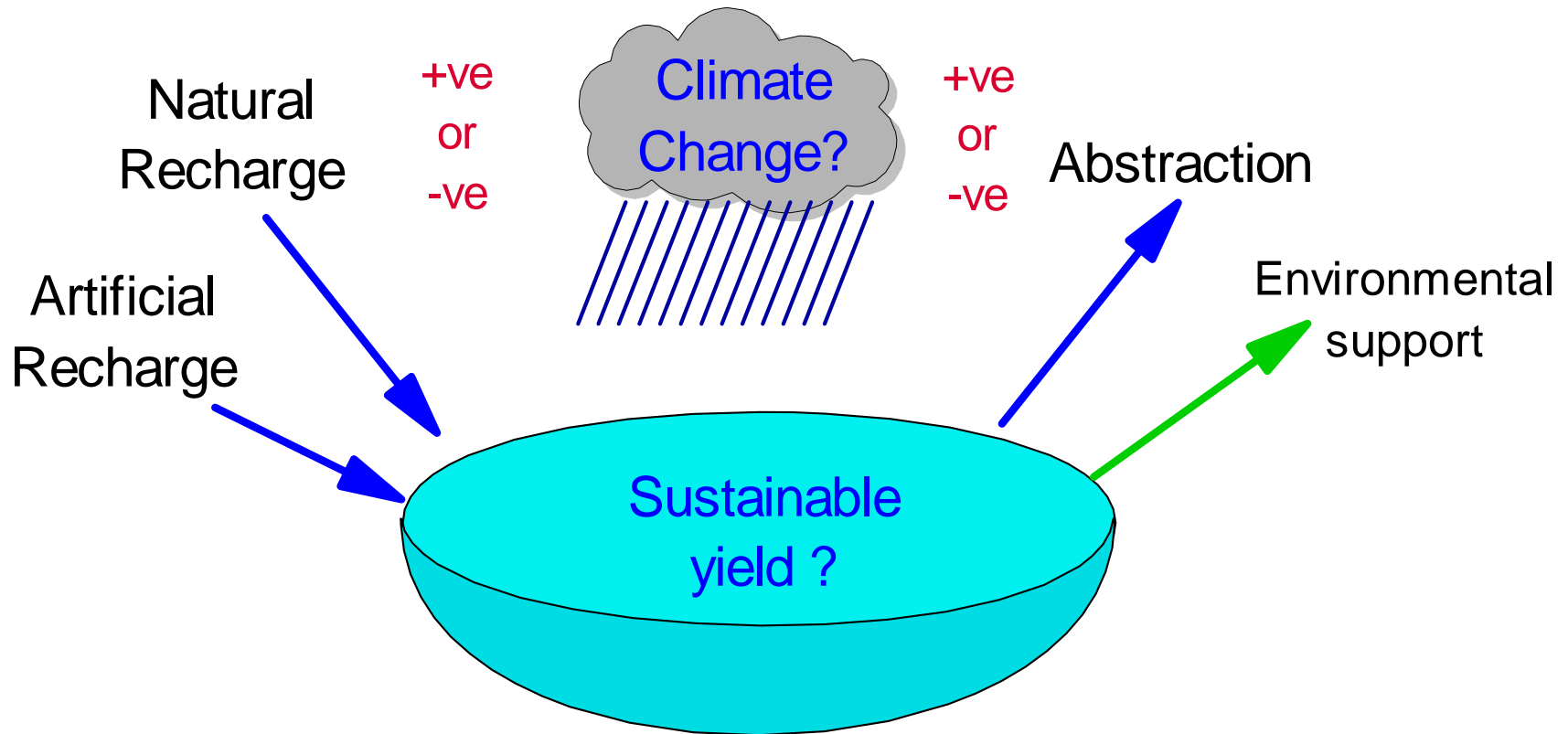
- **Must designate by end of 2004**
- **Covers both surface and groundwater**
- **Will be very large**

