

The water and waste water companies of England and Wales





The Wessex Water region BRISTOL CHIPPENHAM BATH BRISTOL CHANNEL TROWBRIDGE BRIDGWATER SALISBURY TAUNTON • YEOVIL Key Water supply and sewerage services area Water supply only area DORCHESTER BOURNEMOUTH POOLE Sewerage service only area ENGLISHCHANNEL



Water production



- Approx 375 megalitres of water used per day
- 1.2 million customers
- Water sources 80% groundwater and 20% surface water
- Constant increase in demand has a heavy impact on the environment
- No restrictions on water use for nearly 30 years



The Wessex Water region





River Frome, River Piddle and River Wey Catchments





Source Catchment areas







Borehole in chalk aquifer





Water Quality Issues



Catchment	Source	Issue
Frome	Empool	Nitrate
	Hooke	
	Langdon	
Piddle	Dewlish	Nitrate
	Milborne St Andrew	
Wey	Friar Waddon	Pesticides



Empool Nitrate Trend







Dewlish Nitrate Trend



DEWLISH TRTD.

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Milborne St Andrew Nitrate Trend



MILBORNE ST A NO: 🔻





Langdon Nitrate Trend



LANGDON TRTD.





Hooke Nitrate Trend





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Friar Waddon Pesticides



AMP 4 Pesticide and Nitrate Schemes



AMP4 pesticide and nitrate removal/ reduction schemes given outline approval

Company	Nitrate schemes	Pesticide schemes
Anglian	25	1
Cambridge	1	1
Essex & Suffolk	0	1
Mid Kent	1	0
Northumbrian	0	3
Portsmouth	4	0
Severn Trent	14	1
Southern	3	0
South West	2	2
Thames	6	1
Three Valleys	2	1
United Utilities	1	1
Welsh	0	2
Wessex	9	3
Yorkshire	4	3
Total	72	20





Removal of contaminants from water by physical and/or chemical means

Problems:

- Cost (Capital cost and Operating costs)
- •Sustainability
- •Leaves the problem in the ground!















Alternatives to Treatment - Blending



Blending

Mixing water from a good quality source with that from a poor quality source to achieve an acceptable quality "blend"



Problems:

- •Running out of good quality sources!
- Some sources isolated; blending not an option
- •Leaves the problem in the ground!



Alternatives to Treatment – Catchment Management



- Specific focus on a specific catchment on a specific issue
 - CSF catchments 1 Catchment Advisor covers catchment areas that vary in size from 158 – 3,089 km²
 - Wagrico 2 Catchment Advisors covering catchment areas of 50 km²
- Monitoring > Data > Information > Better advice > Behaviour change
- Behaviour change > reduced nitrate leaching > reduced nitrate levels in boreholes
- Modelling



Alternatives to Treatment – Catchment Management



- Cost
 - Cost to water customers of treatment very approximately 400 euros/hectare/year
- Sustainability
 - Lower (no) power and chemical costs
 - No highly saline effluent produced
- Takes problem out of the ground
 - To benefit of rivers and wetlands



Why is Wessex Water Doing this?



- We have a problem NOW
- Our water is polluted
- Catchment management is a better option at many sites
 - Lower Cost
 - Sustainable
 - Environmental benefits as well





- Water privatisation 1989 clearly a role for the Environment Agency
- However limited powers and resources
- BUT our hope is
- Article 7 of WFD
 - Identify water sources at risk
 - Identify sources of pollution
 - Identify possible measures
 - Check they will work
 - Start implementing measures by 2009
 - More measures than at present given rising trends
- Hopefully no more treatment





- A bit hopeful?
- Maybe
- But WAgrico is showing the way





Why is Wessex Water involved in Wagrico?



- 5 public water supply groundwater sources in the Frome and Piddle catchments where peak nitrate levels have already or will soon exceed permissible values (50 mg/l)
- 1 public water supply groundwater source in the Wey catchment where pesticide peaks have exceeded permissible values
- Between them these sources produce 38 MI/d
- If nothing changes all will require treatment within the next 5 10 years
- The costs of treatment will be in the order of X Euros

