www.water-alternatives.org Volume 8 | Issue 1

Whaley, L. and Weatherhead, E.K. 2014. Power-Sharing in the English lowlands? The political economy of farmer participation and cooperation in water governance.
Water Alternatives 8(1): 820-843

Power-Sharing in the English Lowlands? The Political Economy of Farmer Participation and Cooperation in Water Governance

Luke Whaley

Cranfield Water Science Institute, Cranfield University, Cranfield, Bedfordshire, UK; l.whaley@cranfield.ac.uk

Edward K. Weatherhead

Cranfield Water Science Institute, Cranfield University, Cranfield, Bedfordshire, UK;
k.weatherhead@cranfield.ac.uk

ABSTRACT: Participatory and cooperative forms of water governance have become regular features of government discourse and stated policy objectives in England. We consider this aspiration from the perspective of farmers in the English lowlands, by analysing the current power dynamic that exists among these farmers, and between them and the key stakeholders involved in water management. To do this we undertake a political economy analysis that places lowland farming and water governance within the evolution of historical processes that, over time, have influenced the ability of farmers to participate in the governance of their water environment. These historical developments are interpreted through the lens of the Power Cube, an analytical tool for thinking about the interplay between different forms of power operating in different types of spaces and at different levels of governance. Our findings reveal that, despite there being a number of structural changes that provide lowland farmers with the opportunity to participate and cooperate in water governance, three distinct barriers stand in the way. These relate to the power 'within' these farmers, which continues to align with a productivist ideology founded on individualism and competition, often at the expense of the environment; the power that government water managers still exercise 'over' farmers instead of 'with' them; and the relationship between lowland farming and environmental interests, where historically the two sides' power 'to' act has been diametrically opposed. The findings point to the importance of developing suitable programmes designed to support and incentivize farmer participation and cooperation.

KEYWORDS: Power Cube, participation and cooperation, water governance, farming, lowland England

INTRODUCTION

In England, as elsewhere, the challenge of managing the water environment in the face of competing demands is often complex and uncertain (Wallace et al., 2003; Pahl-wostl et al., 2007; Fish et al., 2010). Added to this is a growing list of future pressures – climate change, population growth, shifting lifestyle preferences – that threaten to exacerbate the situation (Collins and Ison, 2009; Weatherhead and Howden, 2009; Barker and Turner, 2011). As a result, the dominant management discourse of the 20th century is being revised, with much greater emphasis now placed on enhancing resilience and adaptive capacity (DEFRA, 2008; DEFRA, 2011a). In particular, there is a growing awareness of the need to move beyond centralised, bureaucratic, and technocratic forms of governance (Hodge, 2007; DEFRA, 2013a), to recognise the politicised nature of water use (Watson, 2005), and to appreciate the intrinsic value of freshwater ecosystems (DEFRA, 2011b). Part of this change in emphasis has entailed a focus on developing more participatory and cooperative forms of water governance. This is reflected, for example, in the European Union (EU) Water Framework Directive (2000/60/EC), which makes room for

the 'active involvement' of all 'interested parties' and 'the public, including water users', and in newly instigated national water programmes, such as the Catchment Based Approach.

The success of people-centred approaches to water governance requires the participation and cooperation of farmers. Farming covers almost 70% of England, and has the potential to significantly damage or improve the water environment, for example through pollution, physical modification, and water abstraction (Strosser et al., 1999). The low-lying areas of England, situated predominantly in the south and east of the country, have witnessed the biggest changes to agriculture in modern times and it is here that the water environment is under most pressure from a combination of these threats. Yet normative claims to develop pluralistic forms of environmental governance often fail to take into account the difficulties: there are no panaceas when it comes to developing water institutions (Meinzen-Dick, 2007). Instead, attention must be given to the appropriateness of the intended approach in light of the particular institutional, cultural and historical context (Wesselink et al., 2011), which tends to be more important than the 'purity' of the approach itself (McCay, 2002; Ingram, 2008). This implies that notions of farmer participation and cooperation in water governance are highly situation-dependent, and points to a need to understand the wider systems of power in which they are embedded.

With this in mind, our intention is to understand how, over time, the interplay of power has come to influence the ability of farmers in England to participate and cooperate in the governance of their water environment. We are therefore concerned with "the complex configuration of power relations in which planners and participants are enmeshed" (Tewdwr-Jones and Allmendinger, 1998: 1988), and what this implies for the future role of farmers in England's system of water governance. To do this, we undertake a political economy analysis that examines lowland agriculture and water governance from World War II until the present day. We interpret these historical developments through the lens of the Power Cube, an analytical tool for thinking about the interplay between different forms of power operating in different types of spaces and at different levels of governance. The research is based on an analysis of government documents and other primary texts, and an extensive review of secondary and tertiary sources. The work is part of a broader programme examining farmer participation and cooperation in English water governance.

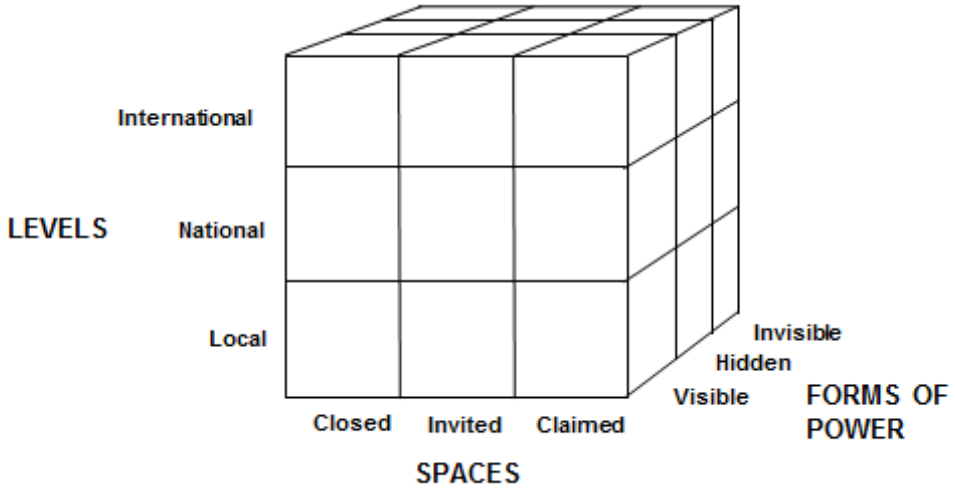
ANALYSING POWER USING THE POWER CUBE

In this paper we adopt an approach to thinking about and analysing power known as the 'Power Cube' (Gaventa, 2006a,b). Simply put, the Power Cube is a heuristic framework for analysing the levels and spaces in which different forms of power operate, as well as how these dimensions interact (Figure 1). The changing structure of these interactions and the system's overall pathway or trajectory provides an insight into the power dynamics at play, as well as pointing to possible strategies for implementing change. Each dimension – levels, spaces, and forms – comprises three sub-components, though in reality all three dimensions operate along a continuous scale.