We need to consider urgently

ISSUES FOR RESOURCE PROTECTION

- **Water abstraction protection areas Art 7.2**
 - “Under the water treatment regime applied the resulting water meets the requirements of 98/778/EC”
- **Art 11.3.d Includes**
 - “measures to reduce the level of purification needed for drinking water”

GETTING THE QUANTITY BALANCE RIGHT - THE REALITY



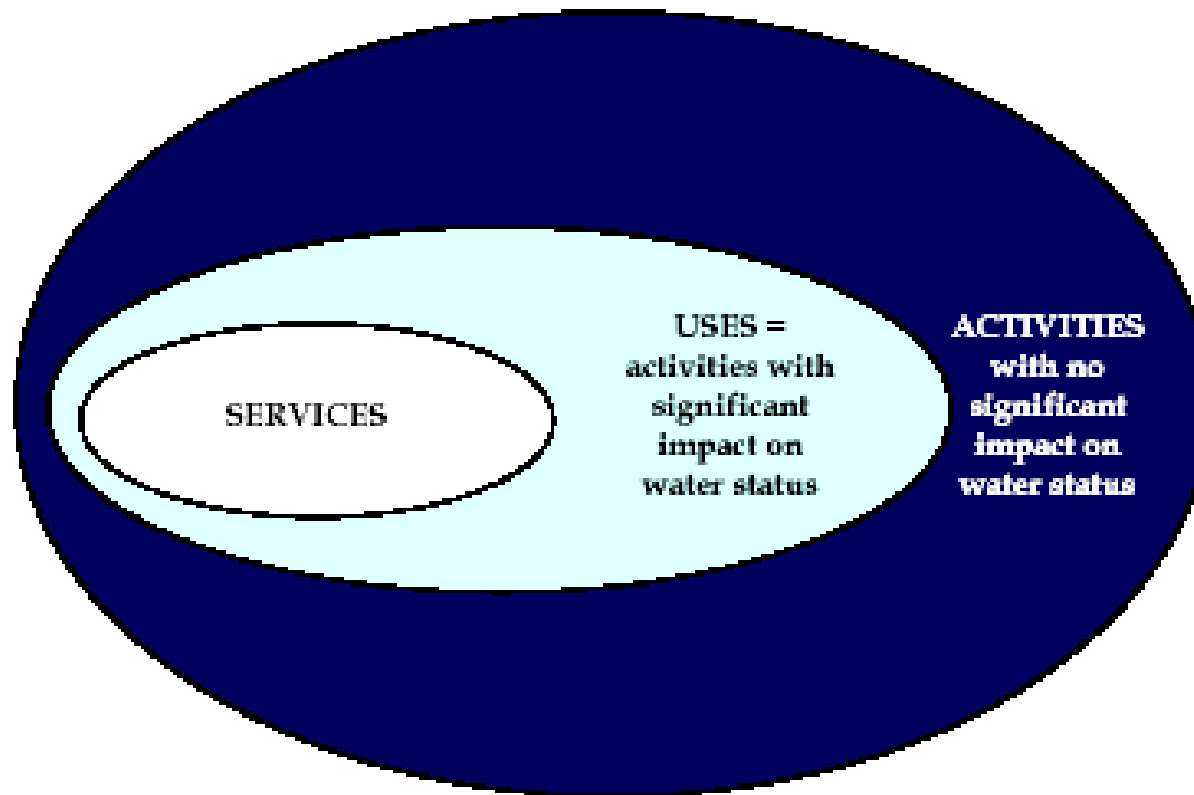
Whilst water abstractions should be environmentally sustainable- water supply must take priority over other groundwater uses

FAIR AND TRANSPARENT COST RECOVERY

- **Each Member State to**
 - “take account of the principle of recovery of costs for water services including environmental and resource costs ...in accordance with the polluter pays principle”
- “an adequate contribution of different water uses, disaggregated into at least industry, households and agriculture, to the recovery of costs of water service



