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REVIEW AND SYNTHESIS

PEOPLE AND NATURE | BRITISH ECOLOGICAL SOCIETY

Making Brexit work for the environment and livelihoods: Delivering a stakeholder informed vision for agriculture and fisheries

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Abstract

1. The decision of the UK to leave the EU has far-reaching, and often shared, implications for agriculture and fisheries. To ensure the future sustainability of the UK's agricultural and fisheries systems, we argue that it is essential to grasp the opportunity that Brexit is providing to develop integrated policies that improve the management and protection of the natural environments, upon which these industries rely.
2. This article advances a stakeholder informed vision of the future design of UK agriculture and fisheries policies. We assess how currently emerging UK policy will need to be adapted in order to implement this vision. Our starting point is that Brexit provides the opportunity to redesign current unsustainable practices and can, in principle, deliver a sustainable future for agriculture and fisheries.
3. Underpinning policies with an ecosystem approach, explicit inclusion of public goods provision and social welfare equity were found to be key provisions for environmental, agricultural and fishery sustainability. Recognition of the needs of, and innovative practices in, the devolved UK nations is also required as the new policy and regulatory landscape is established.
4. Achieving the proposed vision will necessitate drawing on best practice and creating more coherent and integrated food, environment and rural and coastal economic policies. Our findings demonstrate that "bottom-up" and co-production approaches will be key to the development of more environmentally sustainable agriculture and fisheries policies to underpin prosperous livelihoods.
5. However, delivering this vision will involve overcoming significant challenges. The current uncertainty over the nature and timing of the UK's Brexit agreement hinders forward planning and investment while diverting attention away from further in-depth consideration of environmental sustainability. In the face of this uncertainty, much of the UK's new policy on the environment, agriculture and fisheries

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is therefore ambitious in vision but light on detail. Full commitment to co-production of policy with devolved nations and stakeholders also appears to be lacking, but will be essential for effective policy development and implementation.

KEYWORDS
agriculture, Brexit, co-production, ecosystem approach, fisheries, public goods, stakeholders, sustainability

1 | INTRODUCTION

The decision of the UK to leave the EU has far-reaching implications, including the requirement to develop new agricultural and fisheries policies that could profoundly affect the livelihoods of rural and coastal communities (Environmental Audit Committee, 2017; Phillipson & Symes, 2018). However, while Brexit raises risks and uncertainties for both sectors, it also offers the opportunity to reform environmental policies, making them fit for the challenges of the 21st Century. Future aspirations for a "Green Brexit" were set out by the UK Government in its 25 Year Environment Plan (25YEP; HM Government, 2018a), its environmental governance and principles consultation (Defra, 2018a), the Agriculture Bill (House of Commons, 2018a), in the white paper 'Sustainable fisheries for future generations' (HM Government, 2018b) and the Fisheries Bill (House of Commons, 2018b). Achieving the goals laid out in these documents will be challenging, whatever the eventual outcome of the Brexit negotiations. A successful 'reboot' of UK environmental policy requires recognition of the wider context, including issues such as livelihoods, trade, tariffs, and migration, the ability to learn from past policy failures and, as the 25YEP acknowledges, the development of more effective partnerships and engagement with stakeholders.

The changing UK political landscape coincides with increasing recognition of the vital role played by biodiversity and ecosystem services in sustaining human wellbeing (e.g. Díaz et al., 2018; Díaz et al., 2019; Leviston, Walker, Green, & Price, 2018), along with evidence that current environmental policies have failed to halt the decline in habitat and species losses. There is consequently an opportunity to embrace the notion of 'bigger, better, and more joined up protected areas' that ecological science suggests will help reverse these trends of habitat and species richness decline (Isaac et al., 2018; Lawton et al., 2010; O'Leary et al., 2016). In agriculture, there is now strong evidence that it is possible to maintain or even increase yields while stopping declines in agro–ecosystem biodiversity and its associated services (e.g. Gemmill-Herren, 2016; Pretty et al., 2018; Pretty & Bharucha, 2014). Likewise, in fisheries, further adoption of the ecosystem approach could provide increased socio-economic benefits, while protecting the wider environment that fisheries and many other marine-based activities rely upon (Prellezo & Curtin, 2015).

In the spirit of this approach, the Universities of York and Queen's Belfast gathered 75 key fisheries and agricultural stakeholders from across the UK public, private and charitable sectors, to elicit their views on key priorities for UK agri-environment and fisheries policies post-Brexit. These two sectors are significant in that even under a so-called 'soft' Brexit (see Box 1), the UK will need to develop its own domestic agriculture and fisheries policies to replace the EU's Common Agriculture and Fisheries Policies. Moreover, while Brexit will have several discrete effects on agriculture and fisheries, many challenges and aspirations will continue to be shared, such as determining how to balance natural resource use with maintaining ecosystem function and integrity, and how to ensure equitable sharing of the benefits from a common good. These shared ambitions for the sustainable and integrated

BOX 1 Brexit scenarios and implications for agriculture, environment and fisheries

Soft Brexit: This would see the UK remain closely aligned with the EU either as a member of the European Single Market (like Norway or Iceland) or in a close customs partnership. These countries are not part of CAP or the CFP and so have limited input into policy design, but the vast majority of EU environmental policies apply to them in exchange for maintenance of trade links.

Hard Brexit: This would see the UK securing a limited deal, like the recent Canada-EU Comprehensive Economic and Trade Agreement, which could apply to goods but not services. The government proposal in its July 2018 White Paper on the future relationship between the UK and EU fell somewhere between soft and hard Brexit.

No-deal Brexit: Upon which there has been increasing focus, given the challenges the UK Prime Minister faces in the House of Commons, which would see the UK fail to secure a deal and fall back upon World Trade Organisation (WTO) trading rules. Under this scenario, the UK would be free to design its own policies, but subject to international treaty commitments, WTO rules and any trade deals it strikes. This scenario risks damaging farm and fisher incomes as support payments may be cut under WTO rules, and tariffs and competition from other markets could harm profits and lower current standards.

management of both land and sea are recognized drivers of current environmental policy in the UK (HM Government, 2018a). A combined analysis of these issues consequently provides an opportunity to share lessons across both sectors. Therefore, drawing upon insights from our workshops and the rapidly transforming policy landscape, we developed a 'stakeholder-informed vision' for agri-environmental and fisheries policy reform, which identifies mechanisms to deliver both environmental sustainability and enhanced socio-economic benefits for rural and coastal communities. We also assess how currently emerging UK policy will need to be adapted and implemented in order to achieve this vision.

2 | MATERIALS AND METHODS

We held workshops in March 2017 with a range of agricultural and fisheries stakeholders (see Tables S2 and S3). We sought to gain voices from a wide range of stakeholders from across both sectors. Prior to the sessions, a questionnaire was sent out to both Agriculture and Fisheries participants for respondents to complete which asked them to identify key challenges and opportunities posed by Brexit, and what future policy priorities ought to be (see Table S1). Following the conclusion of the workshop, a feedback questionnaire was also issued for participants to complete.

2.1 | Agriculture stakeholder workshop

The agriculture stakeholder workshop was attended by 40 people drawn from farm businesses, farming organizations, environmental and land-use non-governmental organizations, policy-makers and academics (see Table S2). The day was structured around short presentations followed by 'World Café' style working groups comprising 4–6 people addressing key questions (e.g. devolution, governance, trade, agricultural sustainability, future payment arrangements). The views from these small working groups were collated and, where possible, additional insights from the post-event questionnaire were incorporated. However, the stakeholders from the agriculture workshop were not selected from defined sectors in the same way as the fisheries stakeholders (see below), and fewer questionnaires were returned, so the key data deployed for the agricultural stakeholder analysis were from the discussion groups. Hence, we felt that quantitative ranking of stakeholder priorities, as was done for fisheries stakeholders (Table 1), would not be sufficiently robust in the case of agriculture.

2.2 | Fisheries stakeholder workshop and priority analysis

The fisheries stakeholder workshop was attended by 35 people, which included representatives from the catching and processing sectors, fisheries managers, academics, Environmental NGOs and nature conservation advisers (see Table S3). The advance questionnaire asked stakeholders to describe their priorities for fisheries after Brexit, how these could be achieved, and what they perceived to be the key challenges and uncertainties (see above).

There were 18 responses to the questionnaire; 11 representing organizations and seven from individual academics. The workshop day consisted of presentations (from 12 of the attendees) and 'World Café' style discussion sessions on the above themes. All respondents and participants gave permission for their perspectives to be analysed in this study.

In order to further broaden our analysis, we also used publicly available position statements and other literature from six organizations (three representing commercial fisheries, one representing the processing sector, one representing recreational fishing and one representing environmental NGOs) to supplement our dataset. Three of these organizations had attended our workshop and already provided some information. We combined stakeholder views from the questionnaire and workshop with these additional data (see Table S3) to illustrate the key priorities of the different sectors. Responses were coded as different priorities, as seen in Table 1. The priorities of each sector were then scored using the following system:

1. Highlighted by 25% or fewer of respondents (i.e. included no mention).
2. Highlighted by between 26% and 50% of respondents.
3. Highlighted by between 51% and 75% of respondents.
4. Highlighted by between 76% and 100% of respondents (i.e. included unanimous support)

2.3 | Combined analysis

The results from our stakeholder engagement and analysis of views were then combined with an analysis of the developing agriculture, fisheries and environmental policy framework in the UK and how this might affect the future of the agricultural and fisheries sectors. This analysis was then further informed by wider literature to construct a stakeholder led vision of a framework that could provide a sustainable, profitable and equitable future for the UK agricultural and fishing industries after Brexit.

