



Leverhulme Centre
for Nature Recovery



Mapping niches of extension service providers to support nature recovery - a policy briefing

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How do agricultural extension services support nature recovery?

This policy brief sets out the role of agricultural extension services in supporting landscape-scale nature recovery through a novel method of mapping organisational niches and conflicts in service provision.

Those who own and manage land are often decision makers, holding a unique and powerful position for implementing land-use changes for nature recovery, for example, through pollution mitigation or habitat creation. These decision-makers can face multiple challenges for enacting such changes, for example, lacking access to up-to-date knowledge, financial barriers or conflicting business aims. However, increasingly, land managers are seeking to diversify their core activities and implement voluntary measures for nature recovery which may be supported by grants available through, for example, agri-environment schemes or blended finance offered by corporate organisations¹.

The role of advisory organisations, also known as extension services, in supporting nature recovery is vital to support land managers by providing knowledge of appropriate nature recovery measures and associated grant availability.

In England, advice is available to land managers on a variety of topics to support nature recovery including:

- mitigation of water pollution
- mitigation of air pollution
- agri-environment schemes
- habitat creation
- habitat management
- species recovery
- natural flood management
- soil carbon sequestration

Advice on specific topics may be available from multiple organisations, each with unique motivations. This can lead to conflicting recommendations and carries the risk of fragmentation within an advisory sector². Additionally, different environmental landscapes present a series of varying physical and social challenges for nature recovery. Insight into niches of advice provision at differing spatial scales can support localised and targeted approaches for policy making with benefits at the landscape scale.

Case study: mitigating diffuse water pollution from agriculture

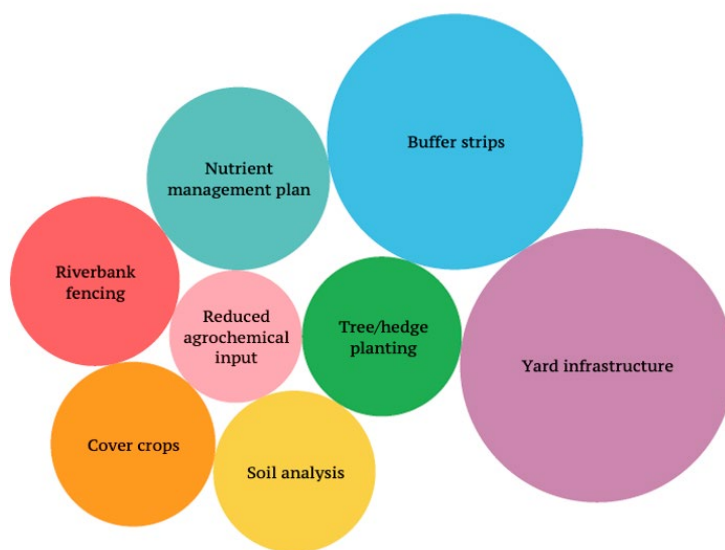
Advice is provided to land managers to mitigate against diffuse water pollution from agriculture (DWPA) from multiple organisations. Mapping the specific niches held by these organisations reveals how policies may best support the sector.

Agriculture is a significant source of phosphorous, nitrogen, sediment, pesticides and faecal matter to adjacent water bodies³. These pollutants have a detrimental effect on water quality leading to eutrophication and biodiversity decline. A suite of measures can be implemented to mitigate against DWPA. Many measures provide wider biodiversity benefits, for example, the habitat creation and connectivity associated with hedgerow planting.

The DWPA advisory sector in England is crowded, with advice available from from numerous government, environmental and private organisations, each with diverse primary motivations. Mapping the advisory niches of these organisations using the Niche Mapper analytical framework⁴ enables insight for how best to support the sector in terms of: 1) agri-environment policy and 2) the direction of government initiatives such as Catchment Sensitive Farming⁵ (CSF).

A hundred and thirty three advisors, from all regions of England, and from all DWPA advisory sectors, were asked: "What are the top five DWPA mitigation measures you currently recommend to land managers? The most frequent responses are displayed in Figure 1.

Figure 1. The most frequently recommended DWPA mitigation measures by advisors nationally. The size of the bubble indicates the frequency with which the measure was recommended.



