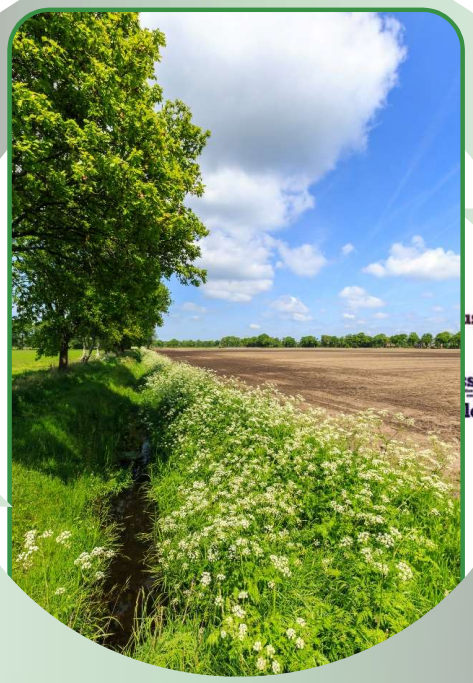
Stewardship Approaches to Water Protection

Dr Alison Hall

ADAMA

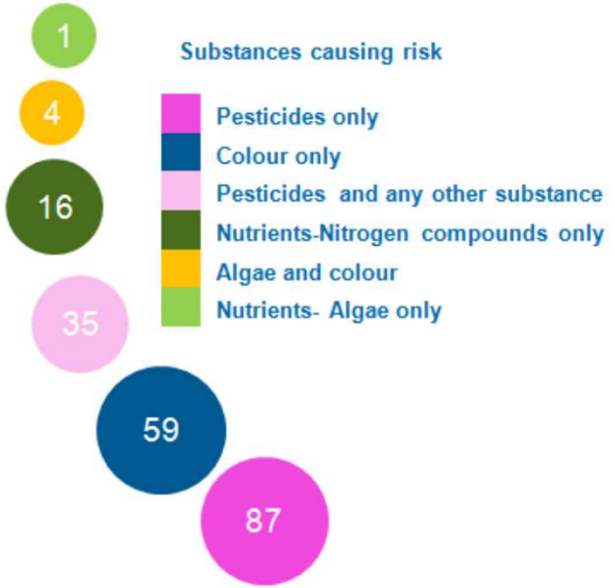
Why Stewardship Approaches?



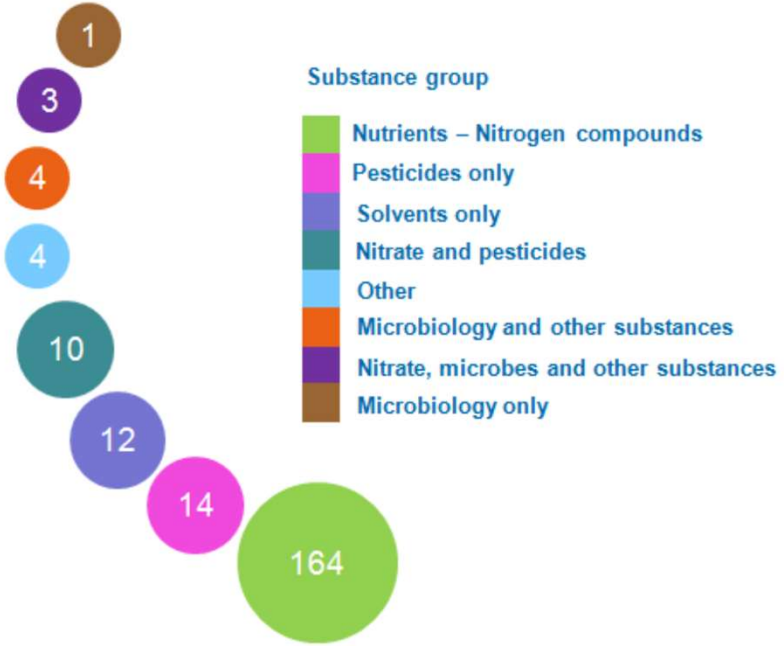
The Importance of Stewardship for Water Protection