3 | RESULTS AND SYNTHESIS

3.1 | "Taking back control": beyond EU Agriculture and fisheries policy frameworks

Despite 'greening' reforms, the EU's Common Agricultural and Fisheries Policies (CAP and CFP), remain far from ideal (Khalilian, Froese, Proelss, & Requate,2010; Lightfoot et al., 2017; Salomon, Markus, & Dross, 2014). Designed when increasing production and incomes, and promotion of trade and fair competition were priorities, the drawbacks of the CAP and CFP have long been apparent. Habitat and biodiversity loss, and unsustainable approaches to offtake, still occur in many agricultural and marine systems (Fernandes et al., 2017; Kleijn, Rundlöf, Scheper, Smith, & Tscharntke,2011; Figure 1).

	UK	EU
	Farmland Butterfly Index has fallen by 27% since 1990.[a]	European Grassland Butterfly Index declined by almost 50% between 1990 and 2011.[f††]
	Since 1970 the Farmland Bird Index has reduced by 57% of its value.[a†]	Between 1990 and 2014, across 26 EU Member States, there was a 31.5% decrease in populations of common farmland birds.[g‡]
	Since 1980 the UK insect pollinator biodiversity indicator has shown long term decline, though recent short term stability. Both wild and honey bees have shown an overall decline since the 1960s.[b]	Evidence indicates that of the 1,965 European native bees 101 are Near Threatened; 24 Vulnerable; 46 Endangered; 7 Critically Endangered; with 1,101 being data deficient.[h]
	2.2 million tonnes of topsoil are lost annually, resulting in carbon emissions that are 50% higher than those from the petroleum refining industry.[c]	11.4 % of the EU suffers from moderate to high levels soil erosion (more than 5 tonnes/ha/year), with a further 0.4% affected by extreme soil erosion (more than 50 tonnes/ha/year).[i]
	Previously extensive native biogenic oyster reefs in the English channel and southern North Sea were almost completely extirpated in the 20th century.[d]	Only 5% of seabed habitats out of 702 in the MSFD initial assessment were in good status. 76% were of unknown status.[d]
	Only 9 of 162 fisheries in English inshore waters (top 15 species) could be confirmed as sustainable. Most others were data deficient.[e]	Only 19 (20%) of 95 fish stocks assessed in European waters were sustainable - None in the Mediterranean, 19/54 (35.2%) in the NE Atlantic.[j]
	Soil erosion, soil compaction and loss of organic soil costs farmers £246 million.[c]	It is estimated that there is a 0.43% loss of agricultural productivity annually across the EU due to soil erosion, which is estimated to cost €1.25 billion.[k]

[a] Source: JNCC
[b] Source: Downing, E., Sutherland, N. *The UK Bee Population*. Debate Pack no. CDP 2017/0226. House of Commons Library (2017)
[c] Source: Armstrong Brown and Tipper. *Natural Investment: Future Proofing Food Production in the UK*. Green Alliance. (2017)
[d] Source: State of Europe's Seas, EEA Report No 2/2015
[e] Source: Davies, P., Williams, C., Carpenter, G. & Stewart, B.D. (2018) Does size matter? Assessing the use of vessel length to manage fisheries in England. Marine Policy 97, 202-210.
[f] Source: EEA. *The European Grassland Butterfly Indicator 1990-2011*. EEA Technical Report no.11. European Environment Agency (2013)
[g] Source: Eurostat – Agri-environment Indicators – Common Farmland Bird Index
[h] Source: European Commission. STEP Report Summary: Final Report Summary – STEP (Status and Trends of European Pollinators). European Union (2016)
[i] Source: Eurostat – Agri-environment Indicators – Soil Erosion
[j] Source: Fernandes, P.G., et al. (2017) Coherent assessments of Europe's marine fishes show regional divergence and megafauna loss. Nat. Ecol. Evol. 1, 0170
[k] Source: Panagos, P. et al. Cost of agricultural productivity loss due to soil erosion in the European Union: From direct cost evaluation approaches to the use of macroeconomic models. *Land Degradation & Development* 29, 471-484 (2018)
† The decline in the farmland bird index is primarily due to the changing populations of 12 specialist bird species that comprise the 19 bird index. In particular, populations of grey partridge, turtle dove, tree sparrow and corn bunting have declined by more than 90% since 1970.
†† European Grassland Butterfly Index is based on the population trends in 17 butterfly species.
‡ Common Farmland Bird Index is based on 39 bird species

FIGURE 1 Reasons for a more sustainable environmental policy: UK and EU agricultural and fisheries environmental statistics

Furthermore, there are socio-economic and justice issues, in that a disproportionately large proportion of agriculture payments currently go to relatively few large landowners (Allanson, Kasprzyk, & Barnes, 2017; Sorrentino & Henke, 2011), and large amounts of UK fisheries quotas are concentrated in just a few companies (Greenpeace, 2018). While further greening ambitions for the CAP have been proposed, reforms of agricultural subsidies remain relatively minor (European Commission, 2017). Likewise, EU fisheries catch quotas continue to be set above scientific advice for certain stocks, and the reformed CFP's stipulation to allocate fishing opportunities according to environmental, and social and economic criteria remains poorly implemented (Carpenter, 2017). Agreeing policies that prioritize environmental and social sustainability over economic factors is often politically challenging, particularly in the context of highly variable socio-economic conditions across EU Member States. Consequently, Brexit does offer the UK the opportunity, in principle at least, to design policies that are suitable for local and national circumstances. Nevertheless, the transboundary nature of agricultural, fisheries and environmental issues (e.g. regional climate change effects, distribution and movement fish stocks across borders) means that continued cooperation between the UK and EU on these matters will be required.

The UK Government's commitment to achieving a 'green Brexit' will clearly be shaped by the outcomes of its negotiations with the EU. The publication of the Government's White Paper in July 2018 (HM Government, 2018c), suggested three main Brexit options: a 'soft' Brexit, a 'hard' Brexit or a 'no-deal' Brexit (Box 1). However, the Government's inability to secure passage of the draft 'Withdrawal Agreement' (HM Government, 2018d) and 'Political Declaration' (HM Government, 2018e) through the House of Commons, together with the failure of Parliament to agree an alternative approach, is prolonging uncertainty and has led to a delay to EU exit. The current draft 'Withdrawal Agreement' appears closer to a 'soft' Brexit, but a 'no-deal' Brexit remains the default option if a deal is not adopted by 31 October 2019. The probabilities of each outcome remain in a state of flux. Whichever scenario we end up with, the UK will need to develop and implement new agriculture and fisheries policies, even if we adopt a 'soft' Brexit and, for example, join the European Economic Area (EEA), as these policies are not covered by the EEA. Moreover, the different scenarios have varying implications for what kinds of support will be allowed for agricultural and fisheries policies post-Brexit (see Section 3.4).

3.2 | Putting sustainability at the heart of future policy

Like many other countries, the UK is a signatory to several globally important multilateral environmental agreements such as the Convention on Biological Diversity and the United Nations Paris Agreement, as well as being an architect of and committed to delivering the Sustainable Development Goals of Agenda 2030. These commitments provide a framework to underpin the future development of UK's agriculture, environment, fisheries and marine policies, particularly given that the interdependence between environmental and social dimensions of sustainability is increasingly recognized at the global scale (Sachs, 2015; Vince, 2014), in relation to agriculture (Rockström et al., 2017), food production (FAO, 2014), fisheries (Galbraith, Carozza, & Bianchi, 2017) and the marine environment (Lubchenco & Grorud-Colvert, 2015). This context of both environmental and social aspects being relevant to future policy frameworks was raised by stakeholders (Stewart et al., 2019), who took the view that future policy should protect and enhance livelihoods and communities through agriculture and fisheries operating in an environmentally sustainable way (Gravey et al., 2017; Stewart & O'Leary, 2017).

3.2.1 | Agri-environment

The EU's CAP, is widely regarded as a sub-optimal policy that while delivering on some goals (intensive food production and stable farm incomes) has led to widespread environmental deterioration (Pe'er et al., 2014; van Zanten et al., 2014; as per Figure 1). Transforming UK's agri-food policy to ensure a sustainable agri-environment future is therefore urgently needed, and the adoption of a new UK Agriculture Bill, and subsequent pieces of devolved agriculture legislation, offers a critical window of opportunity to affect profound policy change. In this regard, some have called for a 'Sustainable Food Security Strategy' (Lang, Millstone, Lewis, & Marsden, 2018). While we agree that embedding sustainability in future policy is of utmost importance, the stakeholders at our workshops were clear that to achieve this outcome, reformed policy should comprise three distinct but interrelated elements:

- A *Land Use Strategy*: in which agriculture is seen as a creative force in the formation of cultural and ecological landscapes, focusing on the provision of ecosystem services, biodiversity and habitat restoration.
- A *Food Strategy*: which emphasizes the quality and welfare of production, the sustainability of farming practices and ensures the best deal for farmers.
- *A Rural Development Strategy*: that supports rural inward investment, business innovation, the diversification of rural economies and rural conservation activities.