Water use and water services



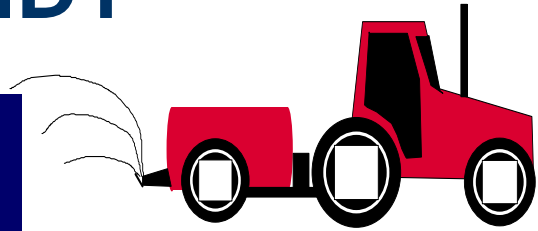
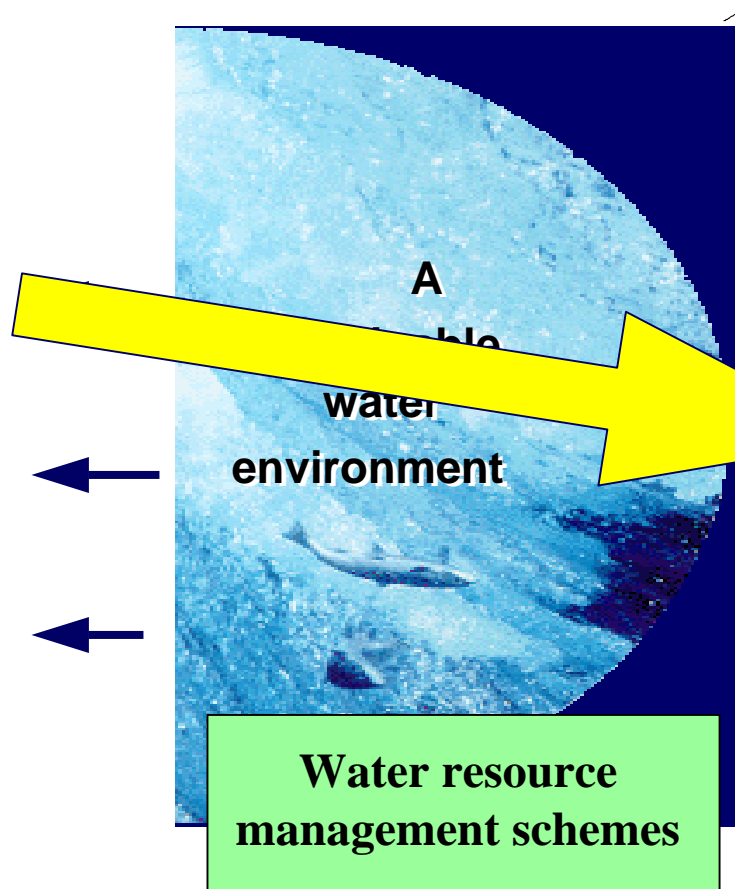
COST ALLOCATION EQUITY - HIDDEN CROSS SUBSIDY