In its most basic arrangement, the 'levels' dimension of the Power Cube is subdivided into the 'local', 'national', and 'international'. The 'spaces' dimension is broken down into 'closed spaces', where decision making goes on behind closed doors, undertaken by politicians, experts, managers, and other elites; 'invited spaces', which are those fora that have come about, often through pressure from outside influences, in order to provide other interests with the opportunity to participate in governance processes; and 'claimed spaces', which are those spaces that groups of people create for themselves. These may be more formal structures such as NGOs or community associations, or they may be more informal. The last of the Cube's three dimensions concerns the different forms that power takes. 'Visible power' is understood by the adage "A has power over B to the extent that he can get B to do something that B would not otherwise do" (Dahl, 1957). 'Hidden power' relates to the ability of actors to control the agenda by influencing the sorts of issues that can be debated and who can participate in

the debate in the first place. Finally, 'invisible power' is understood by the adage "A may exercise power over B by getting him to do what he does not want to do, but he also exercises power over him by influencing, shaping, or determining his very wants", where this may be achieved by such activities as "the control of information, through the mass media, or through the process of socialization" (Lukes, 2005: 27).

Figure 1. The Power Cube.



Note: Adapted from Gaventa (2006a)

Proponents of the Power Cube often make one further distinction. Although power might be typically conceived of as a means by which one actor or group is able to exhibit control over another, this is a restricted definition which does not easily allow for the "productive aspect of power" (Foucault, 1980: 119). Alongside the common conception of power 'over', which typically relates to control and coercion, three alternative 'expressions' of power have been proposed by Veneklasen and Miller (2002). These are power 'with', power 'to', and power 'within'. Power 'with' is the capacity for actors to work together; power 'to' concerns an actor's ability to influence their world through agency; and power 'within' relates to an actor's sense of identity and self-worth. Broadly speaking, for farmers to participate and cooperate more fully in water governance, certain relationships of power 'over' must be transformed into relationships of power 'with'. For this to happen, potential participants require a strong enough sense of identity and purpose (power 'within') to instigate change (power 'to') by coming together with like-minded individuals as well as with other interests, including the government (power 'with'). Alternatively, the ability to act that accompanies power 'within' and 'to' may result in the pursuit of purely selfish ends by some actors, in turn disrupting the process.

We posit that the Power Cube is a useful tool for guiding this analysis of farming and water governance because of the way it draws attention to the wider multi-level and cross-scale processes which make up governance arrangements in our modern, globalised world. At the same time, it allows the analyst to reflect on what this wider dynamic implies for farmer participation and cooperation in water governance at more local levels, which is the focus of this study. Following Huitema et al. (2009), when speaking of 'governance' we adopt Pierre and Peters' (2000: 1) definition, namely that governance is "the whole range of institutions and relationships involved in the process of governing". This includes both formal and informal institutions and, importantly for this paper, "the power relations and practices that have developed" over time (Huitema et al., 2009: 27). It is also key to recognise that

in speaking of a system of water governance, it is necessary to appreciate that this system "is part of broader social, political and economic developments and thus is also affected by decisions outside of the water sector" (UNDP, 2014). Again, the Power Cube approach appears well suited to addressing this broader conception of the issues relevant to water governance.

LOWLAND FARMING AND THE WATER ENVIRONMENT: A HISTORICAL PERSPECTIVE

In this section we undertake a historical analysis of farming and water governance in England from World War II until the present day through a largely political economy approach. We do not intend to capture in detail all the developments we discuss, but instead attempt to reveal the broad processes and prominent events that have affected the present-day power dynamic. In accordance with the Power Cube, we pay attention to the different forms and expressions of power, and the levels and spaces they operate in. Due to the nature of the study, it is more difficult to analyse 'invisible power' and the expression of power 'within' when compared to the other forms and expressions of power because to do so typically requires a more fine-grained and exhaustive approach, for example through the use of in-depth interviewing techniques and discourse analysis. Nonetheless, we do reflect upon invisible power and power 'within' during the analysis and discussion, although this inherently involves a degree of conjecture. The central focus of the analysis is on the relationship between farmers and the key actors involved in water management in the English lowlands, with particular emphasis given to government and environmental interests.

Post-war policy (1939 to 1959): The reconstruction of the English countryside

The onset of World War II dramatically changed English farming. Since the 1870s agriculture had suffered chronic depression due to the government's decision to support low-cost food imports. However, the blockade from German U-boats resulted in the urgent prioritisation of greater self-sufficiency. What most characterised the massive overhaul that agriculture underwent from this time onwards was the visible and hidden power the government wielded in closed spaces at the national level to intervene in almost every facet of food production, as farmers relinquished their independence in return for greater stability and support (Brassley et al., 2012) (Table 1).

The drive towards efficient production laid out in the 1947 Agricultural Act paved the way for a marked transition to modern commercial farming through a system of guaranteed prices, subsidies, grants, advice, education, coercion, and the widespread adoption of science and technology in the countryside, often characterised as a move 'from agriculture to agribusiness'. In this new system, a highly rationalised farming sector geared towards profit maximisation was integrated vertically into a system of food production that controlled "all processes from seedling to supermarket" (Newby, 1987: 193).

Of particular note was the intimate relationship, founded on the wartime dynamic, that developed between the Ministry of Agriculture and Fisheries (MAF) and the National Farmers Union (NFU), who together were responsible for deciding the minimum annual prices of food commodities in a system of deficiency payments (Winter, 1996). Furthermore, a close relationship developed between many farmers and government agricultural extension agents. The job of these agents was to ensure "changes in the attitude and behaviour of individuals and the efficient uptake of grant aid", where "these relationships with farmers were often characterised by mutual trust and respect developed through face-to-face meetings and farmer groups over lengthy periods of time" (Hall and Pretty, 2008: 394).

Table 1. The key actors and most prominent elements of the Power Cube's three dimensions for the period 1939-1959.