This policy vision is underpinned by a nexus approach to policymaking, which emphasizes the importance of the relational interdependencies between resource systems (e.g. Salam, Shrestha, & Pandey, 2017), and forges an integrated vision of social and ecological sustainability grounded in agro–ecological principles (Gliessman, 2011). This vision reflects current global movements towards integrated food systems or 'eco-agri-food systems' (TEEB, 2018) and a 'people, planet and livelihoods' ethos (FAO, 2018). It also echoes calls for the redesign of agricultural systems based on the practices and science of sustainable intensification (Pretty et al., 2018), and provides a means to redirect

environmental practices geared specifically towards the production of ecosystem services to achieve wider sustainability goals (Kremen & Merenlender, 2018; Schröter et al., 2017).

In striving towards these goals, the UK can draw upon best practice from sustainable land management initiatives around the world (UNCCD, 2017) and innovative policies from across the UK that emphasize responsible stewardship, rural–urban interdependence and socio-economic and environmental sustainability, such as the Scottish Land Use Strategy (Scottish Government, 2016) and the Welsh Wellbeing of Future Generations Act (WCVA, 2017). Crucially, larger-scale and longer-term thinking is highlighted in the 25YEP, which also emphasizes integration across both landscapes and supply chains. However, while the 25YEP has lofty ambitions, it remains light on policy detail (Burns, Gravey, & Jordan, 2018). A major fear is that without the EU acting as an external driver, the UK Government's commitment to sustainability will be merely rhetorical and that new policies will not be sufficiently integrated or ambitious. Moreover, competition from global markets in the new post-Brexit trading regime may lead to downward pressure on standards, compromising sustainability (Burns, Gravey, et al., 2018). While the Agriculture Bill is a welcome first step – proposing a Land Use Strategy focused on the delivery of public goods – it is worryingly silent on Rural Development (only considered a policy objective in Wales, not in England) and on food (Lang et al., 2018; Petetin, Dobbs, & Gravey, 2018). Hence, it appears that this first step towards changing agricultural policies after Brexit fails to develop a properly integrated policy that reaches beyond agriculture to encompass wider socio-economic factors.

3.2.2 | Fisheries

The stakeholder analysis revealed unanimous support for sustainability to be at the heart of a new UK management regime (Table 1, Stewart et al., 2019). Likewise, most sectors showed strong support for robust governance, well-enforced management and ecosystem protection (Stewart & O'Leary, 2017, Stewart et al., 2019). Achieving these multiple goals will require an ecosystem approach. Encouragingly, the recent UK Government Fisheries White Paper and Fisheries Bill promotes similar ambitions towards sustainability and an ecosystem approach (HM Government, 2018b; House of Commons, 2018b). However, although now commonly mandated, an ecosystem approach is rarely implemented or practiced effectively (Link et al., 2018), in part due to separation of fisheries and environmental governance and legislation at national and international levels (Stewart & O'Leary, 2017). For example, the EU Habitats Directive is often effectively competing against the CFP (Leijen, 2011). Furthermore, current UK marine environmental legislation is largely based on the Marine and Coastal Access Act (and devolved equivalents), while there is now a separate Fisheries Bill

TABLE 1 Ranking of stakeholder priorities for UK fisheries, seafood and environment post-Brexit, based on stakeholder responses

Sectors priorities	Commercial fisheries	Seafood processors and suppliers	Inshore managers (IFCAs)	Recreational fisheries	Scientists/ academics	Environmental NGOs
Sustainable fisheries	4	4	4	4	4	4
Strong governance and well enforced management	3	4	4	4	4	4
Ecosystem protection	2	2	4	4	4	4
Reformed regional and flexible management	4	2	4	4	3	3
Shared management/collaboration with the EU	2	4	2	3	4	4
Strong and well-funded science	2	3	3	3	4	4
Access to zero/low tariff export markets	3	4	2	2	3	3
Better deal for inshore commercial fisheries	3	2	4	2	3	2
UK exclusive zone inside 12 m	4	2	3	2	2	2
Full control of UK Exclusive Economic Zone	4	2	2	2	2	2
Increased share of quotas	4	2	3	1	2	2
Improved marketing of UK seafood	3	3	3	1	2	2
Replacement of European Maritime Fisheries Fund	3	2	2	1	2	2
Resolution of devolved management issues	2	1	2	1	3	2
Stricter rules on foreign owned vessels	3	1	2	1	2	2
Access to zero/low tariff imports of raw materials	1	4	1	2	2	1
Continued access to EU labour	2	4	1	1	1	1
Better deal for recreational fisheries	1	1	1	4	1	1

Note: Adapted from Stewart and O'Leary (2017). Priorities were scored from 1 (lowest priority/not mentioned) to 4 (highest priority/unanimous agreement). See Section 2 and Table for further details.

to prepare for leaving the CFP upon Brexit (House of Commons, 2018b). The UK Government could be more progressive and combine these different pieces of legislation within the next decade into a new Natural Marine Resources Act covering all activities along our coasts and in our seas (Stewart & O'Leary, 2017). To implement this legislation effectively, the UK will need to develop flexible systems that draw on global best practice, but that are tailored to the unique UK situation (Huggins, Connolly, McAngus, & Zwet, 2018). These could include USA style statutory mandates to follow scientific advice that ensure recovery and sustainability for all stakeholders (Method Jr, Tromble, Lambert, & Greene, 2013), Australian commitments to habitat protection (Grech, Edgar, Fairweather, Pressey, & Ward, 2015), and a Norwegian-like approach that has successfully minimized fisheries discards (Diamond & Beukers-Stewart, 2011). Again, the UK Fisheries Bill provides ambition on all of these fronts, but it lacks detail and implementation and enforcement will be key. For example, the Bill's "discards objective" is to "gradually eliminate discards, on a case-by-case basis, by avoiding and reducing, as far as possible, unwanted catches" (House of Commons, 2018b). This objective will apparently be achieved (in England only) by charging fishermen for unwanted catches. This approach is actually less stringent and comprehensive than the CFP's current landing obligation and suggests that unless its effectiveness is closely monitored the UK may take a backwards step on discards when it does leave the CFP.

There are also further risks. High expectations of increased UK catch opportunities (quota shares) post-Brexit, were highlighted by industry representatives at our workshop (Table 1, Stewart et al., 2019) and also promoted by the Fisheries White Paper (HM Government, 2018b). A hard or no deal Brexit would in theory allow the UK to achieve these goals by unilaterally granting higher quota shares to its fishing fleet. However, there is a high risk of overfishing when there is not strong collaboration and agreement in the management of shared stocks (Carpenter, 2017; Phillipson & Symes, 2018). Moreover, the EU has consistently argued for status quo on quota shares and access to the UK Exclusive Economic Zone, suggesting threats to trade links if the UK pushes for a different approach (Stewart & O'Leary, 2017, see Section 3.5). The current 'Withdrawal Agreement' and 'Draft Political Declaration' only states that the UK and EU will endeavour to reach an agreement on fishing opportunities and access during the transition period, ideally by July 2020 (HM Government, 2018d, 2018e). Given current delays in passing these deals through UK Parliament, it seems certain that an agreement on fisheries will likewise, be further delayed.

Yet, Brexit does provide an opportunity for the UK and EU to work more collaboratively (and in line with international agreements) by, for example, jointly assessing the distribution of North East Atlantic fish stocks and using more evidence-based approaches such as zonal attachment to allocate quotas of shared stocks (Harte, Tiller, Kailis, & Burden, 2019; Pinsky et al., 2018; Stewart & O'Leary, 2017). Climate change-induced shifts in fish distribution will undoubtedly produce increased conflicts over resource use in the future, not just in the North East Atlantic, but also on a global scale (Pinsky et al., 2018). The UK could now provide a model for both sustainable fisheries management and international cooperation that addresses this challenge. It is also essential that the stringent legislation currently protecting EU designated Marine Protected Areas (Special Areas of Conservation and Special Protection Areas) in UK waters be maintained after Brexit (Solandt, Stewart, & Puritz, 2017). Effective enforcement of these rules, for both UK and EU fishing vessels, is crucial for continued delivery of conservation benefits (Stewart & O'Leary, 2017).

3.3 | Policies need to be co-produced: participation, deliberation and devolution

3.3.1 | Co-production – challenges and opportunities

The on-going wrangling between the UK government and the devolved administrations over who has policy competence for environment, fisheries and agriculture policy highlights the political complexities of co-designing policies. The last two decades have clearly demonstrated the importance of broad-scale stakeholder participation in environmental policy and decision-making processes (Mauerhofer, 2016). The message from this literature is clear: stakeholder participation is central to promoting social learning, building institutional accountability and enabling a platform of co-production between engaged actor constituencies (Reed et al., 2010; Voorberg, Bekkers, & Tummers, 2015). However, ensuring effective and timely decision-making in circumstances in which cooperation and deliberation are of uppermost importance can be highly challenging (e.g. Birnbaum, 2016; MacArthur, 2016; Pieraccini, 2015). Despite Defra's rhetorical commitment to co-design, the experience of devolved nations, highlighted by several stakeholders at our workshop (Stewart et al., 2019), has been that they are treated as an afterthought, with limited opportunities for genuine consultation (Burns, Gravey, et al., 2018).

