



# Overview on Implementing Groups of Measures DTC Component 2

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## An Inventory of Methods to Control Diffuse Water Pollution from Agriculture (DWPA)



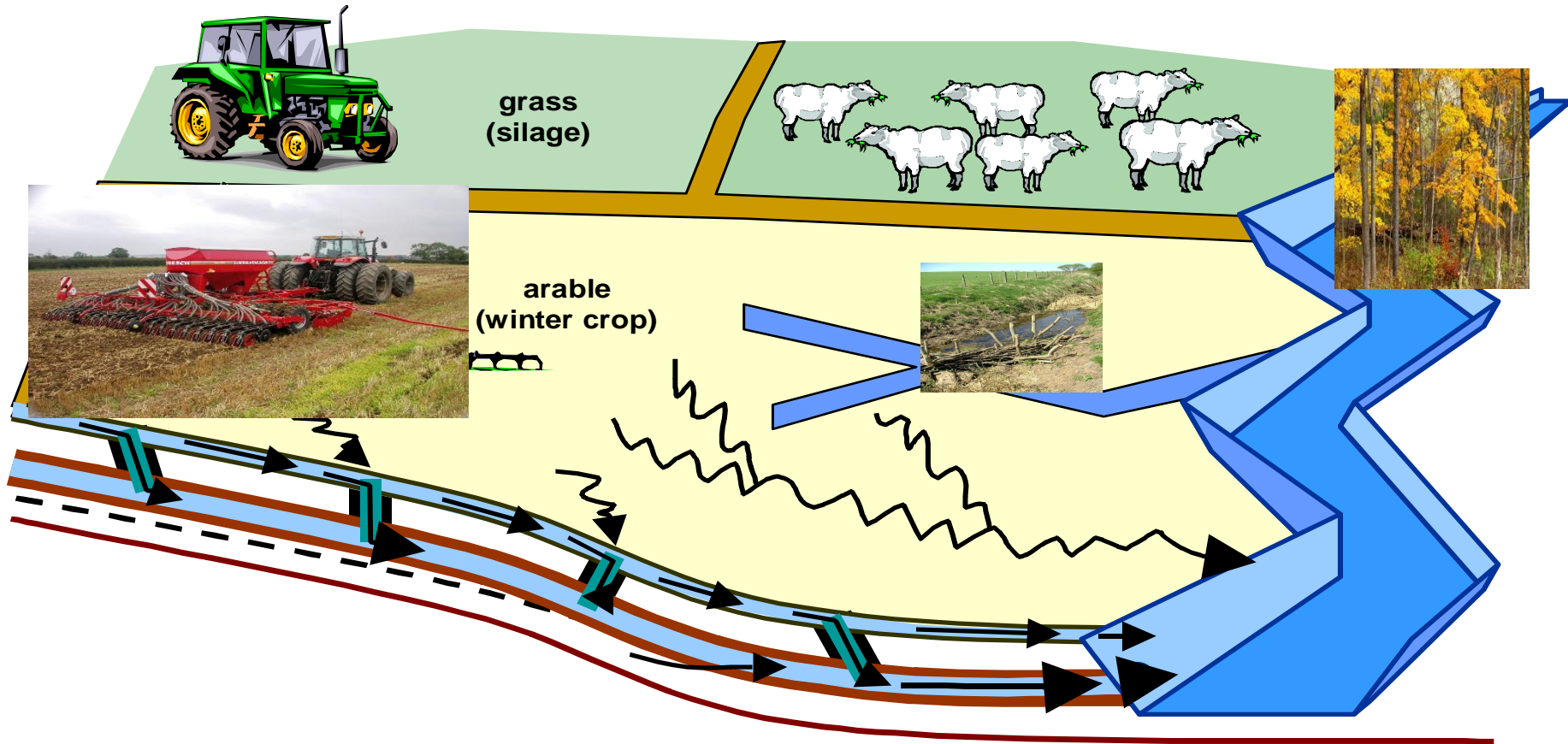




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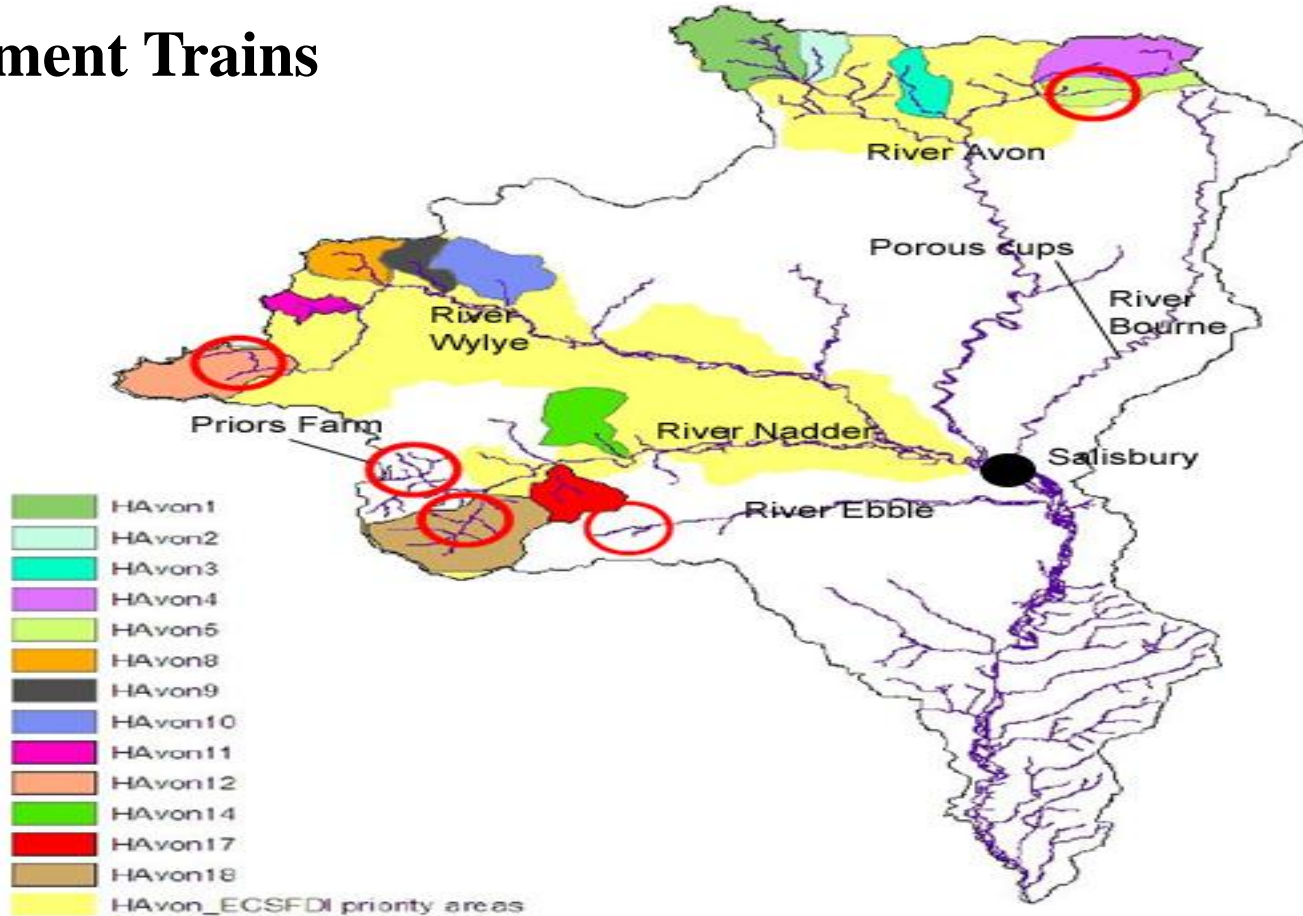
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# Treatment Trains





## Demonstration Test Catchments Component 2

### Aim

Implement and test sets of measures across the three Demonstration Test Catchments

Generate best practice approaches to diffuse pollution mitigation that can be more widely applied across England and Wales

## Objectives

1. Identify a suite of the most efficient and effective measures to reduce diffuse water pollution to levels that are acceptable whilst ensuring productive and competitive farming.
2. Determine the direct and indirect cost of these measures, including implementation, cost impact on production and savings due to more effective resource management.
3. Assess the lifespan and maintenance requirements of measures.
4. Assess the attitudes of farmers towards acceptance of different measures.
5. Provide national guidance on applying individual and combination of measures to tackle diffuse agricultural water pollution at the catchment scale.





## Measures to be implemented

Catchment Type	Farm Type	Proposed Measures	Continuum Point
<b>Avon</b> <i>Nadder(Sem)</i> Clay/Greensand	Grazing livestock (lowland), dairy, mixed.	Yard infrastructure. Integrated manure and fertiliser planning. Arable reversion.  Farm track resurfacing. Wetlands.  Extension of buffer strip. Stream bank fencing.	Source   Mobilisation  Delivery
<b>Avon</b> <i>Ebble</i> Chalk	Cereals, mixed, grazing livestock	Wetland.	Delivery



# Measures to be implemented

Catchment Type	Farm Type	Proposed Measures	Continuum Point