Number of DrWPAs ‘at risk’ for each substance group

Numbers of surface water bodies ‘at risk’ for each substance group



Number of groundwater safeguard zones identified in each substance group



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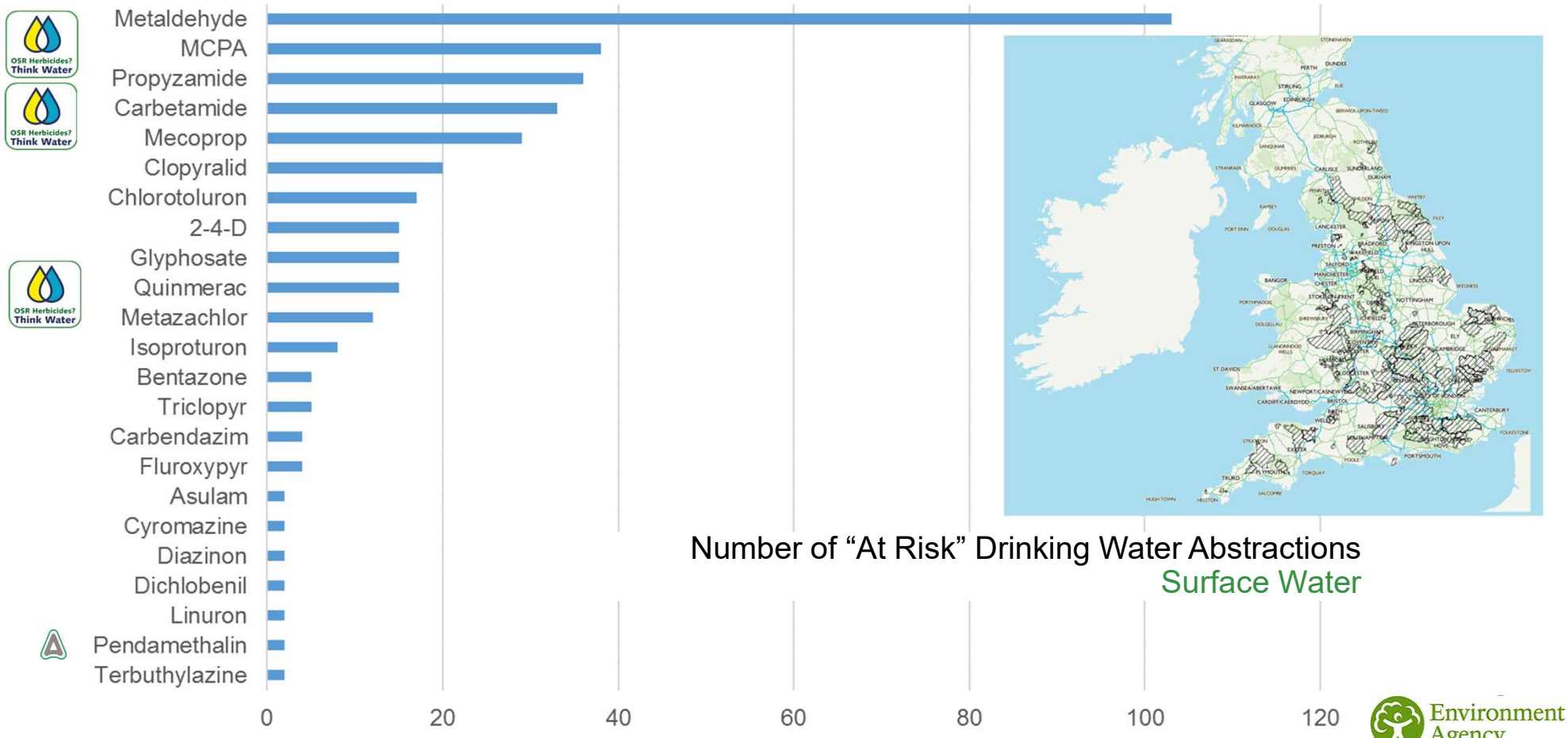
Environment Agency

Why Stewardship Matters for Water



Number of “At Risk” Drinking Water Abstractions
Surface Water

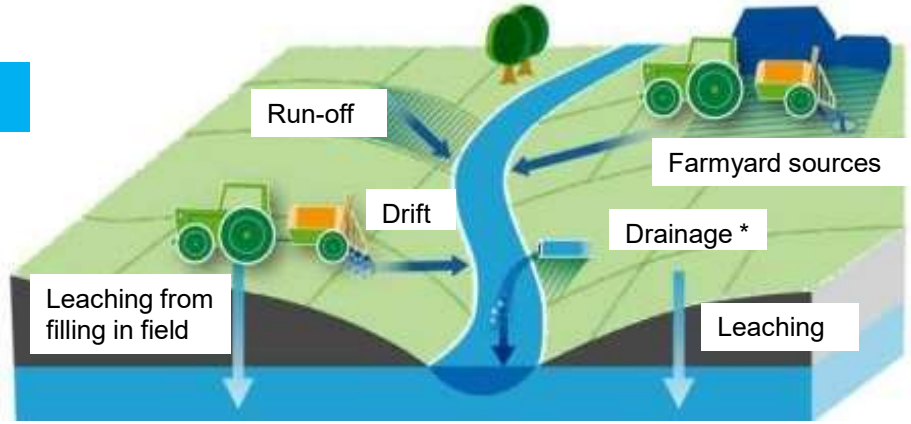
Environment Agency

How can Pesticides get into Water?

1. **Farmyard sources**
   - Handling on farm (filling, cleaning, remnant management)
   - Before/after spraying

