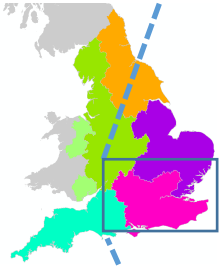
‘The reduction in the level of the underground water-table, which is a serious problem today, is not in fact due to drought (exclusively?), which is of relatively short duration and which is generally compensated by surplus rainfall… but to an enormous increase in water consumption, which has taken place in recent years, and to the fact that the increased urbanisation of the land, waterproofing of roads, and general installation of storm-water and sewerage systems have deprived the underground supplies of part of the replenishment they formerly enjoyed.’

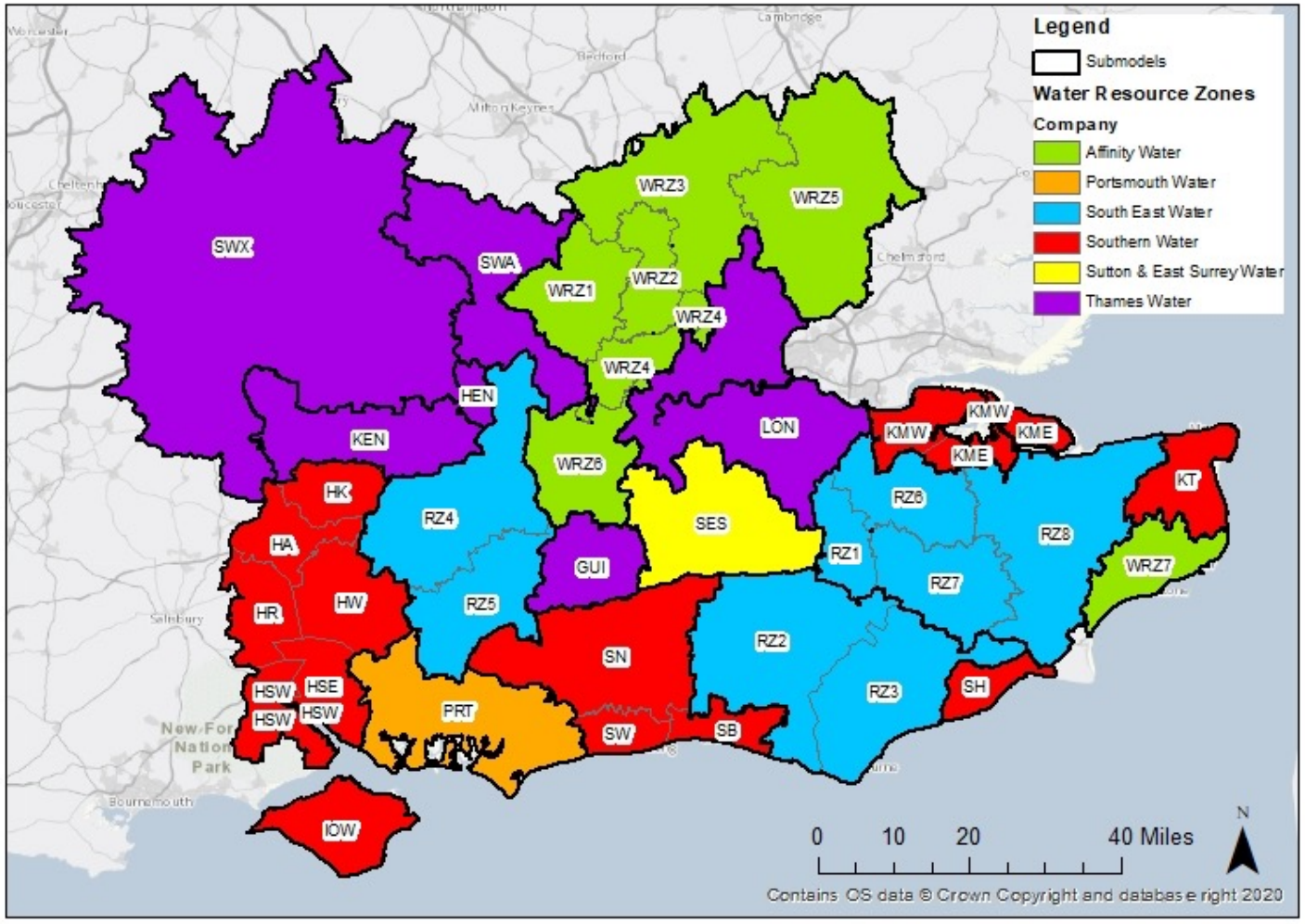
H Spencer Sales and John Bland

Water Resources South East (WRSE)

Who are we?

