**Introduction**

The Environment Agency (2014) estimated that 33% of rivers not achieving ‘good’ status according to the EU’s Water Framework Directive (WFD) failed due to agricultural pollution. However, water pollution is a ‘locked’ problem, and many farmers may not accept responsibility for diffuse pollution. There is therefore a requirement of collaboration amongst various stakeholders, understanding the importance of an effective agricultural extension system.

**Agricultural advice concerning diffuse pollution**

Agricultural extension, traditionally focused on productivity, has in recent years become more focused on environmental issues. However, many organisations have limited resources and may not be able to provide relevant and timely information to the farmers who need it most. Furthermore, the recent shift towards knowledge exchange as opposed to linear-top-down delivery of information warrants a more collaborative approach which many organisations have struggled to adopt.

Farmers are expected to be compliant with many environmental regulations; however, there is concern that they may not be aware of why they need to adopt these measures. The New Farming Rules for Water, implemented in April 2018 (Defra, 2018), appear to have received little publicity, with little explanation for farmers as to why the rules have been implemented. This research intends to explore whether or not presented with engaging scientific evidence, farmers become more likely to adopt advice and comply with regulations.

**Possible implications for extension**

- Extension must continue to utilise scientific evidence when providing advice to farmers whilst ensuring it is presented in an engaging manner.
- Sediment fingerprinting may have potential as an advisory delivery tool, but finding the best way to communicate the uncertainties associated with this evidence remains a challenge.
- More iterative interactions are required between farmers and advisors, ideally with the continuation of the same trusted advisor.
- Engaging ways of disseminating scientific evidence must be utilised to increase farmer uptake of information.

**Next steps**

- Present SF data according to farmers’ recommendations and hold 6 remaining focus groups across England to explore engagement with this scientific data.
- Carry out further SF research to ensure successful facilitation of the groups.
- Analysis and triangulation of all research methods.

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**Method No.**

**Description**

**150** Farmers N: 100 Advisors N: 50

- Telephone interviews are being undertaken with both farmers and advisors from various extension organisations to explore how credible, salient, and legitimate farmers find current advice providing, including scientific evidence.
- This method allows research to be undertaken across England with limited logistical constraints.
- Limitations of telephone interviews include a risk of misunderstandings and a lack of body language and facial expressions.

**8 Farmers N: 6 Advisors N: 2**

- Focus group allows participants to engage and develop ideas and opinions, allowing the researcher to observe themes surrounding the CRELE attributes emerge.
- Two types of focus group are being carried out: One with both farmers and advisors on their preferences for extension in the future, and the other specifically relating to how farmers engage with sediment fingerprinting to determine whether it could become a useful extension tool in future.

**225 [farmers]**

- An online questionnaire survey was carried out between 02/10/2018-04/10/2019 using the Online Surveys platform.
- This allowed collection of a relatively large data-set containing both qualitative and quantitative responses.
- These results will be triangulated with results from the telephone interviews and focus groups to determine the credibility, salience, and legitimacy of current extension services including engagement hardness tools are most useful.

**Schematic diagram of the sediment fingerprinting approach**

[Diagram showing different methods of sediment fingerprinting]