Can be avoided

The Voluntary Initiative



2. **Field sources**
- Spray drift
- Field drainage
- Surface run-off
- Leaching

Can be minimised

ADAMA's UK Stewardship Involvement

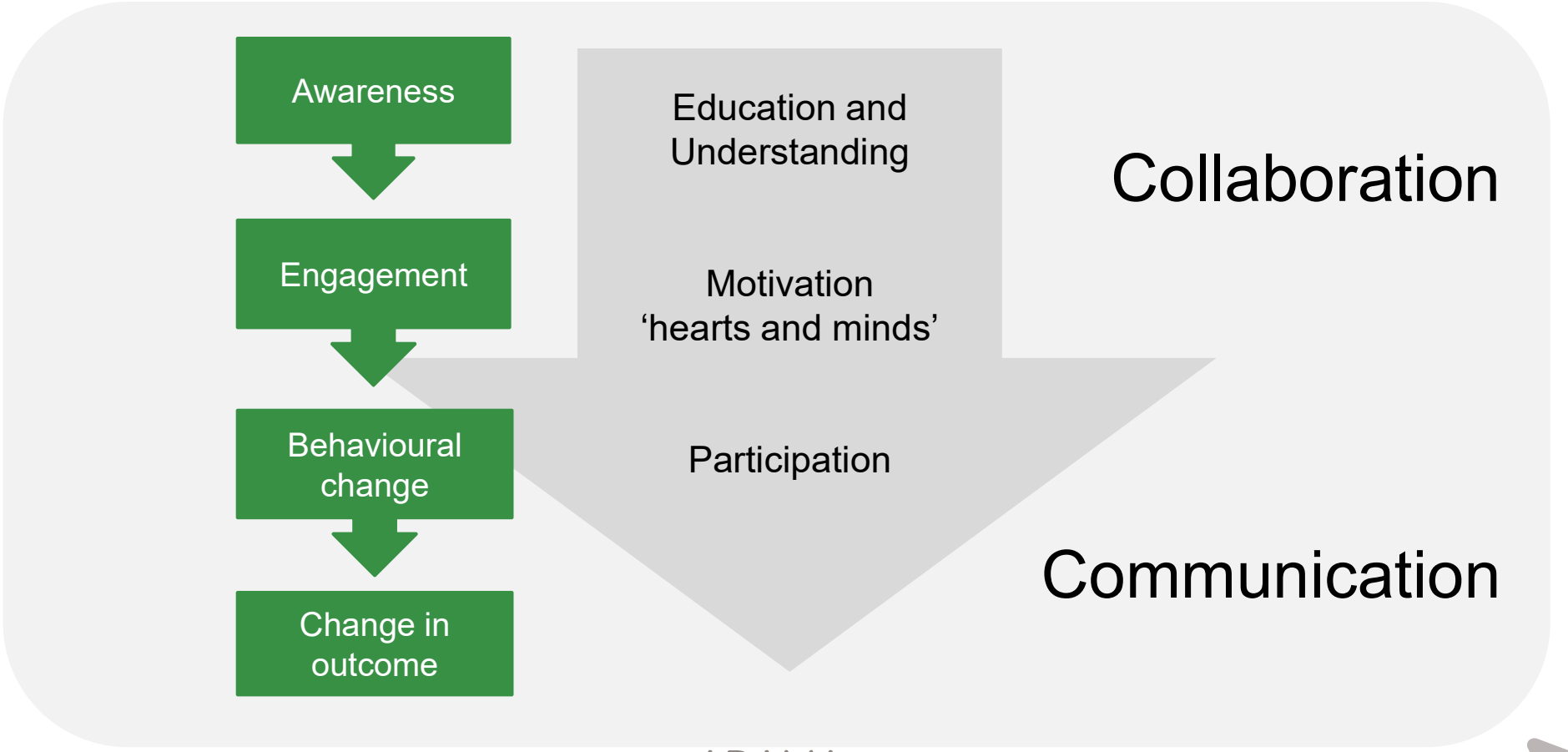
OSR Herbicides? Think Water

METAZACHLOR MATTERS

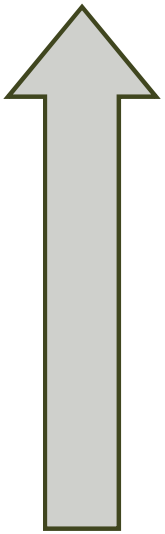
#slugaware WaterAware

Get Pelletwise!

Pathway to Stewardship Implementation



Communication



Simple messages, easy to understand

Integrated into the other factors influencing a farmers' decision making

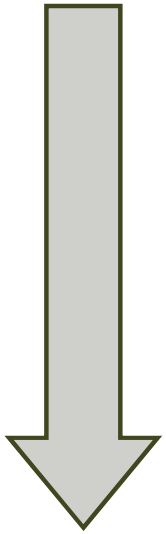
Co-ordinated between stakeholders

Repetition, consistency, re-fresh

Targeted messages

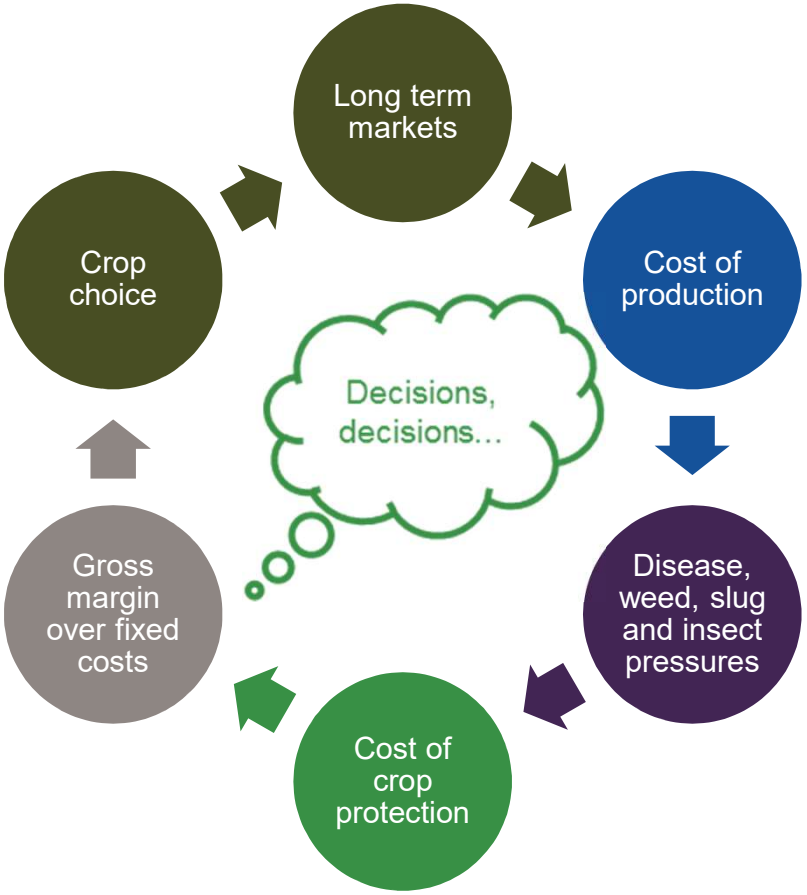
Peer-to-peer

Complex, confused or contradictory messages



Relationship-building is key

Barriers to Participation



'This isn't the only issue farmers face, farmers are faced with many, many, many issues, this is just one thing that hits them.'