Following the Niche Mapper framework³ interviews were conducted with advisors from across England. Advisors were asked to list their most recommended mitigation measures (see Figure 1) alongside questions to provide supporting information about the consistency of advice provision and the advisor's own perception of their niche within the sector. A total of 133 advisors from the following organisations were interviewed:

Government Agencies

- Natural England (NE)
- Environment Agency (EA)
- Catchment Sensitive Farming Advisors (CSFAs)

Private business sector

- Agronomists
- Agricultural Consultancies
- Land Agencies
- Water Utility Companies

Environmental Organisations

- Wildlife Trusts
- RSPB
- The Woodland Trust
- The Rivers Trust
- The National Trust
- The Farming & Wildlife Advisory Group

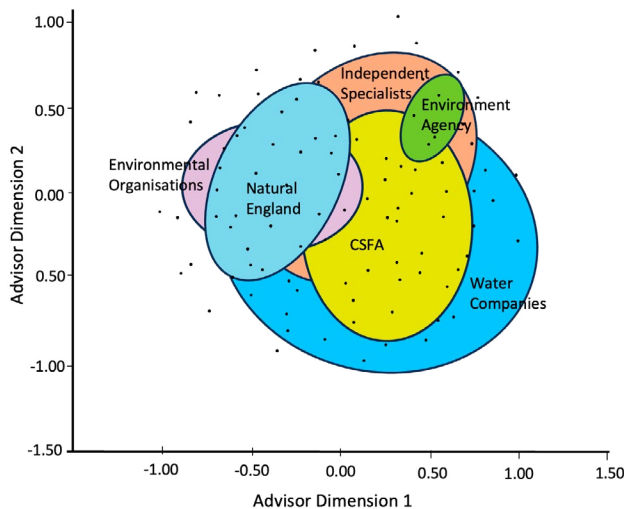
N.B. While Catchment Sensitive Farming Advisors (CSFAs) are a part of Natural England (NE), they were treated as a separate entity for the purposes of this study due to their distinctive DWPA advice offering.

Mapping niches in DWPA advice provision

Distinct niches in advice provision are revealed when advisors are plotted on a similarity scale according to their most frequently recommended mitigation measures. Ellipses visually represent the group's niche in DWPA advice provision (Figure 2).

- Distinct advisory niches are held by government organisations.
- Figure 2 shows that while overlap exists between some organisations, such as environmental organisations and Natural England (NE), there are also distinct niches within governmental organisations shown by the discrete spaces occupied by the CSFA, NE and Environment Agency (EA) ellipses.

Figure 2. Advisors from across England plotted on an x,y similarity scale based on their stated recommendations. Ellipses represent advisor groupings or specific government organisations.



- Organisations may have a broad or narrow focus in their advisory offering. The size of an ellipse indicates the breadth of recommendations made by that group. The EA fulfil a narrow, regulatory role while water companies provide a broad spectrum of recommendations.
- Comparisons across varying geographical regions reveal distinct localised and targeted offerings in advice provision. Niche mapping was also undertaken at regional scales revealing that organisations fulfil similar niches in different geographical contexts although specific advice is tailored to local needs or local advisor knowledge pools.

Consistency and conflict in DWPA advice provision

Sixty-two percent of advisors reported that land managers had received conflicting advice from another source. Advisor comments reveal specific themes in advice conflict.

- Frequently changing regulations, such as local planning regulations relating to slurry storage, are a reported source of confusion for advisors and farmers and present a barrier to offering up-to-date and consistent advice across the sector.
- Conflict in advice provision between advisors with a different primary focus, such as between those providing financial business advice and those providing conservation advice was common.
- Tree planting recommendations are one of the most common reasons for conflict within groups of advisors with an environmental focus. A conflict of interest exists between tree planting (to mitigate diffuse pollution run-off) and other desirable land uses such as grassland or wetland habitat creation.
- Inconsistent information provided by land agents regarding grant eligibility for agri-environment schemes was frequently cited by government advisors.

Policy implications

In the case of DWPA mitigation advice, organisations have been shown to fulfil distinct niches, which are tailored to local contexts. Heterogenous advice needs should therefore be supported and improvements in advice consistency across organisations should be sought.

- Analysis of organisational groups providing advisory services on similar topics provides an understanding of niches, gaps and conflicts in advice provision.
- Distinct niches are held by organisations providing advice on DWPA mitigation. Support effective knowledge transfer and signposting between organisations facilitated by training and enabling sectoral networks.
- Support advice targeted to local contexts which acknowledges the heterogenous needs of land managers and ecosystems.
- Resolve conflicting priorities where they exist between local planning regulation, national guidelines and mitigation measures recommended by advisory services.

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The ongoing loss and degradation of nature is one of the greatest challenges of our time. To halt and reverse this global biodiversity decline, the Leverhulme Centre for Nature Recovery was created as a hub for innovative research on nature recovery nationally and worldwide. It brings together experts from disciplines across the University of Oxford, including geography, ecology, social science, finance, economics, psychiatry, anthropology, artificial intelligence, statistics and earth observation. Our team collaborates on a range of projects, working with national and international partners.


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