

Water availability for irrigation

28th September 2015

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Trends in irrigation water use

National picture

- **Mostly spray irrigation**
- **Long term slight decline in water use**

Kent

- **Slight long term decline in spray volumes**
- **Large increase in trickle irrigation volumes**

This needs to be explained to policy makers



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WATERR Project findings

- **Water crucially important**
- **Availability already regularly impacts on some businesses and this will worsen in medium-term**
- **Licence reform casts a large shadow of uncertainty**
- **Current interest in WSRs, RWH, trading**
- **Efficiency gains still hold significant potential to free up water for irrigation expansion but in some cases this is not sufficient**

WATERR Project achievements on water availability

- **Information on licence reform**
- **Production of Kent reservoir design guide**
- **Engagement with water companies on untreated water supplies**
- **Feb 2015 workshop**



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Reservoir design guide

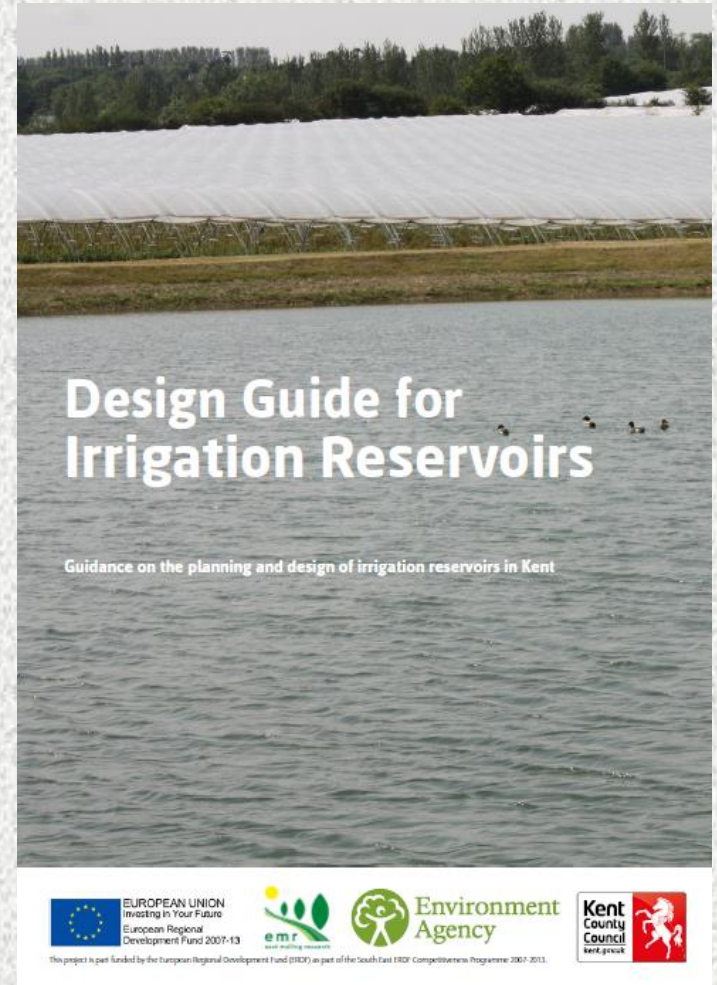
Seeks to address:

- **Inconsistent requirements from each LPA.**
- **Some requirements too onerous.**
- **Importance of irrigation reservoirs not recognised.**
- **Lengthy planning process.**
- **Interest in trading and sharing water with neighbours.**

Reservoir design guide

Sets out:

- **Economic importance of irrigation reservoirs**
- **Balance between water storage, landscape and wildlife benefits**
- **Permitting processes for EA, LPA and archaeology**