Water supply

Agriculture

Industry



Urban runoff

Agriculture

Industry

Domestic

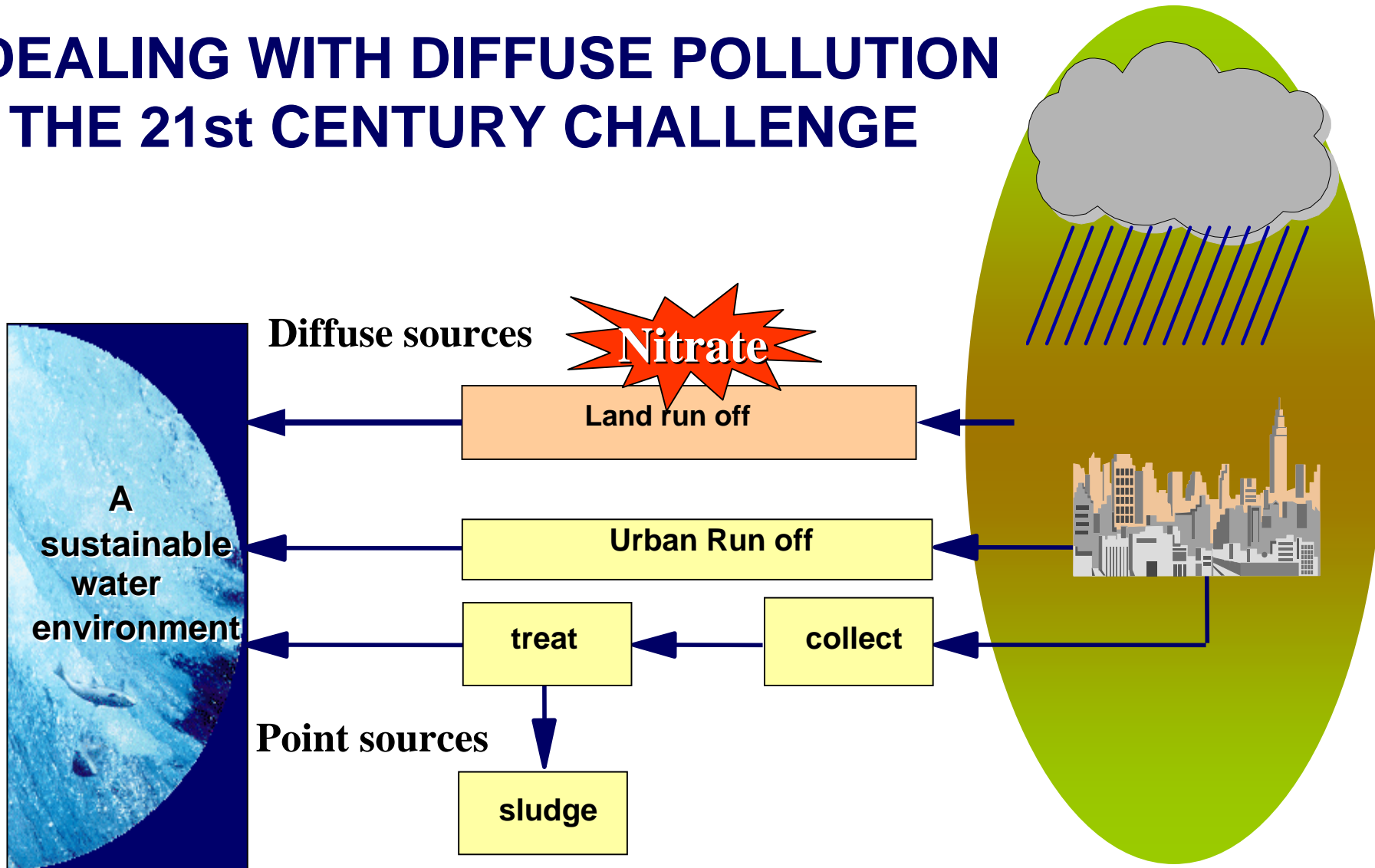
GROUNDWATER

"The hidden asset"

"Out of sight- out of mind"

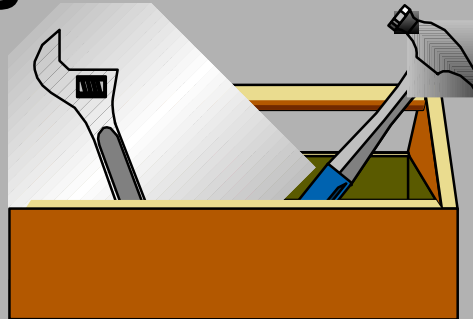
But can things change ?

DEALING WITH DIFFUSE POLLUTION - THE 21st CENTURY CHALLENGE



SUMMARY AND CONCLUSIONS

We have the technical tools but do we have the political will and management resources ?





Thank you

The time for discussion is over – we need to make real practical and sustained efforts to properly protect groundwater