Crawler in OSR

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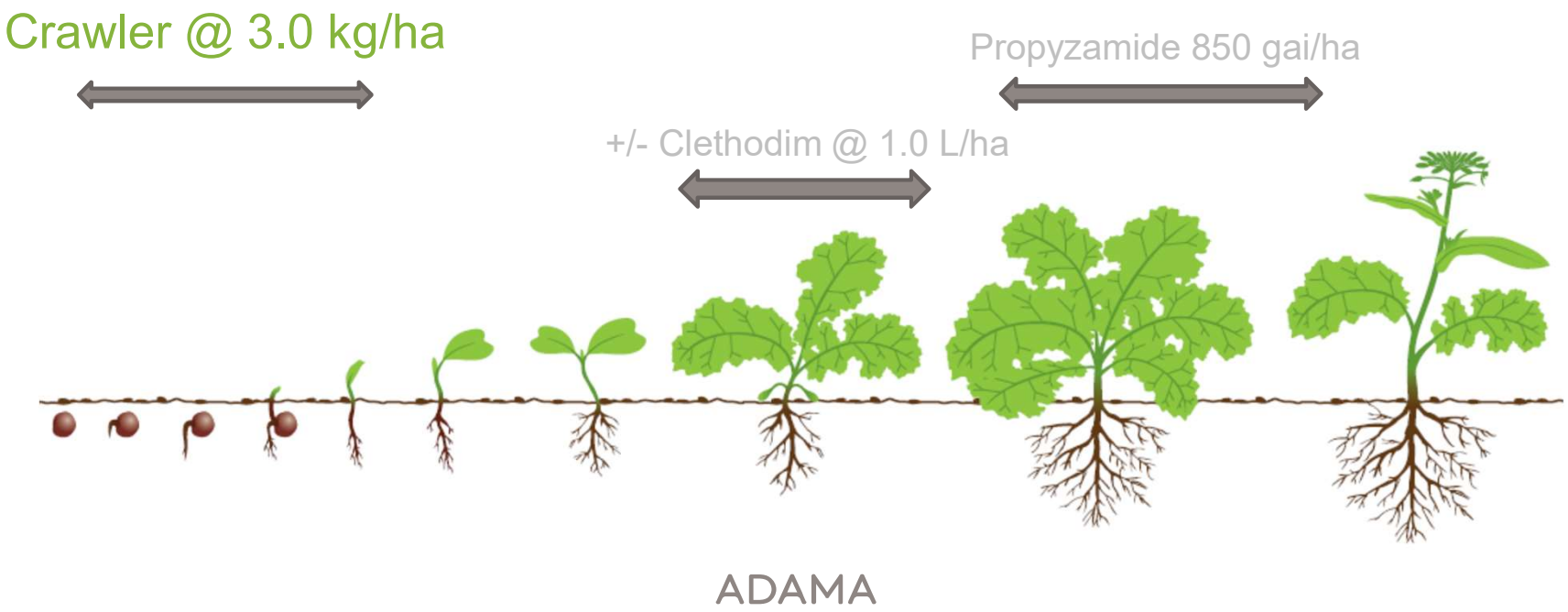
Carbetamide – Optimising the Label

Pre-emergence recommendations

- Target small, shallower rooted black-grass
- Avoid applications where the seedbed is cloddy and suffering from drought or moisture stress