The lack of full Government commitment to co-design is not the only stumbling block, a further impediment to stakeholder engagement is the attenuated timescales of Brexit, which limit opportunities for genuine and meaningful consultation. A key risk as we move inexorably closer to the Brexit deadline is that such consultation will be regarded as a luxury rather than a necessity. This is particularly worrying because enabling public and stakeholder participation is necessary to ensure democratic accountability and legitimacy (e.g. Dryzek, 2006; Eckersley, 2004), which is especially critical to the implementation of key elements of Government's 25YEP. These include the adoption of a Natural Capital Approach for the appraisal of UK's natural assets, and the principle of environmental net gain with regards to land and infrastructure developments. One means of negotiating this issue is to advocate for, and purposely engage in, deliberative processes of decision-making as a means of promoting the widest inclusion of people's value systems within decision and policymaking fora (e.g. Kenter, Bryce, et al., 2016; Kenter, Reed, & Fazey, 2016).

The UK Government has proposed that agricultural and fisheries policies should be underpinned by UK-wide legislative frameworks. However, while many environmental policies would be covered by political frameworks (e.g. air, nature) or full divergence (e.g. water), there is clear concern that environmental governance gaps will emerge across the UK (Brennan, Dobbs, Gravey, & Bhroin, 2018; Burns, Carter, et al., 2018). These varying levels of cooperation are likely to hamper policy integration. This concern is reinforced by evidence demonstrating the implications of different democratic routes that Scotland and Wales follow for future constitutional and legislative divergence across the UK (Mathews, 2018). For Northern Ireland, cooperation is needed not only across the UK, but also with Ireland (in the EU), due to the shared land and maritime border (Gravey et al., 2017; Stewart & O'Leary, 2017). Both the UK and EU have pledged to maintain and strengthen cooperative cross-border policy arrangements established by the Good Friday Agreement (which includes environmental, agricultural and food safety policy), either through the 'Irish backstop' of the Withdrawal Agreement, or by a close future relationship between the UK and the EU which remains to be negotiated.

Despite these practical and political challenges, the UK has some useful initiatives to build on. In the case of the agri-environment, future partnerships can include insights from pioneering UK payments for ecosystem service projects such as the Peatland Carbon Code (IUCN, 2017), as well as current Catchment Based Approaches (Defra, 2013), and the pilot studies for a Results-based Agri-Environment Payment Scheme being trialled by Natural England in Wensleydale and Norfolk (Natural England, 2017). These schemes may facilitate the move to the so-called "public monies for public goods" approach advocated by the 25YEP (HM Government, 2018a). In addition, Defra has established four 'Pioneer Projects' in contrasting landscapes in different regions of the UK to aid the development of the 25YEP and act as test-beds for integrated and inclusive methods of environmental management that could be applied at the national level.

Similarly, for UK fisheries, the priority ought to be enabling greater and more diverse stakeholder involvement, especially in fundamental management decisions such as the redistribution of fishing opportunities, with a goal to reduce environmental impacts but maximise socio-economic benefits (Stewart & O'Leary, 2017; Tiller & Richards, 2018). Giving greater voice to inshore fishing communities, which make up the bulk (approx. 75%) of the UK fleet, is essential, particularly when addressing the current imbalance in fishing quotas (Davies, Williams, Carpenter, & Stewart, 2018; Stewart & O'Leary, 2017). The Fisheries White Paper implies that the inshore fleet will only receive new quota if more is gained from the EU during Brexit negotiations (HM Government, 2018b), while the Fisheries Bill does not provide any obvious mechanism for this to occur (House of Commons, 2018b). As discussed above, a no-deal or hard Brexit may make it easier for the UK to gain extra quota, but if increases were made irresponsibly this would lead to a multitude of detrimental effects that would quickly outweigh any gains. However, our stakeholder informed view is that regardless of the outcome of negotiations with the EU, a re-distribution of fishing rights within the UK is long overdue. Furthermore, given the international nature of fisheries and marine management, especially for the 100 plus fish stocks that the UK shares with the EU and non-EU states such as Norway, relevant stakeholders are not restricted to the UK. Reconciling UK's aspirations for greater independence requires careful negotiation, not just at the highest levels of government, but also amongst fishing industry representatives, NGOs and scientists from across the UK, EU, and other relevant North East Atlantic countries (e.g. through the North East Atlantic Fisheries Commission), to influence decision-making processes (Stewart & O'Leary, 2017).

3.4 | Fairer, appropriate and effective funding

Brexit presents considerable risks to future income among both farming and fishing communities. Developing replacement funding models post-Brexit that are fairer and more effective should therefore be an immediate policy priority. Critically, these new funding models will also need to be compliant with WTO rules. There are also considerable sectoral and regional discrepancies in incomes and levels of support payments across the UK; these differences need to be borne in mind in the development of new funding models (Gravey et al., 2017).

The UK farming income varies significantly by geography and sector. The latest figures for England indicate a mean farm business income across all farming types of £38,000 pa (Defra, 2017), exceeding that of Scotland (£35,400; Scottish Government, 2019) and substantially outstripping Wales (£24,500; Welsh Government, 2017) and Northern Ireland (£21,928; DAERA, 2018). Dairy remains the most profitable farming sector with a mean farm income range across the UK of £68,140 to £119,700, while grazing, especially in least favoured areas, has the lowest farm profitability, ranging from £17,725 to £28,300. However, taken in the round, income averages mask significant degrees of poor farm incomes. Notably, in 2015/16, over half of UK farms earned less than £20,000, with 42% of farms making no profit at all. In addition, many farms are entirely reliant on subsidy-based income; in 2016, for instance, 87% of total UK farm income came from CAP subsidies (Lightfoot et al., 2017). However, the distribution of these subsidies is also highly skewed. For instance, in England in 2016, the top 10% of farms (in terms of farm income) received 47% of the £1.65 billion direct payment budget (approx. £45,000 each), whereas the bottom 20% of farms received only 2% (approx. £2,500 each; Defra, 2018b).

This seemingly counterproductive system is not unique to the UK; but rather, is indicative of the wider global challenge of reforming domestic agricultural support policies that totalled US$228 billion across all OECD countries in 2016 (IFPRI, 2018). The persistence of such subsidies also has negative impacts on the agricultural sectors of low- and middle-income countries, and in the case of the CAP, because Pillar 1 monies sequester 77% of total funds then there is only a small amount available under Pillar 2 to invest in environmental management activities (Devlin & Wheatley, 2017; Helm, 2017). A

funding model that ends the 'welfarization' of agricultural policy, rewards farmers for stewardship of the environment and encourages farm diversification and resilience (Weltin et al., 2017) is essential for long-term environmental sustainability (Hill, 2017; Lightfoot et al., 2017).

The stakeholders at our workshops recognized this and indicated that current income-support models should be replaced with an alternative and progressive system based on provision of public goods (i.e. towards the generation of societal-wide environmental, social, cultural and health benefits) and sectoral research and development and training and skills (Gravey et al., 2017; Lightfoot et al., 2017, Stewart et al., 2019). Both the 25YEP and the Agricultural Bill support this 'public monies for public goods' approach, based around a suite of public goods primarily focused on 'environmental enhancement' (HM Government, 2018a; House of Commons, 2018a). Such an approach to future land management could be designed around a payment for ecosystem services model (Bateman & Balmford, 2018) and a Results-based Agri-Environment Payment Schemes where farmers are paid for producing goods which benefit nature is currently being trialled (see above). However, such a model would need to ensure compliance with WTO rules and be given sufficient and secure levels of funding. In 2017, total subsidies on production in the UK were £3.25 billion, including £2.7 billion in direct payments (Defra et al., 2017). Given this, recent analysis suggests that funding UK's environmental land management priorities will cost at least £2.3 billion per year, activities that could be financed by redirecting monies currently allocated under Pillar 1 of the CAP and complemented by local and regional funds co-financed through public, private and civil society sector partnerships (Rayment, 2017).

However, transitioning to a public goods-based agricultural system will result in both winners and losers (Bateman & Balmford, 2018). In some cases, farm businesses may no longer be viable, whilst for others the changes may provide additional or alternative income streams – increasing on-farm diversification or enabling some farmers (e.g. in Upland areas) to continue to operate in unproductive regions (Gawith & Hodge, 2017). Consequently, the current subsidy regime should be gradually phased out with support arrangements and compensatory payments (where necessary) to aid transition (Lightfoot et al., 2017). Indeed, the UK Government's emerging policy suggests that, in England at least, they will adopt an 'agricultural transition' phase in which farmers will be able to continue to access basic payment scheme funds, probably under tapering conditions. The publication of the UK Government's Agriculture Bill indicates a 7-year transition period beginning from 2021 (House of Commons, 2018a).

From a fisheries perspective, the UK sector has benefited from proportionally smaller, but nonetheless important, levels of subsidies from the European Maritime and Fisheries Fund (EMFF; Stewart & O'Leary, 2017). Previously considered a harmful subsidy, recent EMFF reforms refocused it more towards supporting communities and improving sustainability. Continuing such a model after Brexit would be beneficial. The Fisheries Bill allows for a grant scheme to replace the EMFF, but only for England (House of Commons, 2018b). Further, it does not stipulate the size of the fund, but it does appear to have a wide remit, covering everything from marine conservation to aquaculture and commercial and recreational fishing. A priority should be to further support and develop fisheries–science partnerships to improve knowledge of stocks and marine ecosystems, particularly for data-poor inshore species, and to improve trust between the industry and scientists (Davies et al., 2018, Ford & Stewart, 2019). Financial support for both fisheries and agriculture will need to be carefully targeted and subject to rigorous evaluation of 'value for money' and to avoid unintended negative consequences, for example, on downstream areas on land or food web integrity at sea.