Actors	Levels	Spaces	Forms of power	Comments on expressions of power
MAF and NFU[a]	National	Closed	Visible and hidden	Corporatist relationship exercising power 'over' farmers in pursuit of efficient, intensive production
Agribusinesses	National and regional	Closed	Hidden	Gain power 'over' farmers through industrialisation of farming practices and processes
River Boards	Regional/ catchment-focused	Closed	Visible	32 Boards with power 'over' land, drainage, fisheries, and navigation
Government extension workers	Local	Invited	Hidden and invisible	Extension workers form close relationships of power 'with' farmers to induce change in behaviour
Farmers	Local	Closed	Invisible	A new power 'within' farmers emerges based on productivist ideology

[a]MAF = Ministry of Agriculture and Fisheries; NFU = National Farmers Union.

Other p*ost-war Acts were also significant. In particular, the Town and Country Planning Act 1947 singled out industrial development and urban sprawl as the major threats to the countryside, whilst embracing the prevailing stewardship ethic whereby farmers and landowners, left to their own devices, would continue to manage the countryside in a favourable manner consistent with the interest of the wider public (Marsden et al., 1993). This custodial interpretation of the role of farming in the countryside harked back to the ideological relationship between the landed classes and their estates in the 19th century (Newby et al., 1978). As will become evident, the agricultural stewardship discourse is an enduring feature of the post-war period, which has been deployed by different actors at different points in time. Today, the notion of 'stewardship' still shapes how participation and cooperation in land and water management is understood by English farmers.

These developments were most dramatic in the arable farmlands in the low-lying east of the country. The farmers here stood to gain most from increasing their farm's size, adopting new practices and new technology, and intensifying inputs such as fertilisers and pesticides to boost production (Grigg, 1989). Referring to the Power Cube, we infer that the visible and hidden power exercised in a corporatist closed space at the national level by MAF and the NFU, and the rapport between agricultural extension agents and farmers on the ground in turn resulted in the emergence of an invisible form of power and a particular sense of power 'within' lowland farmers that was in keeping with the productivist ideology (see Table 1).

Conflicts in the countryside (1960 to 1983)

In this section we look at key aspects of the power dynamic that developed between 1960 and the early 1980s, as shown in Table 2.

Table 2. The key actors and most prominent elements of the Power Cube's three dimensions for the period 1960-1983.

Actors	Levels	Spaces	Forms of power	Comments on expressions of power
European Community (EC)	European	Closed	Visible	From 1973 the EC begins to exert considerable power 'over' agricultural policy through the Common Agricultural Policy
MAFF, farming lobby, Land Drainage Committees, IDBs[a]	National, regional, and local	Closed	Visible, hidden, and invisible	The 'MAFFia' exercise power 'over' land drainage to further modern, intensive farming
Supermarkets and agribusinesses	National and regional	Closed	Visible and hidden	Alongside industrialisation of agriculture, power 'over' food retail is located increasingly in the hands of a select number of supermarkets
Environmental NGOs	National and regional	Claimed	Visible	Strengthening of groups at national level and emergence of county-level wildlife trusts with power 'to' act
Urban newcomers	Local	Claimed	Visible and hidden	New village inhabitants with power 'to' oppose modern farming practices

[a]MAFF = Ministry of Agriculture, Fisheries, and Food; IDB = internal drainage board.

A crucial factor in the success of commercial agriculture from the post-war period onwards concerned water management, and in particular land drainage in low-lying parts of the country. By the start of the 1960s, power over water management policy was located firmly at the national level in closed spaces occupied by the reformed Ministry of Agriculture, Fisheries, and Food (MAFF) on the one hand, and the Ministry of Housing and Local Government (which from 1970 became the Department of the Environment) on the other. After the Water Resources Act 1963 this separation of decision-making power was consolidated, with the Ministry of Housing and Local Government retaining responsibility for all aspects of water management apart from drainage and fisheries, which belonged to MAFF (Parker and Sewell, 1988). As we shall see, land drainage became one of the key issues underlying the countryside conflicts that followed.

By the late 1950s the government had become concerned that growing demand for water by farmers, chiefly for irrigation, "might seriously deplete the natural flow of many rivers and streams" (CAWC, 1960: 4) and called for statutory powers to control the abstraction of surface water. These recommendations were also legislated for in the 1963 Act, which replaced the long-standing common law system of riparian water rights (Getzler, 2004) with a permitting regime whereby most users of surface water and groundwater required a water abstraction licence. From an organisational perspective, a move towards the integration of management functions had been taken in 1948 when the 47 existing Catchment Boards were replaced by 32 River Boards charged with overseeing land drainage, fisheries and navigation. Another function of the 1963 Act was to replace the 32 River Boards with 29 multi-purpose River Authorities that incorporated agricultural land drainage, flood alleviation,

pollution prevention, fisheries, and navigation under the jurisdiction of a single administrative structure.

While advances in modern agriculture continued apace throughout the 1960s, this was also a decade that witnessed a considerable rise in environmental awareness at both international and national levels. In 1949, the National Parks and Access to the Countryside Act had been introduced, formally ushering in the 'environmental movement' in England (Sheail, 1995). Locally, the power of this movement was being strengthened by the large numbers of middle-class city dwellers who were buying property in the countryside and who brought with them a set of values and expectations about how the countryside should be, based at least in part on a romantic conception of 'rural idyll' (Howkins, 2003). The first half of the decade also saw a spate of county-level Wildlife Trusts form 'claimed spaces', which were represented at the national level by the Society for the Protection of Nature Reserves.

It was in the 1970s though that this environmental power base began most forcibly to come into conflict with farming interests through a series of local confrontations whose political significance often reached well beyond the geographical boundaries of the disagreements themselves (Lowe et al., 1986). Not least were cases concerning water management where drainage activity threatened to destroy primary and secondary wetland sites through conversion to intensive agriculture (Purseglove, 1988). However, the first and perhaps most significant conflict from a political perspective was not related to land drainage but to the encroachment of modern farming methods on the heather moorlands of Exmoor National Park in southwest England (Brotherton, 1990; Lobley and Winter, 2009a). The issue drew attention to important national questions concerning agricultural regulation versus environmental protection, including the appropriateness of the voluntary approach for achieving conservation measures, the relationship between agriculture and formal planning legislation, and the efficacy of National Parks for securing Britain's landscapes (Newby, 1979; Lobley and Winter, 2009a).