<b>Eden</b> <i>Pow</i> BoulderClay/ Sandstone	Intensive dairy, beef, sheep, pigs, and poultry, improved grazing (cows & sheep).	Farmyard infrastructure.	Source
<b>Eden</b> <i>Dacre</i> Igneous	Upland site. Improved grazing (cows & sheep) - 41%, rough grazing (sheep) - 46%.	Farmyard infrastructure. Grassland aeration.  (RSuDS).  Tree planting.	Source  Mobilisation  Delivery





## Measures to be implemented

Catchment Type	Farm Type	Proposed Measures	Continuum Point
<p><b>Wensum</b> <i>Blackwater</i> Quaternary deposits overlying Chalk</p>	<p>Arable - 97%.</p>	<p>Integrated manure and fertiliser planning. Reduced cultivation.</p> <p>Biobed. Cover crops. Extension of current buffer strips. Rural SuDS.</p> <p>Tree planting along watercourses.</p>	<p>Source</p> <p>Mobilisation</p> <p>Delivery</p>



## Monitoring Approach

### Three-stage monitoring strategy

1. Each catchment will use water quality and biological monitoring data from the outlets of mitigated and control sub-catchments to assess the effectiveness of combinations of measures at this scale.
2. Each catchment will use source-apportionment techniques based on a before-after sampling design to assess the sub-catchment scale impact of measures on sediment and organic waste delivery to water courses.
3. Site-scale monitoring approaches are planned to assess the effectiveness of individual measures, disaggregating these effects from those observed in sub-catchment-scale water quality and biological monitoring data.



## Likely Outcomes and Indicators of Success

- Effectiveness in reducing pollutant loading immediately downstream
- Effectiveness in reducing pollutant loading at the local scale
- Effectiveness in reducing pollutant loading at the sub catchment scale
- Ease of implementation
- Extent of receptor protection
- Farmer acceptance
- Potential lifespan and maintenance issues
- Scope for transfer to other catchments





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**Thank You**