The cost of managing fisheries will increase significantly post-Brexit as the UK takes on tasks previously shared with the EU. There is growing interest in recovering some of these costs through a tax on landings, as occurs in New Zealand (Carpenter, 2017). The Fisheries White Paper and Fisheries Bill suggest that the UK Government may be open to greater cost recovery, but gives little detail (HM Government, 2018b; House of Commons, 2018b). Such a scheme would need to be phased in gradually to reduce the economic impacts on fleets concurrently adapting to other changes post-Brexit. However, in the long term, it would further embed the fishing industry into the science and management regime, and thereby improve compliance with regulations.

3.5 | Compatible and consistent trade arrangements and regulatory systems

The final UK–EU trading relationship has yet to be negotiated, though both sides have acknowledged that they want to maintain a close relationship, especially on trade in goods (HM Government, 2018d). Unsurprisingly, the UK agri-food, fisheries and seafood sectors are heavily integrated with the EU system in terms of markets, supply chains and labour (Bellora, Emlinger, Fouré, & Guimbard, 2017; Gravey et al., 2017; Stewart & O'Leary, 2017). In fact, 60% of UK exports, and 70% of its imports, of food, feed and drink are with the EU (Downing & Coe, 2018). Hence, the nature of the future trading relationship and the levels of tariff and non-tariff barriers that the UK is exposed to after Brexit (see Box 1) will have significant implications for jobs, profitability and the continued operation of those sectors (Hubbard et al., 2018; Jafari & Britz, 2018; Lightfoot et al., 2017). Recent economic modelling suggests that across different Brexit scenarios, from various free trade agreement options to no deal, social welfare losses from −2.63% to −4.78% are incurred (Jackson & Shepotylo, 2018). Further analysis suggests that the UK economy may shrink by 2.3%, with EU exports to, and imports from, the UK in the agri-food sector likely to both decline by 62% in value (Bellora et al., 2017).

This is no small matter as the agri-food sector is worth approximately £108 billion of GVA (Gravey et al., 2017). The future trading partnership also has significant implications for food security and

labour availability. Changes in the balance of UK's food import/export arrangements and its level of self-sufficiency (in 2017 the UK was only 60% self-sufficient across all foods; we import ~85% of our fruit; Defra et al., 2017; Lang et al., 2018) could result in differential impacts across farming sectors and increasing food prices (AHDB, 2019; Downing & Coe, 2018; Lang et al., 2018). Moreover, UK's agricultural and food-processing sectors are heavily dependent on EU migrant labour. For example, 98% of the 80,000 seasonal workforce in horticulture are from EU Member States, and Brexit already seems to be having an impact with a 17% reduction in seasonal workers in 2017 (Downing & Coe, 2018).

The trade implications for fisheries and the seafood processing industry may be equally as stark: the seafood processing industry has an annual turnover of over £3 billion and employs over 13,500 FTEs, including a significant proportion from the EU (Seafish, 2017; Stewart & O'Leary, 2017). Key players in the UK seafood processing and retail sectors have publicly stressed the reputational importance of maintaining standards in fisheries management and seafood production after Brexit (WWF, 2018). Securing sector-friendly trade deals is therefore critical for future UK economic prosperity and food security. In this respect, a hard or no-deal Brexit could be very damaging (Gravey et al., 2017; Stewart & O'Leary, 2017; Symes & Philipson, 2019). For example, assuming reciprocal arrangements, the imposition of World Trade Organisation rules under a no-deal Brexit would result in tariffs of 7.5% to 24% on seafood exported to the EU (Seafish, 2019a). Perhaps more significantly, additional paperwork and quarantine checks (non-tariff measures) imposed under this scenario would likely delay the actual process of export, degrading the quality and therefore price of seafood, which is often sold fresh or even alive (Seafish, 2019b).

New analysis demonstrates the substantial risks posed to key environment policy areas such as habitats, birds, water and nitrates through to agri-environment, food and welfare and fisheries and marine protection by different post-Brexit policy scenarios (Burns, Gravey, et al., 2018). Outside the EU, the UK will have to meet a range of product standards to trade with the EU, while simultaneously facing pressure to lower those standards to be competitive in other markets. Our stakeholders generally agreed on the need to avoid a 'race to the bottom' and that maintaining high environmental protections and animal welfare standards ought to be a priority (Gravey et al., 2017, Stewart et al., 2019).

3.6 | Framework for a Stakeholder-led Vision

Based on our analysis of stakeholder perspectives, policy developments and the wider literature, we have developed a framework for delivering our 'Stakeholder-led Vision' (Figure 2). The framework proposes an integrated approach to policy development across agri-environment, fisheries and marine policy sectors, leading to a bundle of benefits that underpin a vision for sustainable prosperity. This integrated approach is based on a five-pillar platform financed

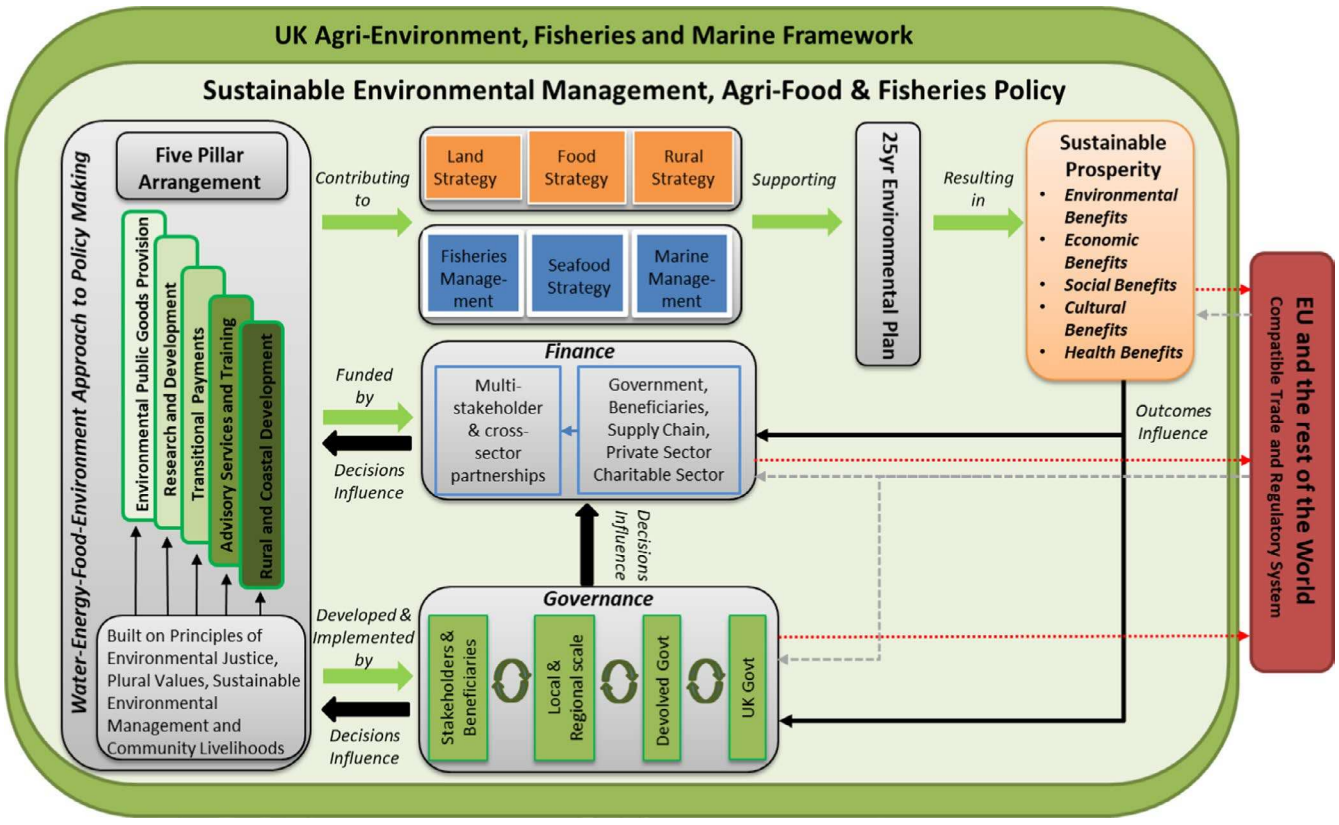

FIGURE 2 Post-Brexit UK-wide vision for a sustainable environmental policy framework. Adapted from (Gravey et al., 2015)

through a combination of public, private and charitable sector partnerships. The governance that supports this new policy arrangement is built on multi-stakeholder decision-making across local, regional and devolved administrations to ensure more locally appropriate and informed policymaking and management.

What are the implications of different Brexit outcomes for realizing this stakeholder-led vision? At one level, given the government's rhetorical commitment to delivering a 'green' Brexit and moving to a public money for public goods ethos to underpin agricultural farm payments, the vision should be realizable under all versions of Brexit. However, as our discussion illustrates, the no-deal scenario poses particular issues. First, it may result in pressure for the UK to enter into trade agreements with countries that require the UK to lower its welfare and food production standards with negative implications for both domestic producers and the environment. Second, there is widespread agreement that a no-deal Brexit will lead to a decline in economic growth – under those circumstances the resources and political will required to realize this stakeholder-led vision may be in short supply.