- Alliance of the six Water Companies working collaborative with government, regulators and stakeholders
- Supply water to almost 20 million people
- Supply supports some 40% of UK GDP





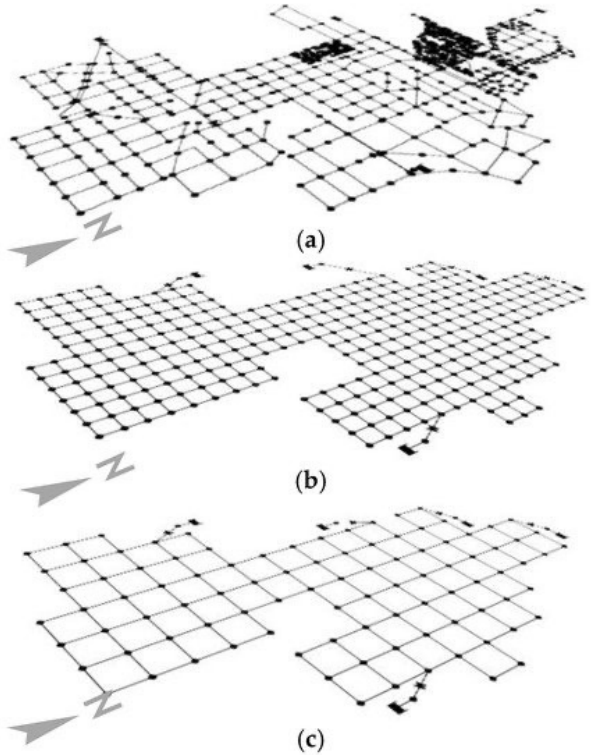

WE ARE IN DROUGHT

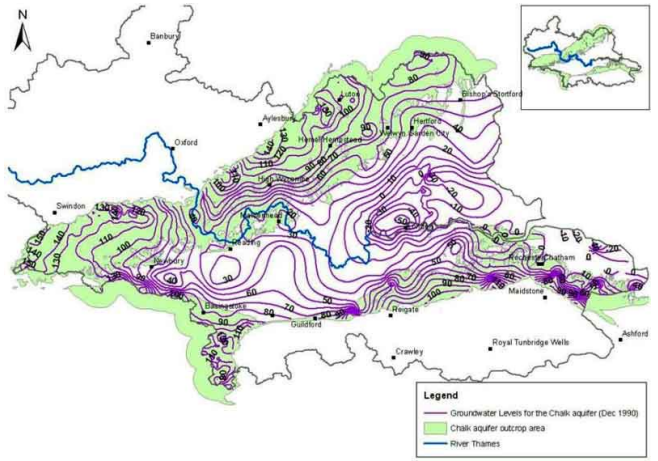
The Appliance of Science?

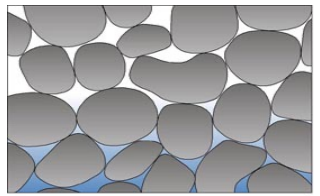
Heterogeneity

Complexity

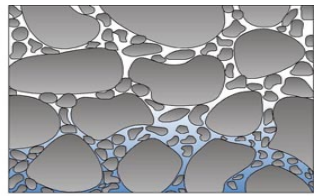
Systems



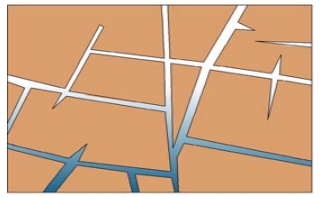




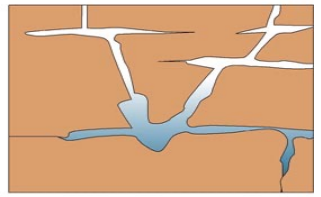
Well-sorted sedimentary material
(Alluvium of the South Platte River)



Poorly sorted sedimentary material
(Dawson, Denver, Arapahoe aquifers)



Fractured crystalline rocks
(Pikes Peak Granite)



Soluble rock-forming material
(Leadville Limestone)

