



Why and how we should seek to expose abstractors and water users to the marginal values of water?

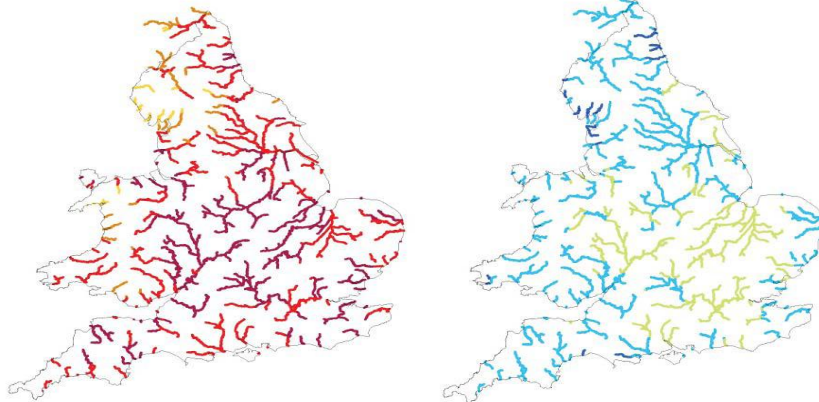
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Water is becoming generally scarcer and more valuable over time – both environmentally and economically

Trends: wealth, population, climate, supply costs

Forecasts for changes mean river flows 2050



September

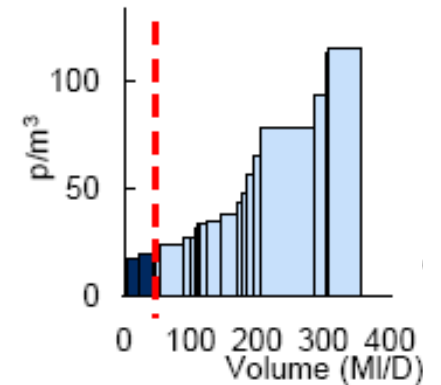
February

Dark blue	10 to 15 % increase
Light blue	5 to 10 % increase
Green	5 to 10 % decrease
Pale yellow	5 % increase to 5 % decrease

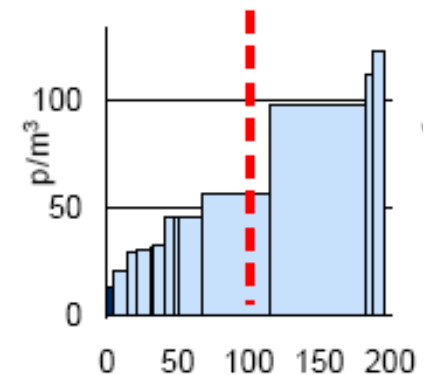
Dark yellow	10 to 20 % decrease
Orange	20 to 30 % decrease
Red	50 to 80 % decrease
Purple	30 to 50 % decrease