4 | CONCLUSIONS

Our analysis has provided lessons for reform of agricultural and fisheries management both in the UK and other areas of the world to enhance their future sustainability and resilience, particularly important in the face of the increasing vulnerability due to climate change. We argue that post-Brexit environmental policy should encourage deliberative processes of engagement to create representative and workable multi-stakeholder and cross-sector partnerships (Wildlife & Countryside LINK, 2017). These partnerships will be essential if the 25YEP is to meet the considerable challenge of securing 'the right mix of public and private funding and financing for projects that protect and enhance natural assets' and to meet the stated aim of 'public money for public goods' (HM Government, 2018a; House of Commons, 2018a).

Even though our stakeholders came from different backgrounds and represented different groups, there was a high level of consensus that Brexit could, in principle, deliver a sustainable future for agricultural and fisheries policies, at least in the longer-term. Their view underpins our recommendations to provide a roadmap for a shared and sustainable vision for a post-Brexit environmental policy. The UK has a rare opportunity to rewrite the rulebook to focus on effective agricultural, environmental and fisheries management, and in doing so to deliver on the Government's stated ambition to become a world leader in these spheres. We suggest that environmental sustainability, an ecosystem approach, explicit recognition of public goods provision, and social welfare should be at the heart of UK environmental policy post-Brexit. Collectively, these priorities will fundamentally improve UK's ability to achieve sustainable prosperity and meet its international environmental commitments. With stakeholders central to the management of environmental resources, we believe our findings demonstrate the value of "bottom-up" approaches in kick-starting more environmentally sustainable agricultural and fisheries policies. Here, we have laid out the processes for achieving this vision, including how emerging UK policy needs to be developed and adapted.

At the same time, we recognize that achieving this vision will not necessarily be straightforward, and indeed, reaching such an outcome cannot be assumed, but must be purposely sought. Clearly, the stakeholder-informed vision we have developed throughout this paper is highly contingent on broad-scale macro-factors such as UK's geopolitical and economic and trade position following the conclusion of the Brexit negotiations, as well as micro-factors such as the impacts of Brexit on the viability of different agricultural and fisheries sectors and the way in which Defra designs and implements the policies underpinning the 25YEP. The current uncertainty over the nature and timing of UK's Brexit agreement hinders forward planning and investment while diverting attention away from further in-depth consideration of environmental sustainability. In the face of this uncertainty, much of UK's new policy on the environment, agriculture and fisheries is therefore ambitious in vision but light on detail. Full commitment to co-production of policy with the devolved nations and stakeholders also appears to be lacking, but will be essential for effective policy development and implementation. Ultimately, achieving a set of outcomes that moves beyond the unsustainability of the past, promotes stakeholder democratic accountability, enhances livelihoods, delivers fairer funding models and pro-environmental and animal welfare trade policies, requires the UK to move beyond the current state of uncertainty towards a vision that all of society can recognize and invest in.

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CONFLICT OF INTEREST

The authors do not have any conflict of interest to declare.

AUTHORS' CONTRIBUTIONS

B.D.S. and C.B. conceived the ideas and led the design of the methodology. All authors helped collect the data; B.D.S., C.B., V.G. and A.P.H. analysed the data. B.D.S., C.B., A.P.H., V.G. and S.E.H. led the writing of different components of the manuscript. All authors contributed critically to full drafts and gave final approval for publication.

DATA AVAILABILITY STATEMENT

Data used in this study have been deposited in the Dryad Digital Repository https://doi.org/10.5061/dryad.8g69b06 (Stewart et al., 2019).

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REFERENCES

AHDB. (2019). Market intelligence: Brexit prospects for UK agri-food trade. Agriculture and Horticulture Development Board. Retrieved from https://ahdb.org.uk/knowledge-library/brexit-prospects-for-uk-agri-food-trade

Allanson, P., Kasprzyk, K., & Barnes, A. P. (2017). Income mobility and income inequality in Scottish agriculture. *Journal of Agricultural Economics*, *68*, 471–493. https://doi.org/10.1111/1477-9552.12192

Bateman, I. J., & Balmford, B. (2018). Public funding for public goods: A post-Brexit perspective on principles for agricultural policy. *Land Use Policy*, *79*, 293–300. https://doi.org/10.1016/j.landusepol.2018.08.022

Bellora, C., Emlinger, C., Fouré, J., & Guimbard, H. (2017). *UK agricultural trade: State of play and possible impacts of Brexit* (Research for AGRI Committee, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels, 2017).

Birnbaum, S. (2016). Environmental co-governance, legitimacy, and the quest for compliance: When and why is stakeholder participation desirable? *Journal of Environmental Policy and Planning*, *18*, 306–323. https://doi.org/10.1080/1523908X.2015.1077440

Brennan, C., Dobbs, M., Gravey, V., & Bhroin, A. U. (2018). *Policy paper: The future of environmental governance in Northern Ireland* (ESRC UK in a Changing Europe programme, part of the Brexit & Environment Project). Retrieved from https://www.brexitenvironment.co.uk/download/4083/

Burns, C., Carter, N., Cowell, R., Eckersley, P., Farstad, F., Gravey, V., …Reid, C. (2018). Environmental policy in a devolved United Kingdom: Challenges and opportunities after Brexit. Retrieved from https://www.brexitenvironment.co.uk/wp-content/uploads/2018/10/BrexitEnvUKReport.pdf

Burns, C., Gravey, V., & Jordan, A. (2018). UK environmental policy post-Brexit: A risk analysis (A Report Commissioned by Friends of the Earth England, Wales and Northern Ireland, 2018). Retrieved from https://www.brexitenvironment.co.uk/wp-content/uploads/2018/04/Environment-and-Brexit-Risk-Analysis-C-Burns-Et-al-2018.pdf

Carpenter, C. (2017). Not in the same boat: The economic impact of Brexit across UK fishing fleets, New Economics Foundation. Retrieved from https://neweconomics.org/2017/11/not-in-the-same-boat

DAERA. (2018). *Farm incomes in Northern Ireland 2016/17*. CAP Policy, Economics and Statistical Division. Department of Agriculture, Environment and Rural Affairs.

Davies, P., Williams, C., Carpenter, G., & Stewart, B. D. (2018). Does size matter? Assessing the use of vessel length to manage fisheries in England. *Marine Policy*, *97*, 202–210. https://doi.org/10.1016/j.marpol.2018.06.013

Defra. (2013). Catchment based approach: Improving the quality of our water environment. A policy framework to encourage the wider adoption of an integrated Catchment Based Approach to improving the quality of our water environment. Department for Food, Environment and Rural Affairs. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/204231/pb13934-water-environment-catchment-based-approach.pdf

Defra. (2017). *Figure farm accounts in England – Results from the farm business survey 2016/17*. Department for Environment, Food and Rural Affairs.

Defra. (2018a). Environmental principles and governance after the United Kingdom leaves the European Union: Consultation on environmental principles and accountability for the environment. Department of Environment, Food and Rural Affairs. Retrieved from https://www.gov.uk/government/consultations/environment-developing-environmental-principles-and-accountability

Defra. (2018b). *The future farming and environment evidence compendium*. Department of Environment, Food and Rural Affairs.

Defra, DAERA (Northern Ireland), Welsh Assembly, Department for Rural Affairs and Heritage, Scottish Government, Rural and Environment Science and Analytical Services. (2017). Agriculture in the United Kingdom. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/741062/AUK-2017-18sep18.pdf

Devlin, S., & Wheatley, H. (2017). Agricultural subsidies in the UK after Brexit: A progressive solution. A report written by the New Economics Foundation and commissioned by Global Justice Now. London.

Diamond, B., & Beukers-Stewart, B. D. (2011). Fisheries discards in the North Sea: Waste of resources or a necessary evil? *Reviews in Fisheries Science*, *19*, 231–245. https://doi.org/10.1080/10641262.2011.585432

Díaz, S., Pascual, U., Stenseke, M., Martín-López, B., Watson, R. T., Molnár, Z., … Shirayama, Y. (2018). Assessing nature's contributions to people. *Science*, *359*, 270–272. https://doi.org/10.1126/science.aap8826

Díaz, S., Settele, J., Brondízio, E., Ngo, H. T., Guèze, M., Agard, J., … Chan, K.(2019). Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. Retrieved from https://www.ipbes.net/sites/default/files/downloads/spm_unedited_advance_for_posting_htn.pdf

Downing, E., & Coe, S. (2018). *Brexit: Future UK agriculture policy* (Briefing Paper No. 8218, House of Commons Library).

Dryzek, J. S. (2006). *Deliberative global politics: Discourse and democracy in a divided world*. Cambridge, UK: Polity.

Eckersley, R. (2004). *The green state: Rethinking democracy and sovereignty*. Cambridge, MA: MIT Press.

Environmental Audit Committee. (2017) *The future of the natural environment after the EU Referendum*, (Sixth Report of Session 2016–2017, House of Commons). Retrieved from https://publications.parliament.uk/pa/cm201617/cmselect/cmenvaud/599/599.pdf

European Commission. (2017). *The future of food and farming*. Communication from the Commission of the European Parliament, The Council, the European Economic and Social Committee and Committee of the Regions, European Commission.

FAO. (2014). *Building a common vision for sustainable food and agriculture: Principles and approaches*. Rome, Italy: Food and Agriculture Organization of the United Nations.

FAO. (2018). *FAO's Work on Agroecology: A Pathway to Achieving the SDGs*. Rome: FAO.