Environmental Legislation – ambition and delivery

“Magna Carta was good for humans – but even better for fish” 1215

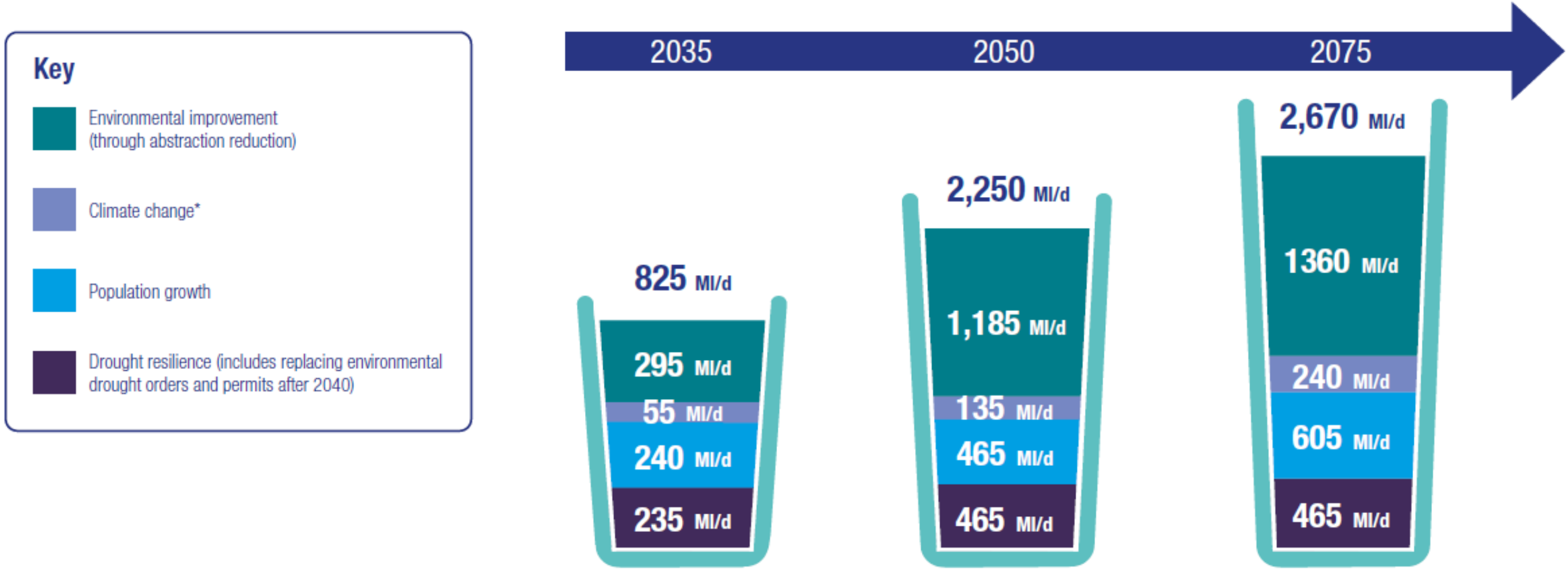
(New Statesman)

“All fish-weirs shall be removed from the Thames, the Medway, and throughout the whole of England, except on the sea coast.”