As we have seen, after World War II most decision-making power concerning agriculture was concentrated at the national level within a closed space occupied by MAF and the NFU. Together these parties were responsible for directing farming along its productivist trajectory by exercising visible and hidden forms of power over farmers (Table 1). However, in 1973 the UK entered into the European Community (EC), and much of the power held at the national level was itself to become subsumed by decision making at the European level. During the 1970s, while the battle for Exmoor was rumbling on, other disputes between farming and conservation interests were emerging. In part the intensity of these disagreements was being fuelled by Britain's succession into the EC and its adoption of the Common Agricultural Policy (CAP), which by keeping the price of wheat and other grains artificially high provided a strong incentive for farmers to convert to intensive forms of arable production, especially where this involved a change from low-intensity livestock grazing (Grigg, 1989). Key to such changes in wetland sites like the Norfolk Broads, the Fens, and the Kent Marshes of the southeast, or the Somerset Levels of the southwest, was artificial drainage to lower water levels, often replacing wetland ecosystems which had evolved with farming over hundreds of years (Cook and Williamson, 1999).

The power that farming interests held over land drainage at this time is evident when considering the changes that accompanied the Water Act 1973, which replaced the 29 River Authorities with 10 truly multifunctional Regional Water Authorities responsible for every facet of water management in England. Despite attempts during the run-up to the Act to concentrate all aspects of water policy within the Department of the Environment (DoE), the powerful network of public and private agricultural interests fronted by MAFF – and coined the 'MAFFia' by its critics – successfully campaigned to retain control over the administration of land drainage, including the system of central government grant aid subsidies (Purseglove, 1988). This achievement by the farming lobby resulted in the formation of separate Regional Land Drainage Committees, made up of landowners and farmers, with the power to administer land drainage finance (Parker and Sewell, 1988). At a more local level, Internal Drainage Boards (IDBs), created under the Land Drainage Act 1930, were still playing an important role in undertaking drainage schemes that supported the advance of commercial agriculture in the most low-

lying and flood-prone areas of the country. The origins of IDBs date back to at least the 12th century (Reeves and Williamson, 2000), and for almost all of their history these authorities have had strong ties with landowners and farming, although this relationship and the hidden power structures it embodies has been the focus of criticism in more recent times (Purseglove, 1988; Bankoff, 2013).

It is therefore clear that in the 1970s commercial farming interests were able to exercise both visible and hidden power in implementing land drainage schemes by deciding both how funds were allocated and who could participate in decisions concerning the nature and operation of such schemes. Land drainage designed to bring about intensive forms of farming was strongly supported at all levels by a well-resourced Agricultural Department in conjunction with the Regional Land Drainage Committees, the farming lobby (with the NFU also holding an office in Brussels), and the local IDBs. Furthermore, despite the financial rewards such undertakings might provide for agriculture as a whole, the gains were often disproportionately allocated in favour of the larger farmers who had the capital to undertake the necessary changes and who were able to benefit from economies of scale, oftentimes at the expense of small farmers (Lowe et al., 1986).

In a similar fashion, these large commercial farmers were able to dictate matters through the hidden power they exerted over the decision-making of Regional Land Drainage Committees and IDBs, where representation and voting procedures tended to be weighted heavily in their favour (Purseglove, 1988). Thus the countryside disputes of the 1970s not only pitted productive agriculture against environmental interests, but also large, often arable farmers against smaller farmers who had fewer options available and less of an incentive to adhere to the productivist ideology espoused by MAFF and the farming lobby, but where a failure to do so could result in continued economic marginalisation and even bankruptcy.

A shift in power (1984 to 1989)

In Table 3 we summarise the key aspects of the power dynamic that was to emerge after the countryside conflicts of the 1960s, 70s and early 80s. This period, discussed in the next two sub-sections, extends until the start of the new millennium.

The balance and operation of power at the beginning of the 1980s can be seen by considering the positions and contrasting influence of the various farming and environmental interests during the passage of the Wildlife and Countryside Act 1981, covered in detail by Lowe et al. (1986). The process revealed the hidden power of the farming lobby at the national level, where they maintained a relatively close relationship with agricultural and environmental ministers. This was in contrast to the relative powerlessness of the government's own conservation bodies (Winter, 1996). A key outcome of the Act was the ability of landed and farming interests to secure a system of "voluntary co-operation, encouraged where necessary by management agreements based on full financial compensation" (Marsden et al., 1993: 95). Again, the farming lobby had played to the enduring discourse of agricultural stewardship and farmer goodwill in securing these gains (Lowe et al., 1986).

Overall, the Wildlife and Countryside Act only appeared to further polarise the debate. With its introduction in 1981 the disputes between farming and conservation that had arisen in the previous decades took on a new significance, with all parties realising that it was how the Act was to be interpreted in its first few years that would decide how it would be implemented going forwards. In this context the relatively remote set-piece conflicts in wetland sites like Romney Marsh, the Halvergate Marshes in the Norfolk Broads, and West Sedgemoor in the Somerset Levels (where at the height of the conflict effigies of conservationists hanging by their necks from a makeshift gallows were burnt by local farmers) were to set precedents which would affect exactly how the Act was applied in National Parks and Sites of Special Scientific Interest (SSSIs) all over the country (Purseglove, 1988).

Table 3. The key actors and most prominent elements of the Power Cube's three dimensions for the period 1984-1999.

Actors	Levels	Spaces	Forms of power	Comments on expressions of power
United Nations (UN)	International	Closed and invited	Visible and hidden	International conferences and conventions championing more decentralised and participatory approaches to water management and contributing to a new sense of power 'within'
European Union (EU)	European	Closed and invited	Visible and hidden	Power 'over' CAP reforms and introduction of single-issue water directives. Opening up of policy processes to develop a degree of power 'with' other actors
Central Government	National	Closed	Visible	Power 'over' national water legislation and implementation of EU water legislation
Environment Agency (EA)	National and regional	Closed	Visible	Charged with power 'over' water management in England
Supermarkets, agribusinesses	National	Closed	Visible and hidden	Growing power of supermarkets 'over' farmers and corporate power 'over' large-scale, industrial farming
Environmental NGOs	National and regional	Claimed	Visible and hidden	Formation of Wildlife Link Committee to coordinate environmental lobby's power 'to' act
Rivers trusts	Regional and local	Claimed	Visible	Power 'to' protect and enhance the water environment in certain catchments
Farmer water abstractor groups	Regional and local	Claimed	Visible	Power 'to' defend rights of irrigators against changes to water legislation

However, other factors were now beginning to derail the progress of intensive agriculture in England, as the positive public image of farmers that had emerged after the war (Griffiths, 2012) was being replaced by one far less flattering. In part this reflected the public's growing awareness of the damage farming was causing to the country's landscapes and wildlife, which was given added momentum by a string of scientific and popular publications (e.g. Shoard, 1980; Body, 1981; Cheshire and Bowers, 1983). And, just as importantly, the economic logic underlying the direction agriculture was taking appeared outdated and even nonsensical. The most visible sign that something was awry was the stockpiling of 'food mountains' and 'milk lakes' throughout Europe, caused by massive overproduction brought on by the CAP's productivist orientation, and the huge costs of storing and disposing of these surpluses (Marsden et al., 1993). These factors were shifting the balance of power. The shift was further aided by the neoliberal policies of the Thatcher government (Harvey, 2005), which tended to favour free-market principles in place of the traditional support shown by Conservatives towards the agriculture sector (Flynn et al., 1996).