Fernandes, P. G., Ralph, G. M., Nieto, A., García Criado, M., Vasilakopoulos, P., Maravelias, C. D., … Carpenter, K. E. (2017). Coherent assessments

of Europe's marine fishes show regional divergence and megafauna loss. *Nature Ecology and Evolution*, *1*, 0170. https://doi.org/10.1038/s41559-017-0170

Ford, E., & Stewart, B. D. (2019). Building a bridge over troubled waters: An analysis of fishers' trust in UK fisheries management. Marine Ecosystem Management Report no. 6, University of York, pp. 7. Retrieved from http://eprints.whiterose.ac.uk/14 8186/1/Fishermen_and_T rust_Summary_Report_FINAL.pdf

Galbraith, E. D., Carozza, D. A., & Bianchi, D. (2017). A coupled human-Earth model perspective on long-term trends in the global marine fishery. *Nature Communications*, *8*, 14884. https://doi.org/10.1038/ncomms14884

Gawith, D., & Hodge, I. (2017). *Envisioning a British ecosystem service policy* (Policy Brief for the University of Cambridge Centre for Science and Policy Workshop, University of Cambridge).

Gemmill-Herren, B. (Ed.). (2016). *Pollination services to agriculture: Sustaining and enhancing a key ecosystem service*. Abingdon, UK: Routledge.

Gliessman, S. (2011). Transforming food systems to sustainability with agroecology. *Journal of Sustainable Agriculture*, *35*, 823–825. https://doi.org/10.1080/10440046.2011.611585

Gravey, V., Brown, I., Farstad, F., Hartley, S. E., Hejnowicz, A. P., Hicks, K., & Burns, C. (2017). Post-Brexit policy in the UK: A new dawn? Agri-environment. Retrieved from https://www.york.ac.uk/media/yesi/yesioldwebsite/researchoutputs/Brexit%20Agri-Environment%20Brief.pdf

Grech, A., Edgar, G., Fairweather, P., Pressey, R. L., & Ward, T. (2015). Australian marine protected areas. In A. Stow, N. Maclean, & G. I. Holwell (Eds.), *Austral ark: The state of wildlife in Australia and New Zealand* (pp. 582–599). Cambridge, UK: Cambridge University Press.

Greenpeace. (2018). *Revealed: The millionaires hoarding UK fishing rights*. Retrieved from https://unearthed.greenpeace.org/2018/10/11/fishing-quota-uk-defra-michael-gove/

Harte, M., Tiller, R., Kailis, G., & Burden, M. (2019). Countering a climate of instability: The future of relative stability under the Common Fisheries Policy. *ICES Journal of Marine Science*, https://doi.org/10.1093/icesjms/fsz109

Helm, D. (2017). Agriculture after Brexit. *Oxford Review of Economic Policy*. 33(suppl_1) S124–S133.

Hill, B. (2017). The United Kingdom's domestic policy for agriculture after Brexit. *EuroChoices*, *16*, 18–22. https://doi.org/10.1111/1746-692X.12158

HM Government. (2018a). A green future: Our 25 year plan to improve the environment. HM Government report. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/673203/25-year-environment-plan.pdf

HM Government. (2018b). Sustainable fisheries for future generations. HM Government report. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/722074/fisheries-wp-consult-document.pdf

HM Government. (2018c). *The future relationship between the United Kingdom and the European Union*. HM Government. Retrieved from https://www.gov.uk/government/publications/the-future-relationship-between-the-united-kingdom-and-the-european-union

HM Government. (2018d). Draft Agreement on the withdrawal of the United Kingdom of Great Britain and Northern Ireland from the European Union and the European Atomic Energy Community. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/756374/14_November_Draft_Agreement_on_the_Withdrawal_of_the_United_Kingdom_of_Great_Britain_and_Northern_Ireland_from_the_European_Union.pdf

HM Government. (2018e) Draft Political Declaration setting out the framework for the future relationship between the United Kingdom and the European Union. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/758557/22_November_Draft_Political_Declaration_setting_out_the_framework_for_the_future_relationship_between_the_EU_and_the_UK__agreed_at_negotiators__level_and_agreed_in_principle_at_political_level__subject_to_endorsement_by_Leaders.pdf

House of Commons. (2018a). *Agricultural Bill 2018*. The House of Commons. Retrieved from https://publications.parliament.uk/pa/bills/cbill/2017-2019/0266/18266.pdf

House of Commons. (2018b). *Fisheries Bill 2018*. The House of Commons. Retrieved from https://publications.parliament.uk/pa/bills/cbill/2017-2019/0278/18278.pdf

Hubbard, C., Davis, J., Feng, S., Harvey, D., Liddon, A., Moxey, A., … Wallace, M. (2018). Brexit: How will UK agriculture fare? *EuroChoices*, *17*, 19–26. https://doi.org/10.1111/1746-692X.12199

Huggins, C., Connolly, J., McAngus, C., & van der Zwet, A. (2018). Brexit and the future of UK fisheries governance: Learning lessons from Iceland, Norway and the Faroe Islands. *Contemporary Social Science*, *14*(2), 327–340. https://doi.org/10.1080/21582041.2018.1516296

IFPRI. (2018). *Global food policy report*. Retrieved from http://www.ifpri.org/publication/2018-global-food-policy-report

Isaac, N. J. B., Brotherton, P. N. M., Bullock, J. M., Gregory, R. D., Boehning-Gaese, K., Connor, B., … Mace, G. M. (2018). Defining and delivering resilient ecological networks: Nature conservation in England. *Journal of Applied Ecology*, *55*, 2537–2543. https://doi.org/10.1111/1365-2664.13196

IUCN. (2017). Peatland Code v1.1. Peatland Programme. IUCN National Committee United Kingdom. Retrieved from https://www.iucn-uk-peatlandprogramme.org/

Jackson, K., & Shepotylo, O. (2018). Post-Brexit trade survival: Looking beyond the European Union. *Economic Modelling*, *73*, 317–328. https://doi.org/10.1016/j.econmod.2018.04.010

Jafari, Y., & Britz, W. (2018). Brexit: an economy-wide impact assessment on trade, immigration, and foreign direct investment. *Empirica*, https://doi.org/10.1007/s10663-018-9418-6

Kenter, J. O., Bryce, R., Christie, M., Cooper, N., Hockley, N., Irvine, K. N., … Watson, V. (2016). Shared values and deliberative valuation: Future directions. *Ecosystem Services*, *21*, 358–371. https://doi.org/10.1016/j.ecoser.2016.10.006

Kenter, J. O., Reed, M. S., & Fazey, I. (2016). The deliberative value formation model. *Ecosystem Services*, *21*, 194–207. https://doi.org/10.1016/j.ecoser.2016.09.015

Khalilian, S., Froese, R., Proelss, A., & Requate, T. (2010). Designed for failure: A critique of the common fisheries policy of the European Union. *Marine Policy*, *34*, 1178–1182. https://doi.org/10.1016/j.marpol.2010.04.001

Kleijn, D., Rundlöf, M., Scheper, J., Smith, H. G., & Tscharntke, T. (2011). Does conservation on farmland contribute to halting the biodiversity decline? *Trends in Ecology and Evolution*, *26*, 474–481. https://doi.org/10.1016/j.tree.2011.05.009

Kremen, C., & Merenlender, A. M. (2018). Landscapes that work for biodiversity and people. *Science*, *362*, eaau6020. https://doi.org/10.1126/science.aau6020

Lang, T., Millstone, E., Lewis, T., & Marsden, T. (2018). *Feeding Britain: Food security after Brexit*. Food Research Collaboration Food Brexit Briefing.

Lawton, J. H., Brotherton, P. N. M., Brown, V. K., Elphick, C., Fitter, A. H., Forshaw, J., …Wynne, G. R. (2010). Making space for nature: A review of England's wildlife sites and ecological network. Report to the Department of Environment, Food and Rural Affairs.

Leijen, J. (2011). The habitats and birds directives versus the common fisheries policy: A paradox. *Merkourios*, *27*, 19–45. https://doi.org/10.5334/ujiel.ao

Leviston, A., Walker, I., Green, M., & Price, J. (2018). Linkages between ecosystem services and human wellbeing: A nexus webs approach.

Ecological Indicators, *83*, 658–668. https://doi.org/10.1016/j.ecoind.2018.05.052

Lightfoot, W., Burke, J., Craig-Harvey, N., Dupont, J., Howard, R., Lowe, R., … Taylor, M. (2017). *Farming tomorrow: British agriculture after Brexit*. London, UK: Policy Exchange. Retrieved from https://policyexchange.org.uk/wp-content/uploads/2017/07/Farming_Tomorrow.pdf

Link, J. S., Dickey-Collas, M., Rudd, M., McLaughlin, R., Macdonald, N. M., Thiele, T., … Rae, M. (2018). (2018) Clarifying mandates for marine ecosystem-based management. *ICES Journal of Marine Science*, *76*(1), 41–44. https://doi.org/10.1093/icesjms/fsy169

Lubchenco, J., & Grorud-Colvert, K. (2015). Making waves: The science and politics of ocean protection. *Science*, *50*, 382–383. https://doi.org/10.1126/science.aad5443

MacArthur, J. L. (2016). Challenging public engagement: Participation, deliberation and power in renewable energy policy. *Journal of Environmental Studies and Sciences*, *6*, 631–640. https://doi.org/10.1007/s13412-015-0328-7

Mathews, F. (2018). Does decentralisation make a difference? Comparing the democratic performance of central and regional governing systems in the United Kingdom. *The British Journal of Politics and International Relations*, *20*, 341–359. https://doi.org/10.1177/1369148117737519

Mauerhofer, V. (2016). Public participation in environmental matters: Compendium, challenges and chances globally. *Land Use Policy*, *52*, 481–491. https://doi.org/10.1016/j.landusepol.2014.12.012

Method, R. D. Jr, Tromble, G. R., Lambert, D. M., & Greene, K. E. (2013). Implementing a science-based system for preventing overfishing and guiding sustainable fisheries in the United States. *ICES Journal of Marine Science*, *71*, 183–194.