Providing Confidence in Early Applications

Crawler **Standard** **Untreated**

Saturation

Field capacity

No moisture **2 weeks** prior to treatment, then dry

No moisture **4 weeks** prior to treatment, then dry

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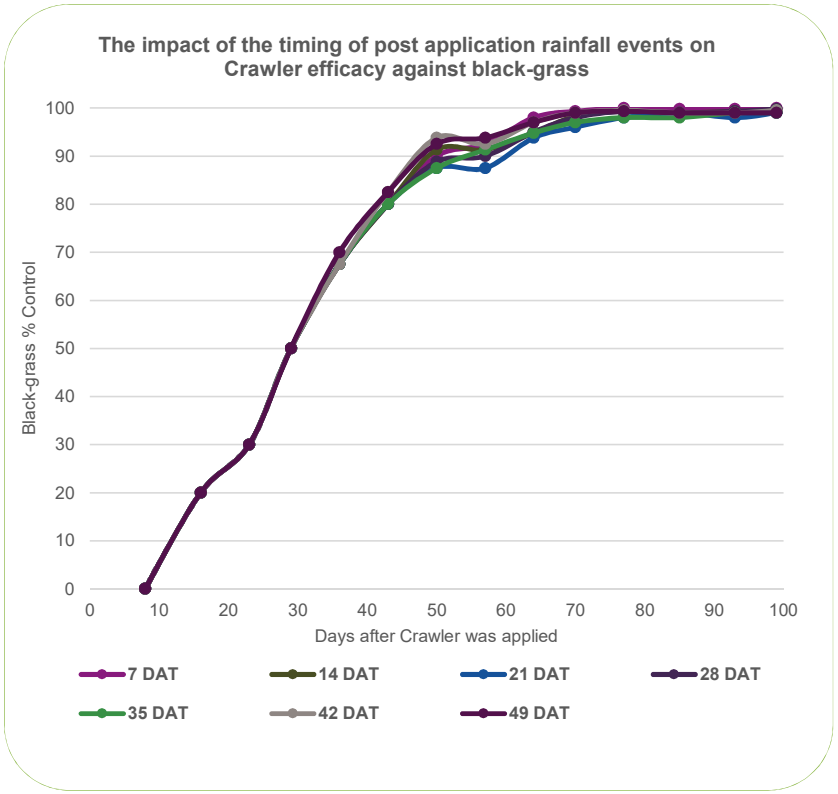
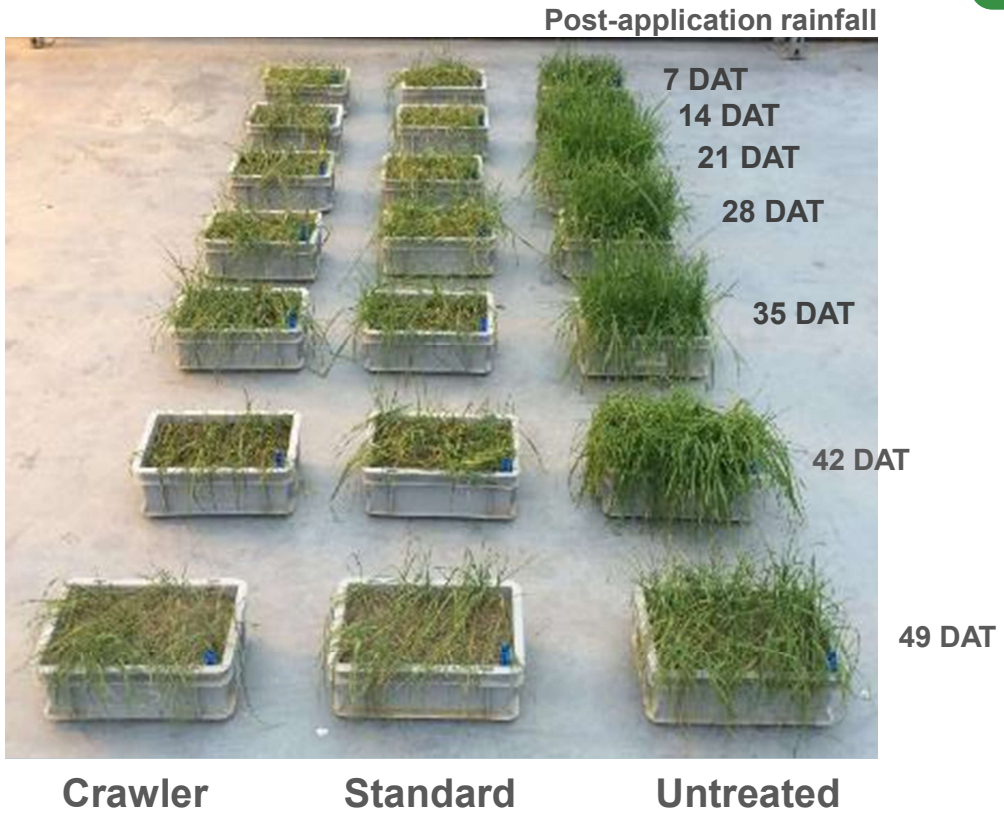
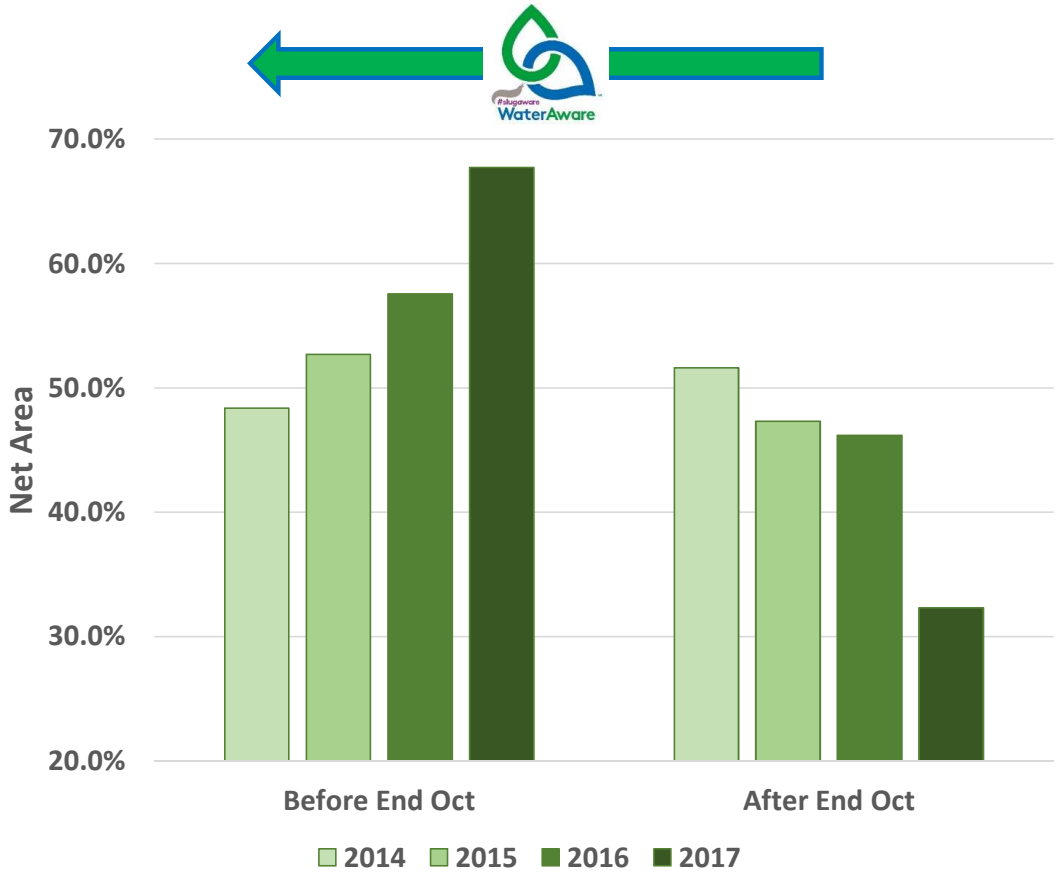
Providing Confidence in Early Applications





No difference in the levels of control in relation to the timing of post-application rainfall

Protecting Water: when is Crawler being applied?



Keep Crawler out of water.

