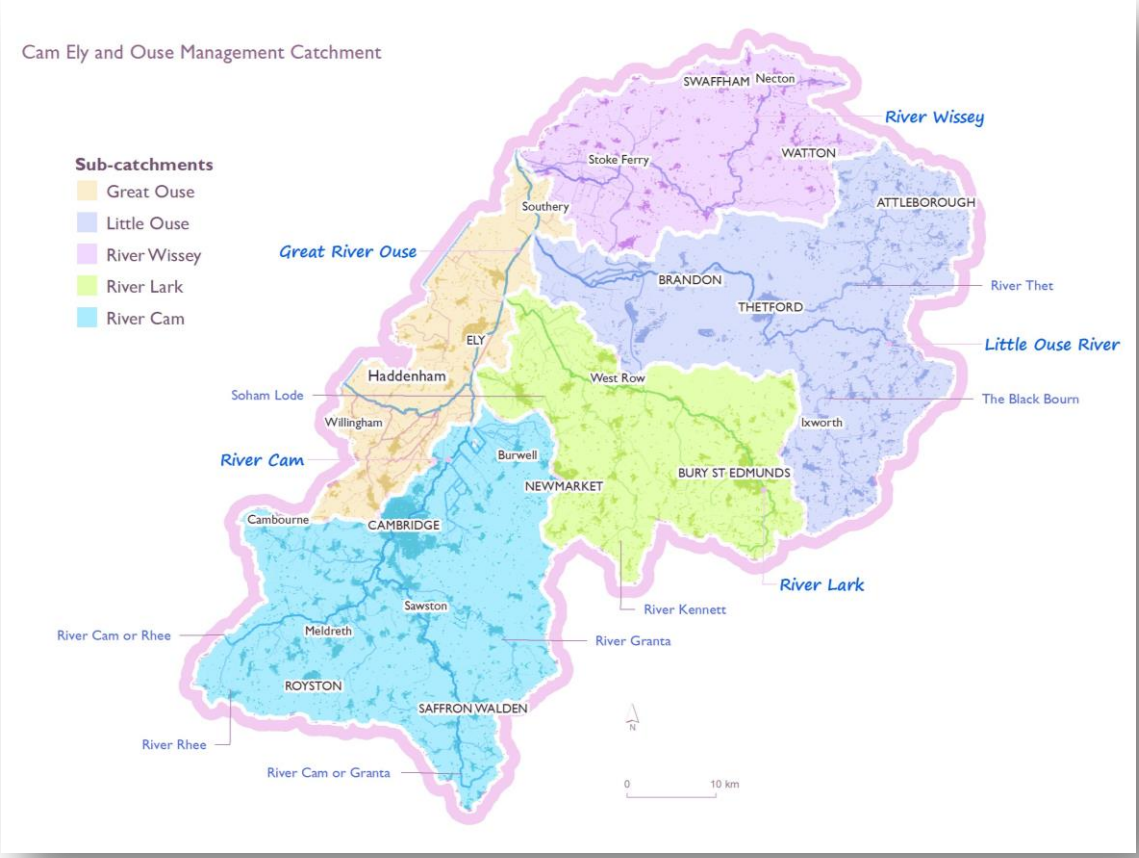
Developing a Targeting strategy for Water Sensitive Farming Advice in the Cam Ely Ouse

1 Introduction

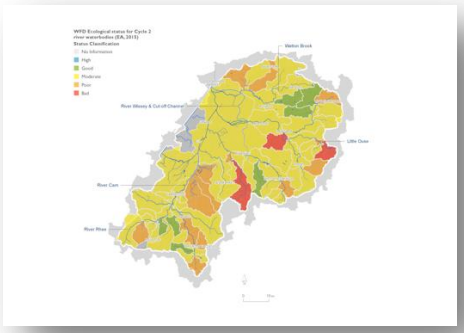
The Cam and Ely Ouse Management catchment is a large and diverse catchment covering several sub-catchments within the counties of Norfolk, Suffolk and Cambridgeshire. The partnerships approach is to support and foster the development of sub-catchment scale partnerships in addition to operating at the catchment scale when this is appropriate.

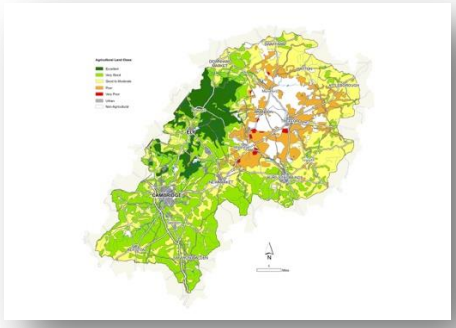


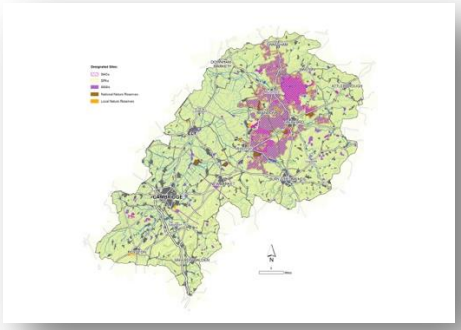
2 Approach to developing an evidence based targeting strategy

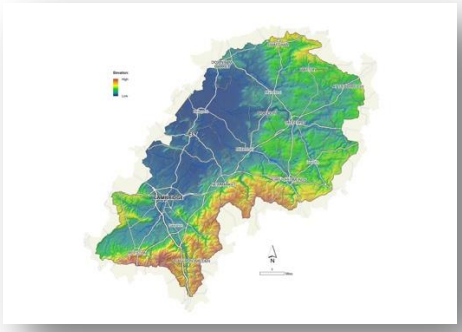
2.1 Overview - Evidence Review and Ecosystem Services Visualisation

Initially we set about developing visual map outputs to characterise the catchment and the provision of ecosystem services. We did this by broadly adopting the approach set out in the Westcountry Rivers Trusts' Ecosystem Services Visualisation framework guidance. The maps were produced at both the CamEO and sub-catchment scales so that they could be used to engage with, and useful for, different stakeholders within the catchment. We are currently in process of making these maps more accessible to catchment stakeholders.