Natural England. (2017). Results-Based Agri-environment Payment Scheme (RBAPS) pilot study in England. Retrieved from https://www.gov.uk/government/publications/results-based-agri-environment-payment-scheme-rbaps-pilot-study-in-england

O'Leary, B. C., Winther-Janson, M., Bainbridge, J. M., Aitken, J., Hawkins, J. P., & Roberts, C. M. (2016). Effective coverage targets for ocean protection. *Conservation Letters*, *9*, 398–404. https://doi.org/10.1111/conl.12247

Pe'er, G., Dicks, L. V., Visconti, P., Arlettaz, R., Baldi, A., Benton, T. G., … Scott, A. V. (2014). EU agricultural reform fails on biodiversity. *Science*, *344*, 1090–1092. https://doi.org/10.1126/science.1253425

Petetin, L., Dobbs, M., & Gravey, V. (2018). *Evidence to House of Commons EFRA Committee Inquiry on the Agriculture Bill*. London, UK: House of Commons. Retrieved from http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environment-food-and-rural-affairs-committee/scrutiny-of-the-agriculture-bill/written/91290.html

Phillipson, J., & Symes, D. (2018). 'A sea of troubles': Brexit and the fisheries question. *Marine Policy*, *90*, 168–173.

Pieraccini, M. (2015). Rethinking participation in environmental decision-making: Epistemologies of marine conservation in South-East England. *Journal of Environmental Law*, *27*, 45–67. https://doi.org/10.1093/jel/equ035

Pinsky, M. L., Reygondeau, G., Caddell, R., Palacios-Abrantes, J., Spijkers, J., & Cheung, W. W. L. (2018). Preparing ocean governance for species on the move. *Science*, *360*, 1189–1191. https://doi.org/10.1126/science.aat2360

Prellezo, R., & Curtin, R. (2015). Confronting the implementation of marine ecosystem-based management within the Common Fisheries Policy reform. *Ocean & Coastal Management*, *117*, 43–51.

Pretty, J., Benton, T. G., Bharucha, Z. P., Dicks, L. V., Flora, C. B., Godfray, H. C. J., … Wratten, S. (2018). Global assessment of agricultural system redesign for sustainable intensification. *Nature Sustainability*, *1*, 441–446. https://doi.org/10.10138/s41893-018-0114-0

Pretty, J., & Bharucha, Z. P. (2014). Sustainable intensification in agricultural systems. *Annals of Botany*, *114*, 1571–1596. https://doi.org/10.1093/aob/mcu205

Rayment, M. (2017). *Assessing the costs of environmental land management in the UK*. (A Report for the RSPB, the National Trust and The Wildlife Trusts).

Reed, M. S., Evely, A. C., Cundill, G., Fazey, I., Glass, J., Laing, A., … Stringer, L. C. (2010). What is social learning? *Ecology and Society*, *15*(4), r1. https://doi.org/10.5751/ES-03564-1504r01

Rockström, J., Williams, J., Daily, G., Noble, A., Matthews, N., Gordon, L., … Smith, J. (2017). Sustainable intensification of agriculture for human prosperity and global sustainability. *Ambio*, *46*, 4–17. https://doi.org/10.1007/s13280-016-0793-6

Sachs, J. (2015). *The age of sustainable development*. New York, Columbia University Press.

Salam, A. P., Shrestha, S., & Pandey, V. P. (Eds.). (2017). *Water-energy-food nexus: Principles and practices*. New Jersey, John Wiley & Sons Inc.

Salomon, M., Markus, T., & Dross, M. (2014). Masterstroke or paper tiger –The reform of the EU's Common Fisheries Policy. *Marine Policy*, *47*, 76–84. https://doi.org/10.1016/j.marpol.2014.02.001

Schröter, M., Stumpf, K. H., Loos, J., van Oudenhoven, A. P. E., Böhnke-Henrichs, A., & Abson, D. J. (2017). Refocusing ecosystem services towards sustainability. *Ecosystem Services*, *35*, 35–43. https://doi.org/10.1016/j.ecoser.2017.03.019

Scottish Government. (2016). Getting the best from our land: A land use strategy for Scotland 2016-2012. Scottish Government. Retrieved from https://www.gov.scot/Resource/0050/00505253.pdf

Scottish Government. (2019). *Scottish farm business income estimates 2017–18*. A National Statistics publication for Scotland. The Scottish Government. Retrieved from https://www.gov.scot/publications/scottish-farm-business-income-estimates-2017-18/

Seafish. (2017). *Quay issues: 2016 economics of the UK fishing fleet*. Seafish Report No. SR707. Seafish Economics.

Seafish. (2019a). *Temporary rates of customs duty on seafood imports after EU Exit*. Retrieved from https://www.seafish.org/article/temporary-rates-of-customs-duty-on-seafood-imports-after-eu-exit

Seafish. (2019b). *EU exit related trade challenges: UK shellfish exporters*. Retrieved from https://www.seafish.org/media/WTO_Shellfish_exporters_FINAL.PDF

Solandt, J.-L., Stewart, B., & Puritz, A. (2017). *Perspective: What does Brexit mean for UK MPAs?* MPA News. Retrieved from https://mpanews.openchannels.org/news/mpa-news/perspective-what-does-brexit-mean-uk-mpas

Sorrentino, A., & Henke, R. (Eds.). (2011). *The common agricultural policy after the fischler reform: National implementations, impact assessment and the agenda for future reforms*. London, UK: Routledge.

Stewart, B. D., Burns, C., Hejnowicz, A. P., Gravey, V., O'Leary, B. C., Hicks, K., … Hartley, S. E. (2019). Data from: Making Brexit work for the environment and livelihoods: Delivering a stakeholder informed vision for agriculture and fisheries. *Dryad Digital Repository*, https://doi.org/10.5061/dryad.8g69b06

Stewart, B. D., & O'Leary, B. C. (2017). Post-Brexit policy in the UK: A new dawn? Fisheries, seafood and marine environment. Retrieved from https://www.york.ac.uk/media/yesi/yesioldwebsite/researchoutputs/Brexit%20Fisheries%20Brief.pdf

Symes, D., & Phillipson, J. (2019). 'A sea of troubles'(2): Brexit and the UK seafood supply chain. *Marine Policy*, *102*, 5–9.

TEEB. (2018). *TEEB for agriculture & food: Scientific and economic foundations*. Geneva, Switzerland: UN Environment.

Tiller, R., & Richards, R. (2018). Ocean futures: Exploring stakeholders' perceptions of adaptive capacity to changing marine environments

in Northern Norway. *Marine Policy*, *95*, 227–238. https://doi.org/10.1016/j.marpol.2018.04.001

UNCCD. (2017). *Global land outlook* (Fifth edn.). Bonn, Germany: Secretariat of the United Nations Convention to Combat Desertification.

van Zanten, B. T., Verburg, P. H., Espinosa, M., Gomez-y-Paloma, S., Galimberti, G., Kantelhardt, J., … Viaggi, D. (2014). European agricultural landscapes, common agricultural policy and ecosystem services: A review. *Agronomy and Sustainable Development*, *34*, 309–325. https://doi.org/10.1007/s13593-013-0183-4

Vince, G. (2014). *Adventures in the Anthropocene: A journey to the heart of the planet we made*. London, Chatto & Windus.

Voorberg, W. H., Bekkers, V. J. J. M., & Tummers, L. G. (2015). A systematic review of co-creation and co-production: Embarking on the social innovation journey. *Public Management Review*, *17*(9), 1333–1357. https://doi.org/10.1080/14719037.2014.930505

WCVA. (2017). *The goals of the wellbeing of Future Generations (Wales) Act 2015*. Cardiff, Wales: Wales Council for Voluntary Action. Retrieved from https://www.wcva.org.uk/media/5636168/the_goals_of_the_wellbeing_of_future_generations__wales__act_2015.pdf

Welsh Government. (2017). *Farm incomes in Wales*, *2016–17*. Statistical First Release. Statistics for Wales.

Weltin, M., Zasada, I., Franke, C., Piorr, A., Raggi, M., & Viaggi, D. (2017). Analyzing behaviour differences of farm households: An example of income diversification strategies based on European farm survey data. *Land Use Policy*, *62*, 172–184.

Wildlife and Countryside LINK. (2017). "A future sustainable farming and land management policy for England". A Wildlife and Countryside Link discussion paper. Retrieved from https://www.salmon-trout.org/wp-content/uploads/2018/08/WCL-Sustainable-Farming-Briefing-Sept17.pdf

WWF. (2018). *"Delivering sustainable UK seafood"*, World Wide Fund for Nature. Retrieved from https://www.directseafoods.co.uk/wp-content/uploads/pdf/delivering-sustainable-uk-seafood-industry-statement.pdf

SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

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