ADAMA recommends earlier applications when drains are not flowing

WaterAware

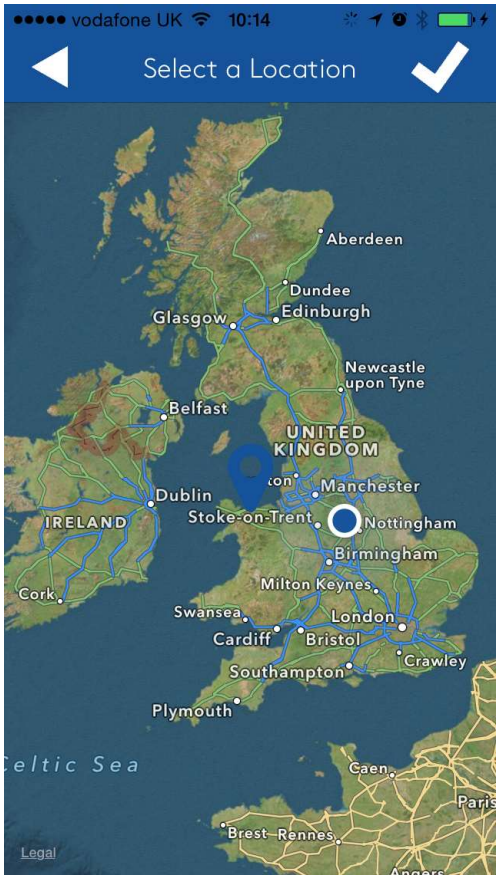
WaterAware - SMART Decision Making

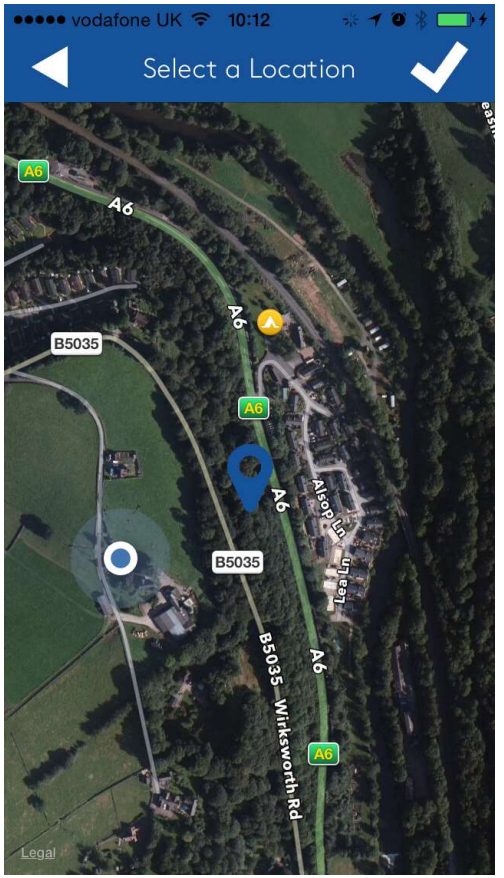
SMART decision making – Linking

- Location
- Soil type
- Soil moisture deficit
- Forecast weather
- Active substance decision tree
- Developed in partnership with Farming Online

Location, Soil, Weather

- Selecting location:
  - Phones GPS
  - Selecting on the map



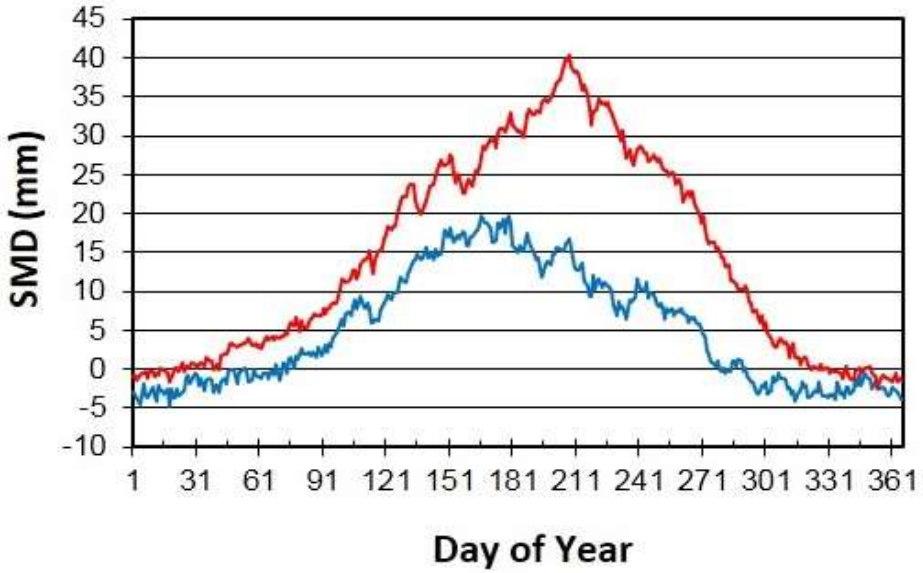


Soil Moisture Deficit

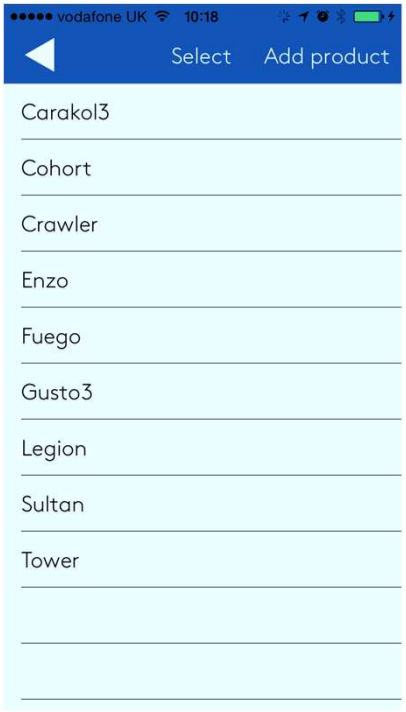
SMD is the amount of rain needed to bring the soil moisture content back to field capacity

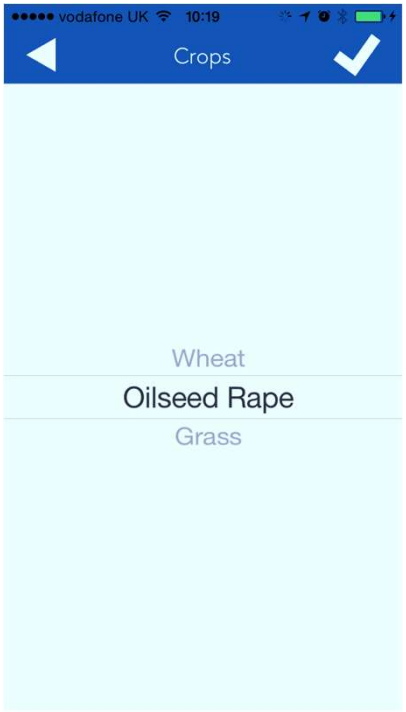
- The higher the SMD the drier the soil.