Rising costs of future supply

UU Integrated WRZ



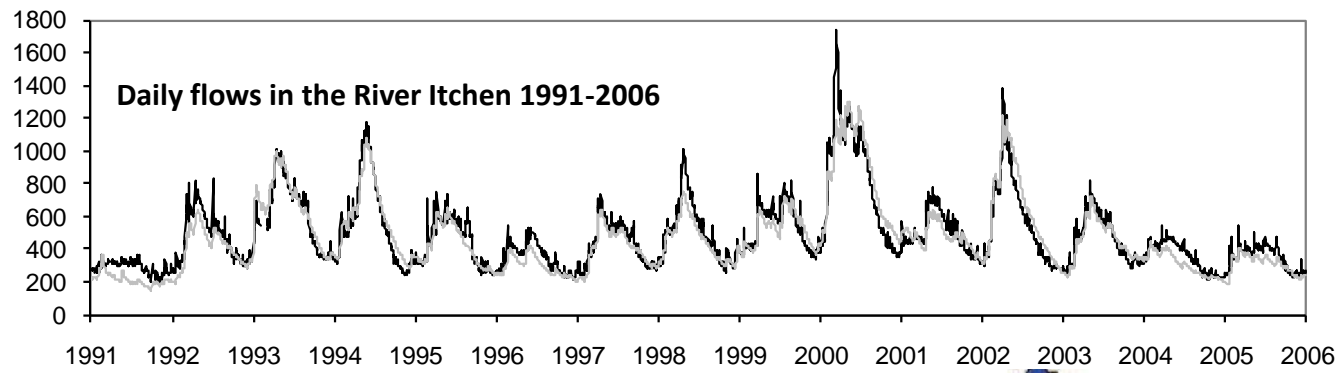
Thames SWOX WRZ



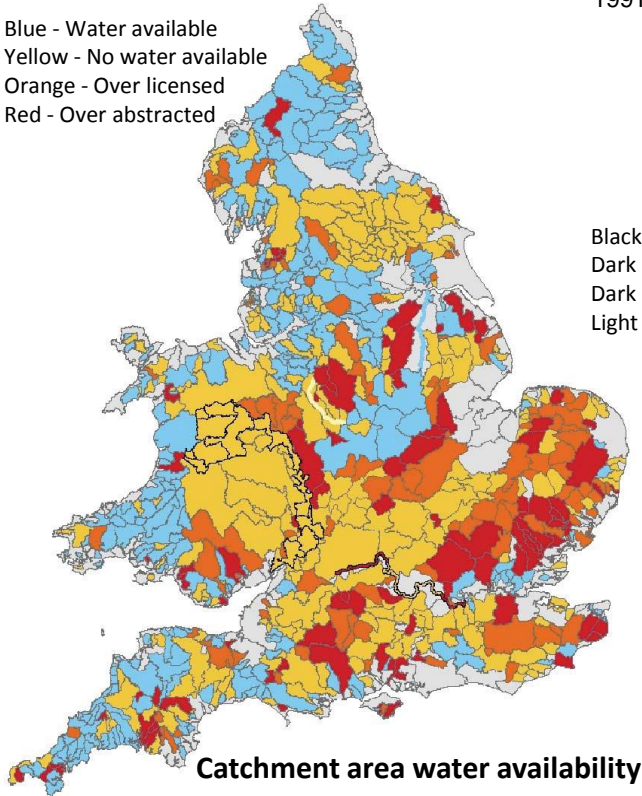
Water's values

- Function of demand – from water customers, other abstractors, and environment – and supply costs
- Evidence for significant current positive water values:
 - environmental damage from abstraction
 - Agency has run out of abstraction licences
 - Projected high future supply costs
- ...But not in all areas – varies widely

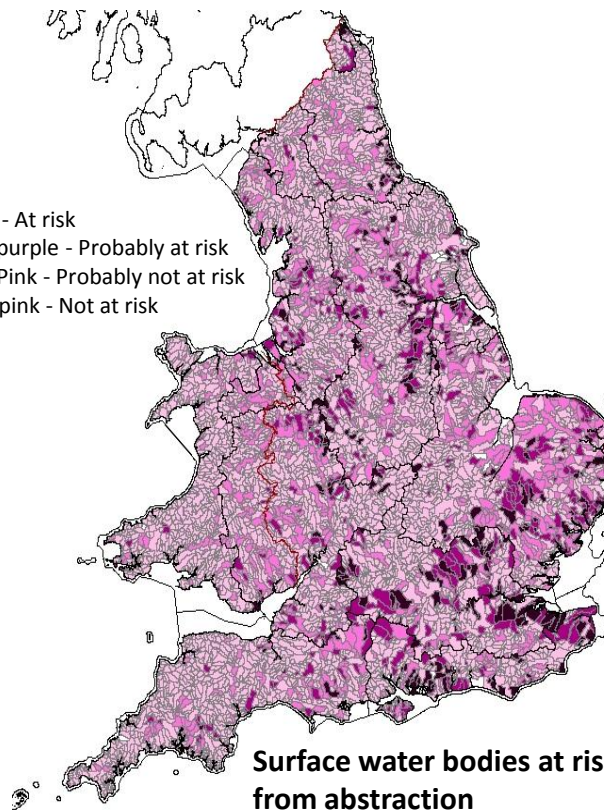
Water value varies both geographically and temporally