Reservoir design guide

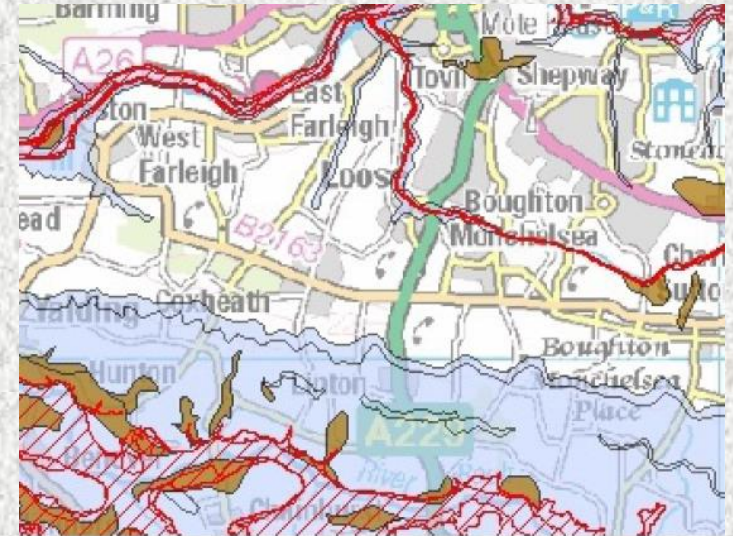
Explains key issues of

- Land suitability
- Water availability and quality
- Landscape and biodiversity
- Planning and permits
- Funding
- Legislation

Provides links to other information and organisations

Will be available at <http://www.kentruralnetwork.org.uk/>

Promotional visits to LPAs



Based on 'Land suitability for unlined irrigation reservoirs, Maidstone Borough Council Area', with the permission of British Geological Survey.
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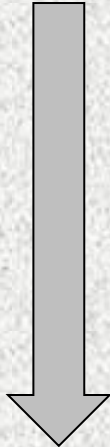


Untreated water company supplies

Untreated water is water that is taken directly from groundwater, rivers or reservoirs.

Untreated supplies could come from:

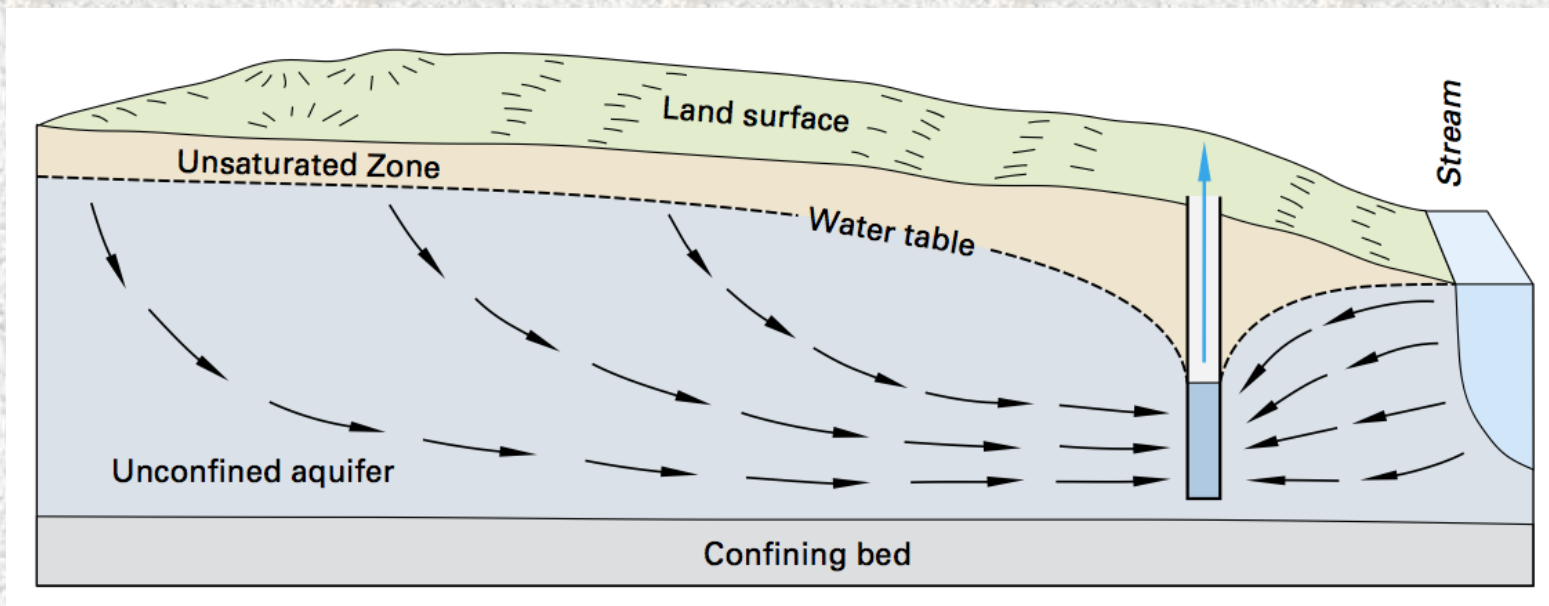
- Licence trades with water companies
- Connections to water company pipelines
- Share in water company infrastructure