Average daily SMD for a moderately drained soil.



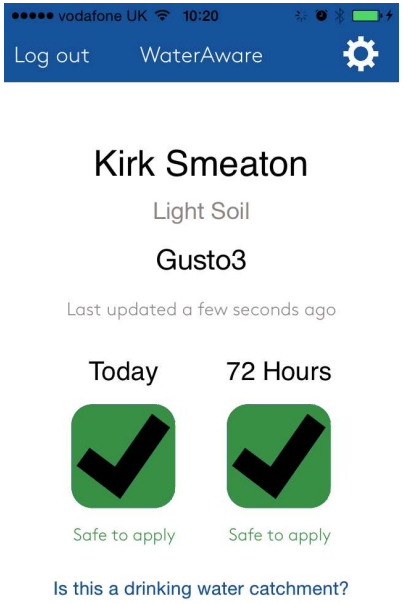
Using the App – Product / Active selection

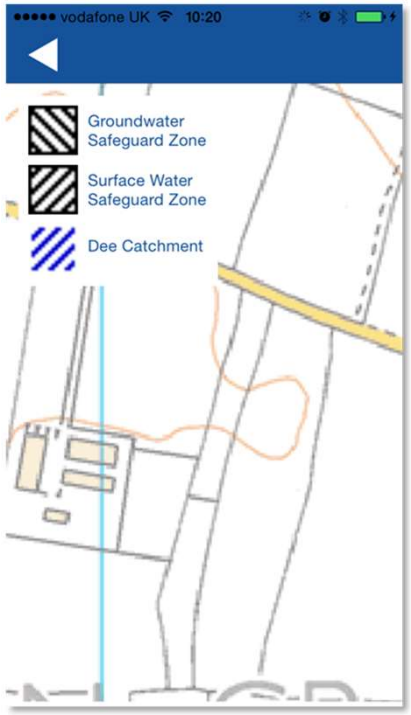




Using the App – Drain Flow Risk

- The APP then determines the likelihood of drains flowing within the next 7 days:
  - Current SMD for the location.
  - Forecast rainfall for the next 7 days.
  - NEW SMD then calculated for Day 7*.
    - SMD = 0 mm – drain flow likely (in the literature SMD ≤ -10mm suggest drains likely to flow on all soil types)





*1) Measured and estimated evaporation and soil moisture deficit for growers and the water industry Meteorol. Appl. 9, 85–93 (2002),

*2) Meteorological Inputs Groundwater Workshop, Birmingham Murray Dale, 4/11/04 3) Hough, M. and Jones, R. J. A. (1997).

*3) The Meteorological Office Rainfall and Evaporation Calculation System: MORECS Version 2.0 an overview. Hydrol. Earth. Sys. Sci. 1, 227-239

*4) Soil Moisture Deficits, Evaporation, Potential Evapotranspiration, Actual Evapotranspiration and Runoff http://www.met.ie/climate/agri-meteo-data.asp