2.2 WaterLIFE mapping – supporting the delivery of water sensitive farming

More detailed mapping and modelling work was required to underpin the targeting of farm advice work planned under the WaterLIFE project. For this purpose we set out to develop a bespoke stewardship targeting strategy that enabled us to:

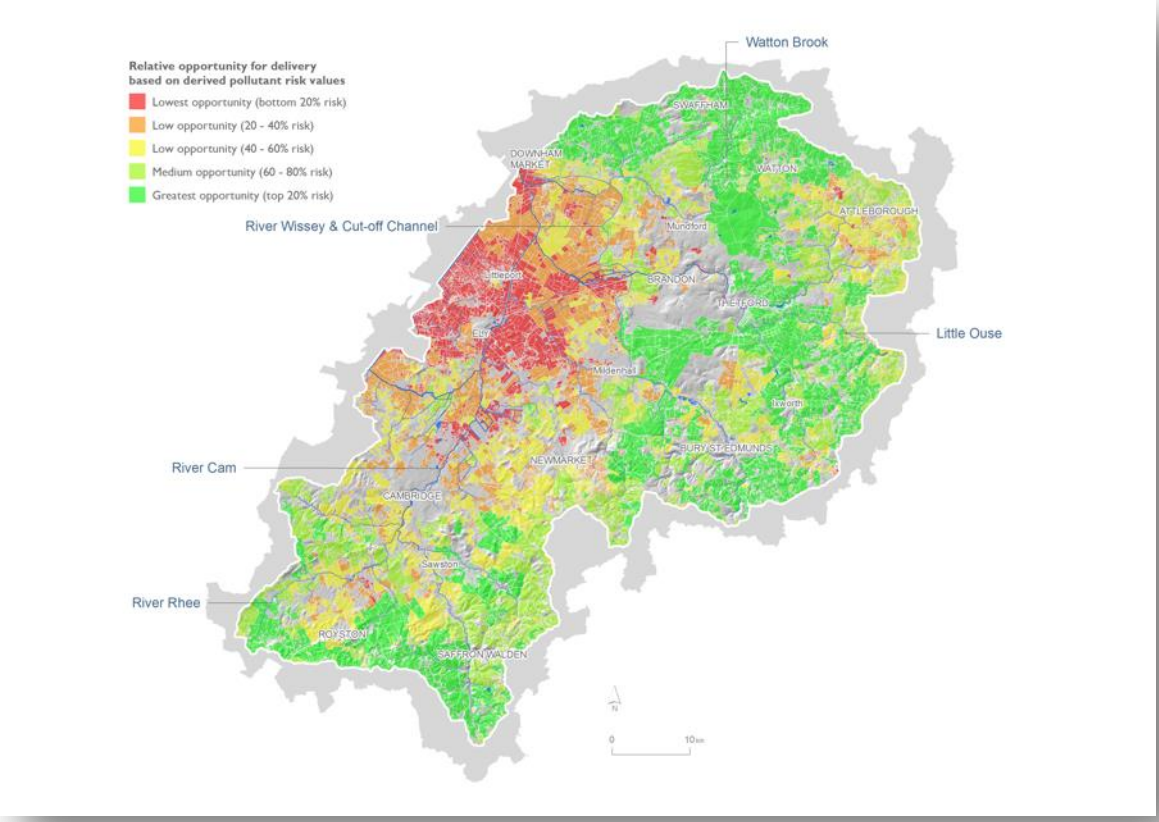
1) Develop a series of maps to identify the areas of the catchment that present the greatest opportunity to mitigate the impacts of Diffuse Water Pollution from Agriculture (DWPA) both now and in the future.
2) Adjust the maps and underlying models to reflect the reality of the situation on the ground based on local evidence (i.e. to reflect existing best practice not accounted for in the model and/or to adjust the model following the delivery of an intervention)
3) Demonstrate to businesses how the approach could help them to support sustainable management practices within their own operations and also those of their supply chains.

The strategy is based on a 'Source-Pathway-Receptor' model for each of the main pollutants, sediment, phosphorus, nitrate and pesticide. The approach is based on a weight of evidence with a combination of predictive models and local evidence used to determine the potential “opportunity” for reducing and preventing DWPA.

The predictive models are first used to determine the likely

sources for each pollutant within the catchment and the likelihood of that pollutant reaching a receptor (pathway). The condition of the receptors (i.e. surface or ground water body) are initially based on the current WFD status. Local evidence is used to validate these models and also to adjust the outputs following changes in farming practices.

The resulting outputs highlight the opportunities at a farm holding scale to mitigate current impacts or prevent future impact (vulnerability) within the catchment. The opportunity maps can be considered/displayed for individual pollutants or for multiple pollutants combined.



In addition to the mapped outputs a detailed spreadsheet provides a full audit trail of the evidence, both national and local which underpins the targeting strategy.

Within the spreadsheet the data can be queried to identify priority holdings for different pollutants and to identify holdings specific to particular commodities and/or supply chains.

Follow up 1-2-1 farm advice is then delivered to identify appropriate opportunities for implementing interventions.