Increasing need for collaboration and organisation

Licence trades

- Instead of using mains water irrigators could abstract water using the water company's licence.
- Less cost, less energy, less chemicals.
- Works best for groundwater.



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Connections to water company pipelines

- Could be individual connection for one irrigator or shared branch pipeline for delivering to a group of irrigators
- Might supply water to locations not previously considered for irrigation.
- Supply might be winter only or summer too(?)

Advantages:

- Simple management
- Relatively low upfront cost if close to pipeline
- Reliability of supply?
- Low cost for untreated water (<£0.50/m³)
- Might be alternative to new reservoir

Disadvantages:

- Reliability of supply?



Share in water company infrastructure

Water companies are developing new water resources and are open to collaboration with irrigators.

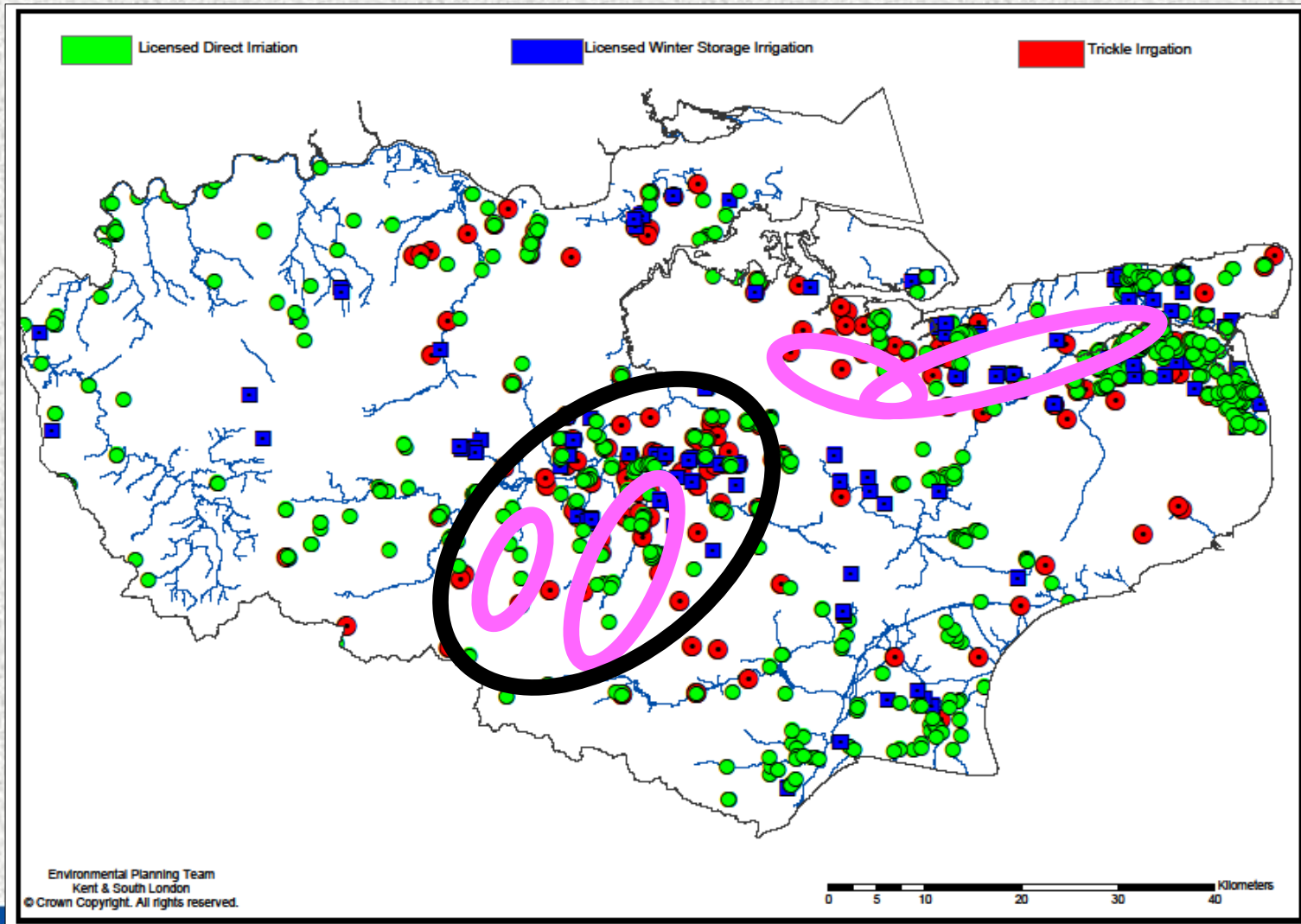


Schemes could be:

- New transfer pipelines and imports from outside Kent
- New reservoirs and operational modifications to existing reservoirs
- New water reuse schemes

A very small percentage increase in capacity could provide significant supplies for irrigation.

Water company supplies - Availability



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Water company supplies – next steps

- 21 irrigation businesses interested to explore this further.
- Meetings with water companies will be set up over coming months.

Additional investigations may be needed to -

- Identify all the potential water users
- Assess any mismatch in supply and demand requirements
- Estimate the scheme costs and the unit cost of water
- Understand and explain the organisational implications

KCC and NFU are willing to develop funding bids on behalf of groups of irrigation businesses for additional investigations of water supply schemes.

Life after WATERR

Kent Rural Board's 'Water Task Group'

- KCC
 - EA
 - EMR
 - NFU
 - Water companies
 - Campaign for Farmed Environment
 - Kent LA Leaders
-
- Continuing some of the work
 - Developing new work
 - Bidding for further funding
 - Lobbying and influencing