It was this political shift which was to once more change the structure of water management in England. As Parker and Sewell (1988: 767) observed, the Water Act 1973 developed a new conception of water as "an economic good rather than a subsidised public health service… based upon a managerial philosophy, upon a philosophy that 'bigger is better' and upon increased administrative efficiency and greater economic efficiency – in short, upon 'business' imperatives". This new attitude towards water combined with the wave of privatisations under the Thatcher government in the 1980s. By 1989 the functions of the Water Authorities were pared down to the delivery of public water supply and sewage treatment and they were floated on the stock market. The remaining water management functions were brought under the jurisdiction of a newly formed National Rivers Authority, which in 1996 became the Environment Agency (EA) when it was merged with Her Majesty's Inspectorate of Pollution and the country's waste regulation authorities.

Implementing change in the 1990s

If the 1980s was a decade when the tide of opinion began to turn away from the productivist regime and in favour of the environmental movement and wider social and economic objectives in England's countryside, then it was in the 1990s that this change in emphasis resulted in more fundamental alterations to the rules governing agricultural production and environmental protection. Influenced by the Uruguay round of GATT (Lowe et al., 2002), at the European level this took place in part through a series of major revisions to the CAP (EC, 1991a, b; Kay, 1998), starting in 1992 and ending with Agenda 2000, which created a second pillar for the CAP budget designed specifically to fund rural development initiatives, including agri-environment schemes (Swinbank, 1999; Dobbs and Pretty, 2008). These schemes – of which the Environmentally Sensitive Areas and Countryside Stewardship were the most prominent – were to further strengthen the relationship between the concept of agricultural stewardship and the expectation of financial compensation in the minds of English farmers.

The power of international conventions to influence the policies and discourses within nations was also becoming apparent. Building upon themes first developed during the Conference on the Human Environment held in Stockholm during 1972, the UN Conference on Environment and Development in 1992 in Rio brought international attention to issues of environmental degradation, environmental justice, and the need to adopt policies for achieving "sustainable development" as proposed by the Bruntland Commission (WCED, 1987). One key theme to emerge concerned the requirement for governments to pursue more decentralised and inclusive forms of decision making for managing the environment. In Agenda 21, a key output, these ambitions are related directly to water governance where it states that "integrated water resources management, including the integration of land- and water-related aspects, should be carried out at the level of the catchment basin or sub-basin… based on an approach of full public participation" (UNCED, 1992: para 18.9). Public participation in environmental decision making was given further support by the Aarhus Convention (UNECE, 1998), which was adopted in 1998 and came into force in 2001.

Despite the growing international consensus to promote decentralised and participatory forms of environmental governance, it would be some time before these developments began to have any effect on national policy. In 1991 a draft of water-related EU and state legislation was introduced, including the EU Nitrates Directive, addressing the harmful effects of nitrogen runoff from agriculture, and the Water Resources Act 1991, where Section 57 gave the EA the power to reduce or halt water abstraction for spray irrigation during periods of "exceptional water shortage or other emergency". This singling out of farming during times of shortage was to rile many irrigators and their representatives in the NFU who felt the system was unfairly prejudiced against them (Hamett, 2013). Yet it was indicative of the wider attitudinal shift outlined above, where after years of unquestioning support productive agriculture was now being legislated against in favour of other interests and objectives in the countryside.

Although decision-making power concerning water management remained concentrated at the national and European levels, environmental and agricultural interests were nonetheless claiming their own spaces at the regional and local levels in the form of rivers trusts and farmer 'water abstractor groups'. In the southwest of England the first rivers trust gained charity status in 1995 with the aims of protecting and enhancing the rivers of the Westcountry. With time more groups formed, and today there are over 40 operating in different catchments across England under the overall coordination of a national body, The Rivers Trust. At the same time, in the southeast a different form of local organisation oriented towards the defence of farmers' water abstraction rights was emerging. The first of these water abstractor groups formed in 1992 in response to a Section 57 order. Since then other groups have formed, often as a result of changes to environmental legislation, or the onset of drought and the resulting threat of Section 57 (Leathes et al., 2008). Although the groups have tended to have a strong lobby focus, they have also offered wider benefits including the promotion of water efficiency measures and best practice among their members, and improved communication between the EA and farmers in a catchment (Barker and Turner, 2011).

Lowland farming and water governance in the new millennium

By the turn of the new millennium, the power dynamic that had emerged to govern lowland farming and water in England after World War II had been significantly challenged. The changing political context was reflected at the national level by the merging of MAFF with the Department of the Environment, Transport and the Regions to create the Department of the Environment, Food, and Rural Affairs (DEFRA). As Lowe et al. (2002: 16) have noted, this reform meant that "for the first time since the establishment of the Board of Agriculture in 1889 there is now no UK central government department with the word 'agriculture' in its title". Furthermore, under new EU legislation, in 2000 the first round of the England Rural Development Programme was introduced, providing amongst other things a range of agri-environment schemes which farmers could participate in. Yet at the same time, it is clear that despite these organisational and institutional changes modern commercial agriculture continues to be one of the dominant forces structuring the landscapes of lowland England. Here important macro factors – including changing global dietary patterns and the unpredictability of food supply resulting from climate change – have played their part by bringing to the fore new narratives and concepts like 'sustainable intensification', whilst reviving old ones, such as 'food security' (Marsden, 2010). These narratives are perhaps paving the way for a 'new productivism' that threatens to eclipse previous 'old environmental' concerns centring on landscapes and biodiversity (Lobley and Winter, 2009b).

One distinctive feature of the current dynamic governing farming in England relates to the power of the retail sector, where by 2013 the top four supermarkets enjoyed 75% of the market share (Kantar, 2013). This market power, located predominantly at the national level but often also spanning the international, allows the supermarkets to exert considerable downward pressure on prices at the farm gate (Marsden, 2010). Coupled with stringent food-quality standards, this has encouraged the development of large, efficient farms at the expense of small producers who find it particularly challenging to comply with supermarket conditions and still make a profit. The trend has been exacerbated by the increasingly specialised nature of farming, which often requires sophisticated and expensive machinery suited to expansive, homogenised farm units (Mazoyer and Roudart, 2006). Such developments have been reflected in changing farm sizes, where there has been a move towards fewer but larger production-oriented farms (Walford, 2003). For example, between 1995 and 2005 the average farm size in eastern England fell in all size categories apart from holdings of between 5 and 20 hectares (ha) which rose by nearly 10% (indicating the growth of niche or 'hobby' farms) and farms in the largest category of 100 ha or more which rose by 13.4% (DEFRA, 2014).