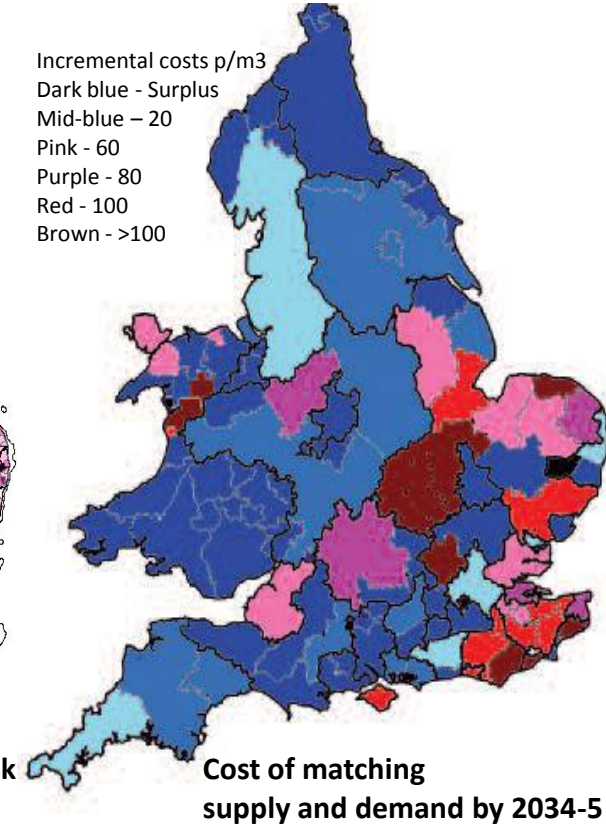
Blue - Water available
 Yellow - No water available
 Orange - Over licensed
 Red - Over abstracted



Black - At risk
 Dark purple - Probably at risk
 Dark Pink - Probably not at risk
 Light pink - Not at risk



Incremental costs p/m3
 Dark blue - Surplus
 Mid-blue - 20
 Pink - 60
 Purple - 80
 Red - 100
 Brown - >100



Signalling

- Increasing and varying water values mean benefits from
 - Identifying, geographically and temporally varying, values
 - signalling those values - to inform abstraction, consumption and investment patterns
- To signal environmental component of values
 - quantity (licence) limits are key - responsive to varying environmental availability ('smarter licensing')
- To reveal information about values abstractors place on water
 - need trading and market prices (Ofwat proposals)
- Also a role for charging structures
 - to complement quantity limits in abstraction regulation
 - to send signals to both abstractors and consumers, where trading cannot or yet to happen
 - to promote trading

Charges and tariffs

- Aim: Structure of charges to expose abstracters and consumers to marginal water values
- Limitations: We don't know the marginal values
- So should not try fully to reflect values –charges can't replace market values
- But can take some steps, and do better than present...

Present position:

- Fixed abstraction charges; perverse relative levels
- Most households face zero marginal prices
- Even where metered, tariffs are averaged geographically and temporally

Some options

- Pre-requisite is volumetric charging - so marginal price is not zero!
 - Volumetric abstraction charges; (smart) metering for water supply
- Then range of options open up, including:
 - Abstraction charges which
 - reflect relative environmental scarcity between areas
 - change over time in response to environmental conditions, in a way which complements quantity limits
 - Water supply tariffs which vary between
 - different Water Resource Zones, e.g. rising blocks with different sizes of step up
 - different times, e.g. seasonal, dry periods

What's the evidence?

- Little hard evidence
- Trials of tariffs ongoing, e.g. seasonal, rising block
- Given importance of variability, evidence of impact on peak demand key
- Need trials of other tariffs, of abstraction charging structures - potentially through shadow charges - and more general tariff innovation

Cross-subsidies, windfalls and vulnerable customers

- Not about unwinding geographic cross-subsidies nor transfers from customers to companies
- its about *structure* of charges to signal values *at the margin*
- Two-part tariffs and regulation protect customers
 - Vulnerable customers can be targeted with social tariffs / other support
 - But purpose *is* to remove cross-subsidy to peak users