Richard Strode
1510 - Lydford

Mind the gap

Pressures on the supply/demand balance



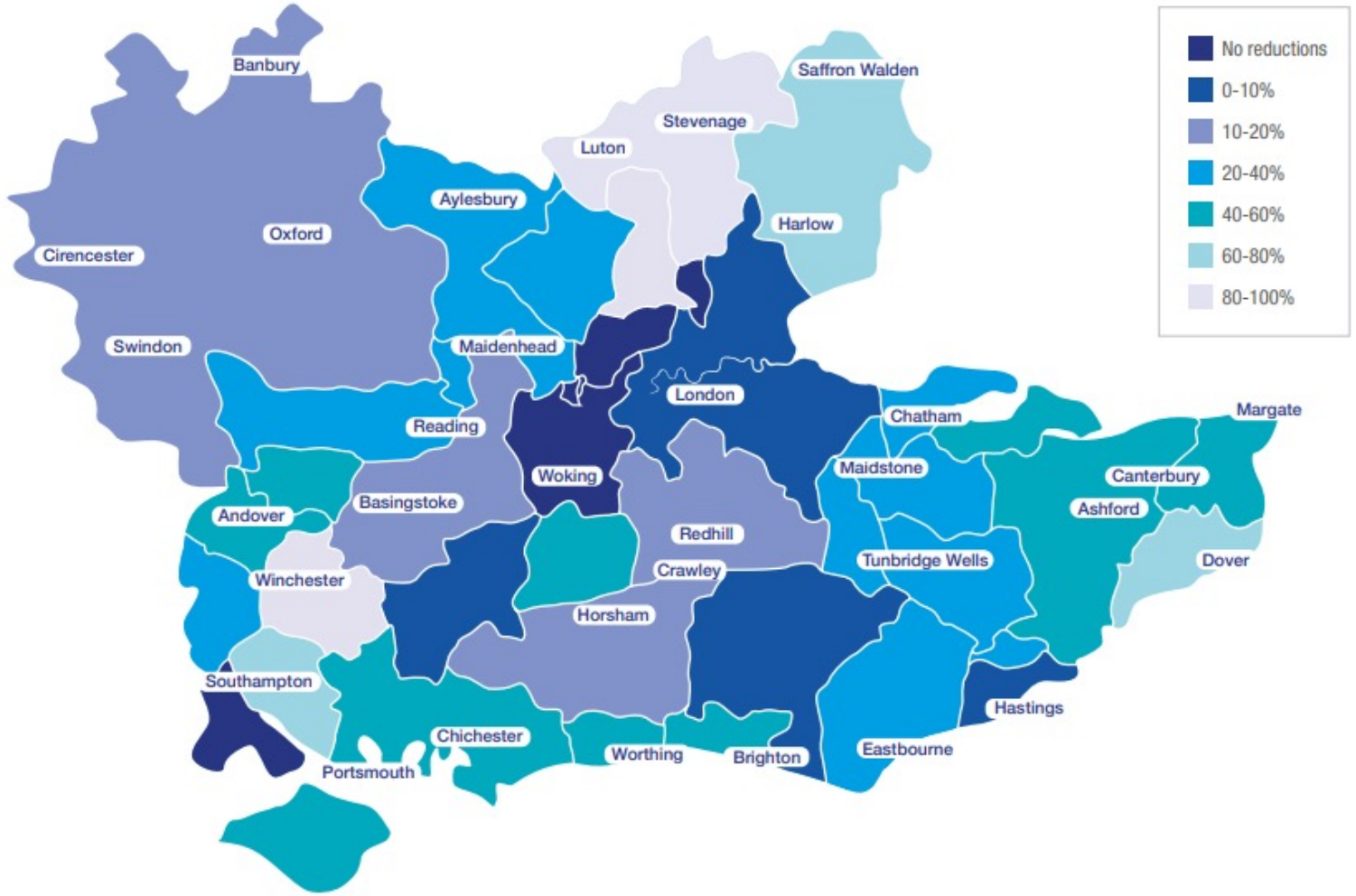
*Climate change represents how much water will no longer be available from our existing water sources. The impacts of climate change are also included in the three other areas.

Environmental improvement through reducing abstraction

Abstraction reduction must be evidence-based and show the benefits that will be delivered

Working with regulators and stakeholders to develop a framework to prioritise where abstraction should be reduced

The investigations carried out by water companies over the next 10 years will provide the evidence base for the future reductions in abstraction



The plan – 2025 to 2035

Between 2025 and 2035

Extra water needed (population growth and drought resilience)

Supplies no longer available (climate change impact and abstraction reduction)

Water still available

Reported pathway

1 billion litres per day extra water produced

Where the water could come from - schemes to be completed by 2035 (completion date)

70% of water from leakage and water use reduction
41% water efficiency including government interventions and leakage reduction
29% drought management measures (Temporary Use Bans and Non Essential Use Bans)

13% drought orders and permits
65 excluded and 13 remain in use until 2040

5% water recycling
6 water recycling schemes

Sandown (2028) · Aylesford (2031) · Havant (2031) · Industry recycling (2031)
Littlehampton (2028) · Teddington Direct River Abstraction (2031)

5% transfers from other regions
1 scheme

Grand Union Canal (2031)

4% other
includes options such as licence trading, enhancing existing infrastructure and increasing treatment works capacity

1% new or enlarged reservoirs
1 scheme

Havant Thicket (2029)

1% improved groundwater schemes
6 schemes across the region

<1% desalination schemes
1 scheme

Sussex coast (2028)

<1% catchment schemes
1 scheme

Test & Itchen (2028)

Schemes to be progressed (completion date)

Peacehaven (2041)

Broad Oak (2036) · SESRO (2040) · Blackstone (2046)

Thames Estuary (2040) · East Thanet (2041)

600 million litres of water per day could be moved around the WRSE region and between other regions

The plan – 2035 to 2075