Another symptom of the structure of the food supply chain in England is the strong competition which often exists between farmers attempting to capture a share of the market, potentially making

cooperation harder to achieve. Those examples of where farmers do work together revolve largely around producer coops and machinery groups designed to increase bargaining power with processors and supermarkets, and to spread financial risk (Youngs, 2013). Furthermore, as Hall and Pretty (2008) have demonstrated with their study of farming in the eastern county of Norfolk, the close ties which developed between many farmers and the government in the post-war period have been significantly undermined in more recent times in response to political shifts and the changing demands placed on farmers. The authors conclude that there is now "a striking degree of physical and social distance, professional disrespect, divergent agendas and distrust between government delivery agencies and farmers, findings that are clearly revealed by many of the government's own investigations" (Hall and Pretty, 2008: 411).

It is with these features of the agriculture sector in mind that we will consider the developments that have occurred in water governance in England since the year 2000, and in so doing move towards an understanding of the current power dynamic affecting farmer participation and cooperation. The way in which power has come to be structured since 2000 is shown in Table 4.

Water Framework Directive

In 2000 the EU Water Framework Directive (WFD) was introduced, becoming part of UK law in 2003. This new piece of legislation tied together various existing single-issue EU Directives concerning water management under a broad and inclusive approach, whilst setting the ambitious aim of improving all of Europe's water bodies – to raise them up to 'good status' – by the year 2015. By promoting the participation of non-state actors in planning and implementation, the Directive also made room for a fundamentally different system of water governance to that which had developed in England over the course of the 20th century (Page and Kaika, 2003; Collins et al., 2012). This was to provide a new impetus for non-governmental organisations like the rivers trusts who now positioned themselves as "one of the primary co-deliverers" in efforts to improve England's water environment (RT, n.d.). The change in emphasis brought about by the WFD also entailed a restructuring of power due to its requirement for the adoption of pluralistic procedures – 'invited spaces' – operating at the scale of ten river basin districts. Each of these hydrological units requires the periodic development and implementation of River Basin Management Plans (RBMPs) by a "competent authority or authorities" in conjunction with the various interests represented in each river basin. In England sole responsibility for delivering the objectives of the WFD was given to the EA as the only competent authority.

However, as Watson and Treffny (2009) have shown, the process of developing the RBMPs prior to the first six-year cycle of the WFD, which runs from 2009 to 2015, largely served to maintain the status quo, as decision-making power and overall control continued to reside with the EA and central government. Despite a rhetoric of decentralisation and collaboration, by functioning at the broad scale of the river basin where a Regional Liaison Panel made up of an invited list of 'co-deliverers' was largely consulted on decisions which had already been decided by the EA, local issues and interests represented by the likes of environmental groups, municipalities, or farmers failed to enter into the process. In this way the government was able to exercise hidden power to control the water management agenda in spite of an apparent change in structure and process as mandated for by the WFD. At the time Watson and Treffny (2009: 458) concluded that:

In the following subsections we detail developments that run alongside one another, but which are separated out here for the sake of clarity.

> Overall… a modestly reformed bureaucracy continues to be a fundamental element of the institutional approach for water management in England. Whilst... more non-state actors are now engaged in aspects of water management, they have tended to be assigned to the job of 'rowing' within the reformed governance arrangements, while the task of 'steering' remains firmly in the hands of powerful government departments and technically oriented public agencies.

Table 4. The key actors and most prominent elements of the Power Cube's three dimensions for the period 2000 until the present

Actors	Levels	Spaces	Forms of power	Comments on expressions of power
UN	International	Closed and invited	Visible and invisible	Continuing power 'over' European and national policy and influencing power 'within'
World Trade Organization	International	Closed	Visible	Power 'over' key aspects of CAP reform
EU	European	Closed and Invited	Visible and hidden	Increasingly power 'with' a range of interests to develop water and environmental policy. Introduction of Water Framework Directive (WFD) and continuing CAP reforms
DEFRA	National	Closed and invited	Visible	Subsumed MAFF, Power 'over' government water policy and implementing EU legislation
Supermarkets, agribusinesses	National and international	Closed	Visible and hidden	Power of supermarkets and corporations 'over' farmers, with agriculture integrated into global supply chains
EA	National and regional	Closed	Visible and hidden	Power 'over' WFD process and water resources management.
Environmental NGOs	European, national and regional	Claimed	Visible and hidden	Increasing influence of groups such as the Royal Society for the Protection of Birds (RSPB), the World Wildlife Foundation (WWF), and the Wildlife Trusts with the power 'to' act
River basin liaison panels	Regional	Invited	Hidden	Group of invited 'co-deliverers' operating at scale of 10 large River Basin Districts purportedly to share power 'with' EA
Catchment-based groups	Local	Invited	Hidden	Offspring of WFD process, providing opportunities for private interests and water users to share power 'with' government water managers
Rivers trusts	Regional and local	Claimed	Visible	Expansion of trusts to cover 40 catchments across the country, with power 'to' act to protect water environment. Under WFD now sharing some power 'with' other water managers as 'co-deliverers'
Farmer water abstractor groups	Regional and local	Claimed	Visible	Several nascent groups, with some starting to express a willingness to develop relationships of power 'with' other actors

Responding to the threat of a legal challenge from WWF-UK and the Angling Trust concerning a perceived failure on the government's part to implement the WFD in accordance with the terms defined in the Directive, in March of 2011, DEFRA released a position statement in which they outlined their commitment to implement a Catchment Based Approach (Defra, 2011c). Following on from an initial pilot project, in 2013 the Catchment Based Approach was rolled out nationwide. Publications by DEFRA during and after the pilot phase would suggest the government has taken a substantial step towards facilitating a more pluralistic approach to managing England's water environment, with repeated references to the value of collaborative and partnership working on the ground, the importance of retaining the autonomy of local catchment groups, and the need for the government to relinquish absolute control over water management and instead embrace change and uncertainty (DEFRA, 2012a; 2013a,b,c). Substantiating these claims will require time and critical analyses of the situation as it develops. Yet as the government's own pilot-phase evaluation indicated, the participation of farmers in the scheme has been difficult to secure. Work by the government suggests that while around a quarter of the participants in the catchment groups were EA staff, farmers only made up 7% of the numbers, and here it is likely that at least one reason for becoming involved in the first place was to ensure their interests were being represented (DEFRA, 2013b). Although Catchment Based Management is clearly in its early stages, statistics like this hint at a situation whereby farming remains a sector largely acted upon, even if by a more diverse and localised group of interests, rather than one that constructively participates in collaborative decision-making processes intended to bring about positive environmental change.