EXAMPLES

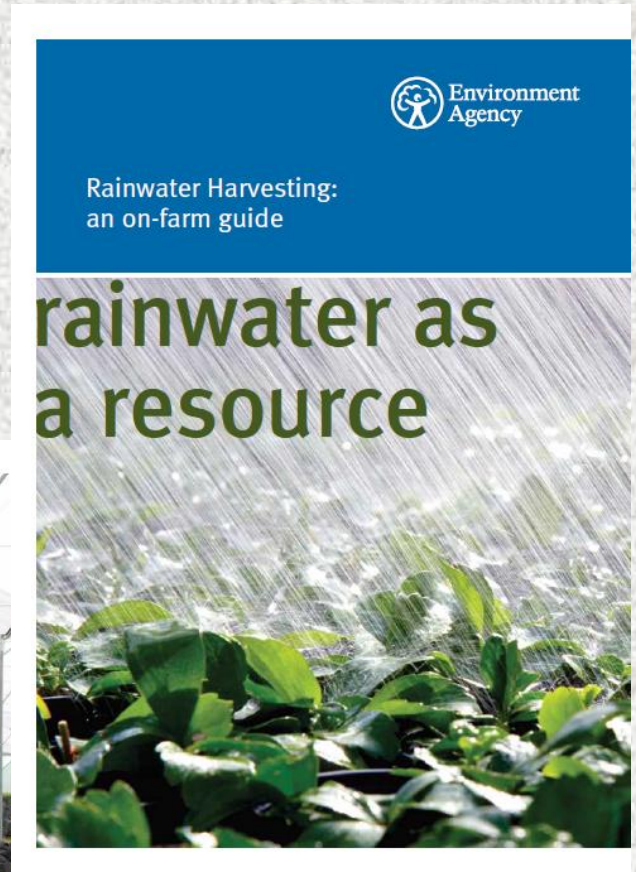
- **Supporting development of the EMR WET Centre**
- **Water company irrigation supplies**
- **Rainwater harvesting**
- **Soil management**
- **Water availability for winter fill reservoirs**

Rainwater harvesting

EA document provides best advice

Includes range of case studies -

- **Nursery**
- **Eggs**
- **Salad**
- **Arable**
- **Golf course**



Soil management

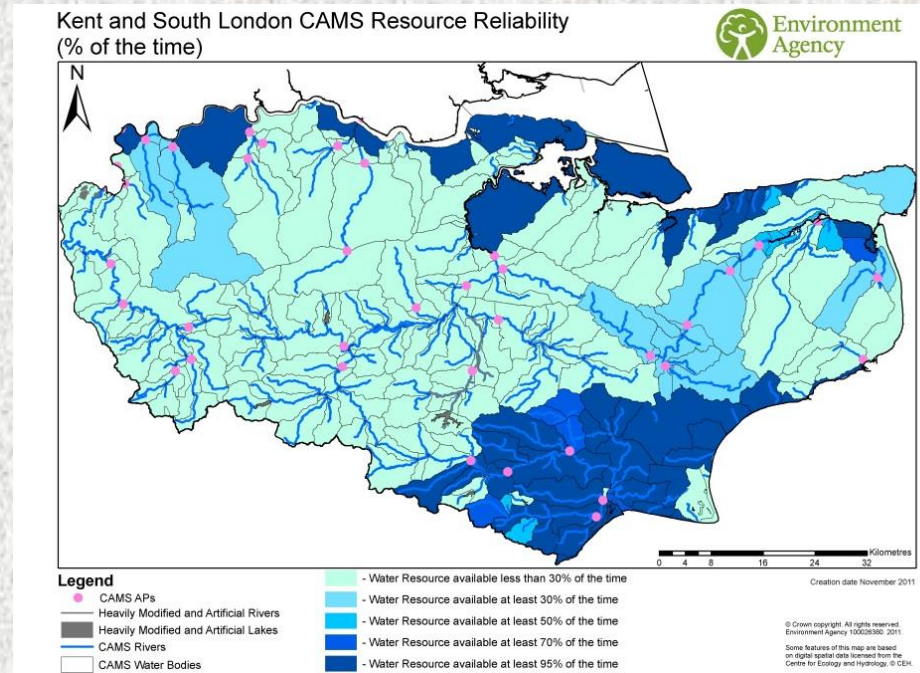
For field crops and golf courses the management of soil organic matter can strongly influence irrigation water demand.

Increasing the OM content increases soil water holding capacity and also helps to reduce soil erosion.

It also increases levels of soil carbon and this can attract funding from schemes to offset CO₂ production.

Reservoirs – water availability

- More reservoirs being constructed.
- Water availability in winter may be becoming a constraint in some sub-catchments.
- Climate change may increase winter rainfall but also give rise to more extremes.
- What does this mean for reliability?
- Multi-season reservoirs?



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Thanks

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