OSR Herbicides? Think Water

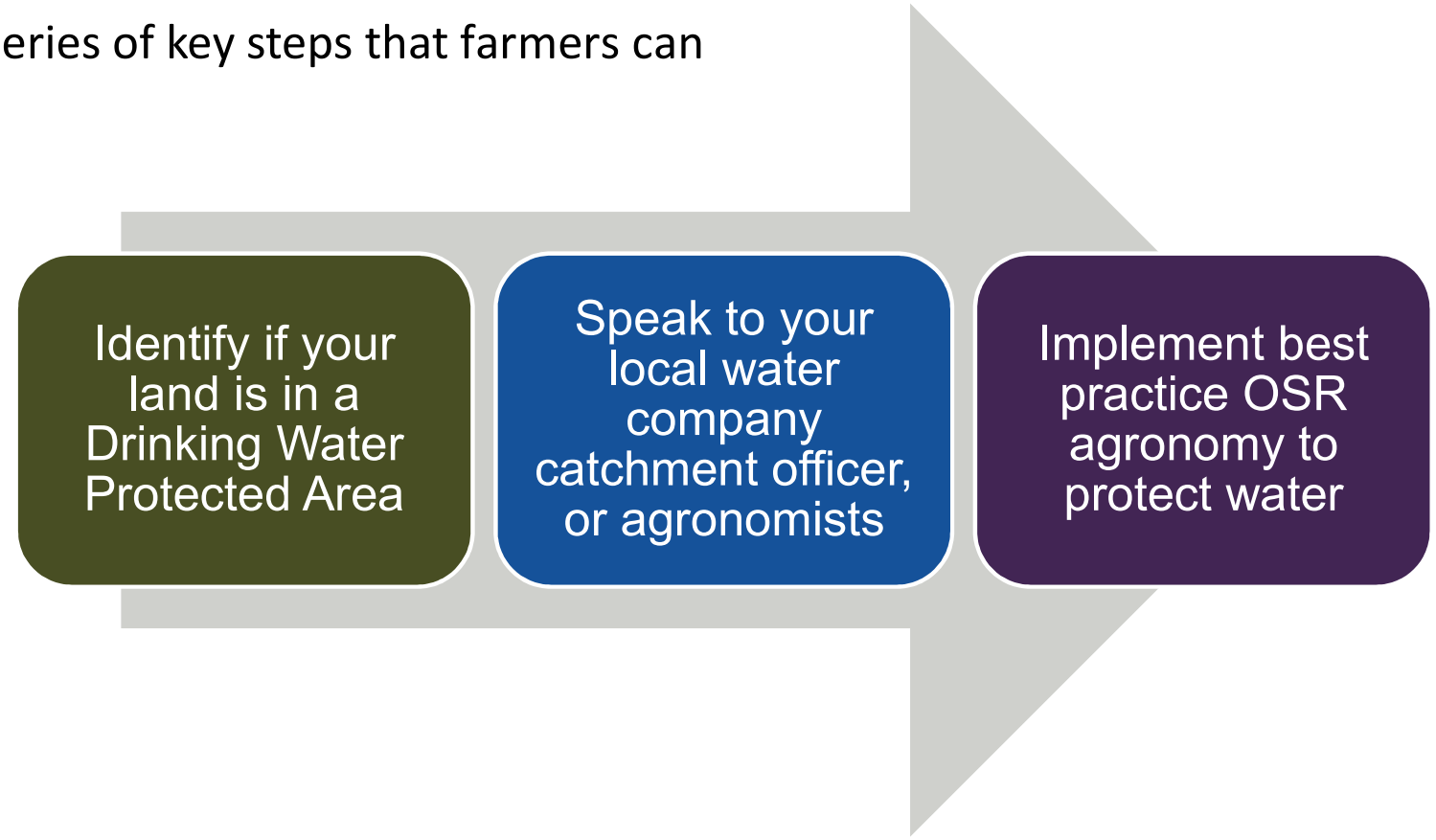
Working Together: OSR Herbicides

The Voluntary Initiative (VI) is working with water companies and the agricultural sector in it's entirety to raise awareness of the issue and promote and encourage best practice OSR agronomy to help protect water

OSR Herbicides?
Think Water

OSR Herbicides? Think Water stewardship

There are a series of key steps that farmers can take to help:

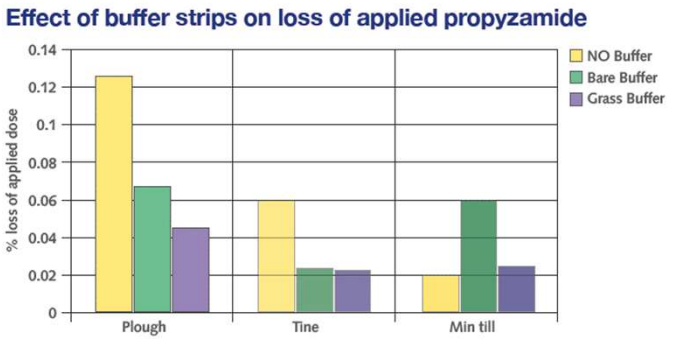


Three steps to minimise the risk of OSR herbicides reaching watercourses

Manage tramlines, pathways and gateways to minimise compaction and reduce the risk of surface water run-off

Ensure all surface water adjacent to oilseed rape fields is protected by at least a 6m vegetative buffer strip

Before making applications, always refer to product specific labels and the VI Water Protection Advice Sheets (WPAS)



OSR herbicides? Think Water – Pilot Catchments

- **Affinity Water**

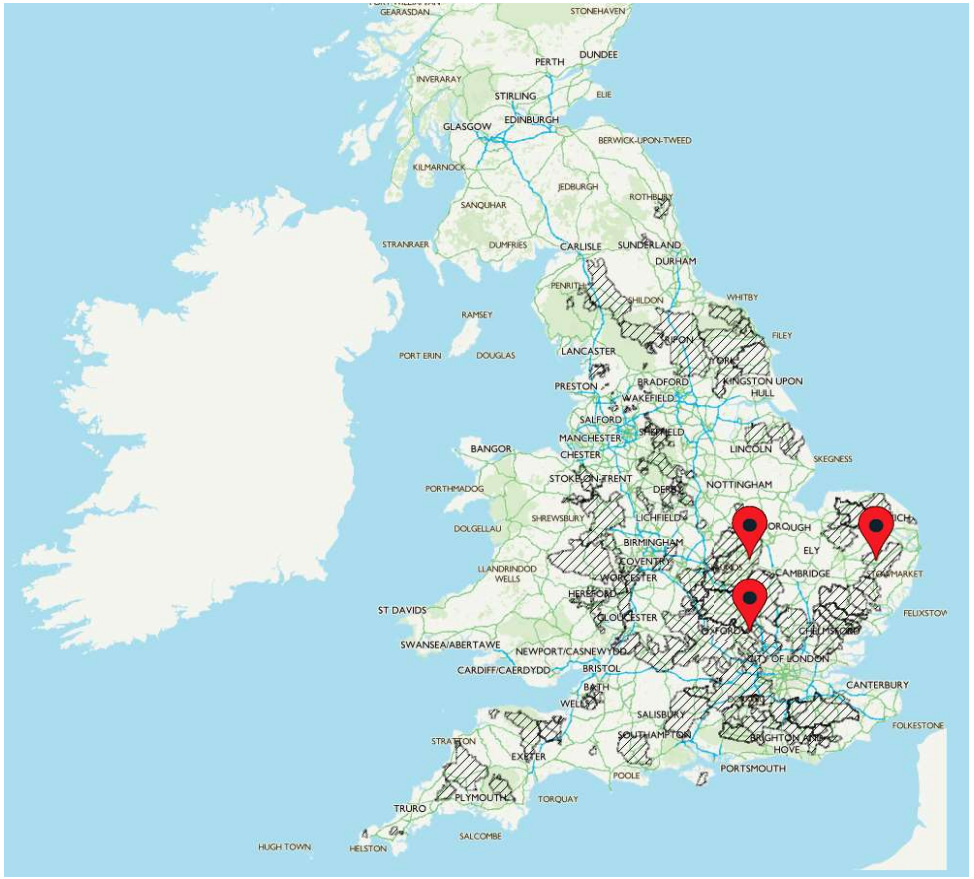
Pilot catchment: Mimmshall Brook

- **Anglian Water**

Pilot catchment: River Kym

- **Northumbrian Water**

Pilot catchment: Instead Brook



Summary

Stewardship empowers industry

Stewardship takes many forms – adapting product recommendations, smart decision-making through to cross-industry partnerships

Collaboration, communication and participation are critical - how do we make it easier for farmers to adopt good stewardship?

More Information

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OSR Herbicides?
Think Water

The Voluntary Initiative
Promoting responsible pesticide use

#slugaware
WaterAware