Water resources management

Water resources management has become an issue of increasing significance in England, although as we have seen most of the historical conflicts concerning farming have tended to revolve around land drainage. Under the overall direction of DEFRA, the power to implement and control water resources management lies almost entirely with the EA through a system of abstraction licensing. Although a resource assessment programme called the Catchment Abstraction Management Strategy (CAMS), developed in 1999, was later to orient water quantity management towards the objectives of the WFD through its focus on supporting the ecology of water bodies, this has not been accompanied by a shift to a more pluralistic stance on planning and implementation at the local level. Despite the fact that the CAMS process involved the participation of stakeholder representatives in its early stages, water resources management remains a highly technical affair conducted by experts situated in a hierarchical organisational structure (Warwick, 2012).

Yet the Government is currently pushing for an overhaul of the water licensing system, with two reform proposals being debated. Whilst they differ, both would better link water licences to the real-time flow in a waterbody and facilitate the development of water markets (DEFRA, 2011a). A potential upshot of reforming the system along these lines is that it could encourage water users to become more involved in a degree of cooperative management within catchments, a view suggested by the RSPB and supported by the NFU (ENDS, 2013; NFU, 2013). Reforms of this sort also provide an opportunity for farmer water abstractor groups to involve themselves more in water resources management by acting as market intermediaries in a system of water trading, a function which similar groups already perform in other parts of the world (Kloezen, 1998).

The CAP

Alongside reforms to water legislation, the CAP has also undergone deep structural changes. Following on from Agenda 2000, in June 2003 new reforms were put in place to, a) further decouple subsidies from food production, b) make compulsory a system of cross-compliance whereby farm subsidies are dependent in part on farmers adhering to a set of Good Agricultural and Environmental Conditions (GAECs), including GAECs 18 and 19 which relate to measures for protecting the water environment,

and c) to enforce the process of 'modulation' whereby Member States are required to incrementally reallocate funds to the pot that finances rural development programmes, such as agri-environment schemes (Gay et al., 2005). Since then the CAP has been simplified and streamlined in attempts to remove some restrictions on farmers and further align agriculture with price signals on the world market. These reforms have been driven in no small part by the international pressure placed on European decision makers by the Doha round of WTO negotiations (Nedergaard, 2006; Swinbank and Daugberg, 2006).

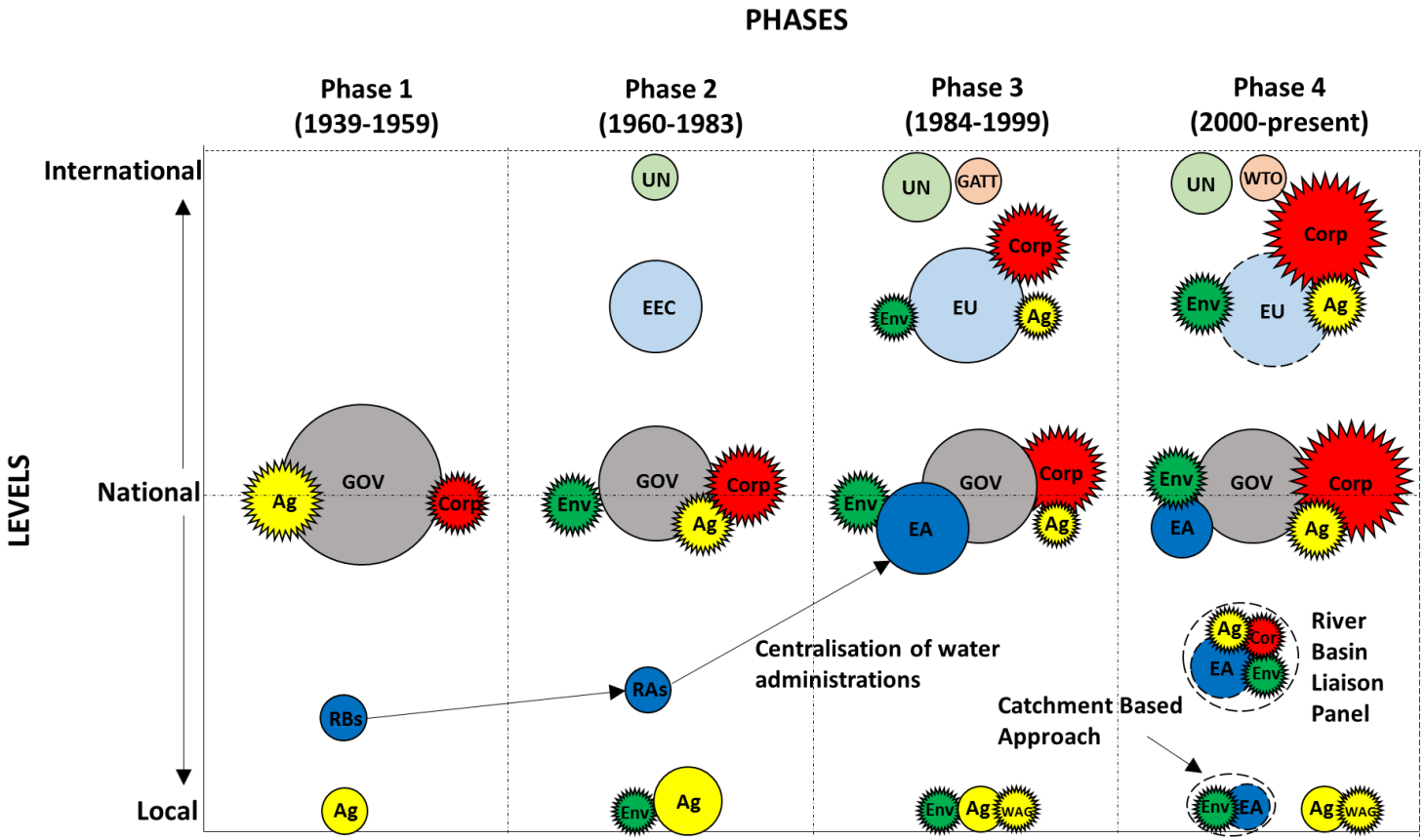
The extent to which the various environmental reforms that have been made to the CAP have changed farmers' underlying attitudes, values and beliefs, as opposed to simply influencing their behaviour through financial incentives or coercion is something that remains open to much debate. Furthermore, despite the range of benefits that acting collectively is known to bring to environmental management (Ostrom, 1990; Wondolleck and Yaffee, 2000; Lubell et al., 2002; Pretty, 2003), the CAP has largely failed to encourage cooperation among farmers for delivering environmental objectives. This is brought about at least in part because the areas targeted for cross-compliance measures or agri-environment schemes in England seek to promote individual farm or field-scale initiatives, as opposed to joint action (Franks et al., 2011).

Yet modest developments are underway to support and encourage greater cooperation among farmers in instances where it appears benefit can be derived from doing so. In particular, under two options in England's Environmental Stewardship Scheme (ESS), the largest initiative of the CAP's Rural Development Programme, farmers are provided with an incentive to collaborate under options UX1 (for upland farming) and HR8. HR8 is a voluntary option which can be adopted by farmers looking to undertake collective measures to achieve environmental benefits that extend beyond the more basic entry levels of the ESS (DEFRA, 2012b). Although HR8 was initially intended for situations relating to areas of common grazing land, Franks and Emery (2013: 851) have observed that in a handful of instances HR8 agreements have been adopted "on non-common lowlands where, in general, they have been used with great innovation and inventiveness". However, to date no HR8 agreement has been used to support the collective management of water-related issues, despite recognition by the government and academic community of the benefits a more joined-up, boundary-spanning approach could bring (Lubell et al., 2002; Wallace et al., 2003; Fish et al., 2010).

DISCUSSION

Throughout the historical analysis of the previous section we reflected on the evolving interplay of three forms of power in different types of spaces at local, national and international levels with respect to lowland farming and water governance in England. The intention has been to understand how the resulting power structure we identify has come to influence the ability of lowland farmers to participate and cooperate in water governance. By drawing on the language of the Power Cube, in this section we will highlight the major trends that have been observed, and what they imply for our objective. We consider these developments in light of four distinct phases which are encapsulated by Tables 1 through 4 above, and comprise the periods 1939-1959 (Phase 1), 1960-1983 (Phase 2), 1984-1999 (Phase 3), and 2000-the present day (Phase 4). The changes are represented in Figure 2.

Figure 2. Evolution of the power dynamic governing farming and water management from World War II until the present.



Note: Size of shape indicates relative power of actor.

Ag: Agriculture (farming and farming lobby); **Gov**: UK Government; **Env**: Environmental lobby/groups; **Corp**: Corporate sector (agribusinesses and food retail); **EU**: European Union; **EEC:** European Economic Community; **UN**: United Nations; **GATT**: General Agreement on Tariffs and Trade; **WTO**: World Trade Organisation; **RBs**: River Boards; **RAs**: River Authorities; **EA**: Environment Agency; **WAG**: farmer water abstractor groups.

= closed space = invited space = claimed space

Charting key trends in farming and water governance

During Phase 1 it is evident that the systems governing farming and water management were most distinctly characterised by relationships of power 'over'. This power was held by the government and farming lobby at the national level, who together oriented the sector along productivist lines. The country also witnessed the emergence of a nascent agri-business industry and supermarket sector, with a power 'over' farmers that would continue to grow with time. The visible and hidden forms of power exercised by the Government, the farming lobby, agri-business corporations, and other key actors in closed spaces resulted in a particular sense of power 'within' farmers that came to shape their thoughts and behaviour. This sense of power 'within' is best encapsulated by the concept of 'productivism'.

Phase 2 witnessed the consolidation of water management responsibilities into fewer, larger administrative units as the 32 Rivers Boards were replaced by 29 River Authorities, and then later, in Phase 3, by 10 Regional Water Authorities and finally the EA. Phase 2 was also the period when the UK joined the European Community (EC). At this point, some of the power 'over' farming and water policy that had been held at the national level was subsumed by decision makers operating in closed spaces at the European level. One notable feature of the UK's succession to the EC was the adoption of the CAP, which helped incentivise farmers in England to convert to intensive forms of arable production. The productivist drive was also strengthened by the growth of the agribusiness industry, and the control that a powerful network of government and farming bodies held 'over' land drainage in England, which was a key requirement for productive agriculture in many low-lying parts of the country. At the same time, the emerging environmental movement, with the power 'to' act in favour of wildlife and landscape conservation, claimed spaces at the national, regional, and local levels. The result was a series of conflicts, as environmental and commercial farming interests were pitted against each other.

Throughout Phases 1 and 2 we can see that visible and hidden power exercised by decision makers in closed spaces at the national, and increasingly at the European level, tended to dominate the course of events in agriculture and water management. However, as Phase 3 progressed a number of these closed spaces started to open up under pressure from a range of interests, including the power of institutions such as the UN and WTO operating at the international level, and by widespread public concern at the national level. In effect, the closed corporatist relationship between the government and the farming lobby in England, and the power of farming interests in Brussels, was being undermined on a number of fronts. The result tended to be the development of more inclusive decision-making arenas that allowed environmental groups to insert 'green ideas' into policy making (Wilson, 2007). The influence of the environmental movement at this time is evident by the emergence of farmer water abstractor groups at the local level, who were forming in response to new environmental legislation that impinged on lowland farmers' ability to abstract water.

By the start of Phase 4, the range of actors with the power 'to' influence farming and water governance in England was spread across levels spanning the local to the international. As this last phase has progressed, one observable characteristic has been the apparent opportunities that the farming community now has to participate and cooperate (to develop relationships of power 'with') in the governance of their water environment. In large part, these developments have been a result of power exercised at the international and European level, in particular through the introduction of the WFD which in turn has facilitated the emergence of invited spaces at a more local level with the Catchment Based Approach. Another key characteristic of the current system is the power the corporate food supply chain exercises 'over' farmers, having continued to expand and embed itself in global systems of production (Mazoyer and Roudart, 2006; Weis, 2007).

Developing relationships of power 'with'?

Having outlined the major trends, here we shall consider what they imply for the ability of lowland farmers in England to participate and cooperate in water governance; or, to use the language of the Power Cube, to develop power 'with' each other and with governmental and non-governmental water managers. Despite the structural progression towards more pluralistic forms of water governance, our power analysis highlights three distinct barriers that stand in the way of garnering the participation and cooperation of farmers.

The first barrier concerns the power 'within' lowland farmers, which in turn affects their power 'to' act. As we have seen, after the war the power 'within' many of these farmers became strongly associated with productivism. Although this identity has in turn been challenged by 'post-productivist' policies emanating in large part from the EU, other aspects of the system governing farmers have continued to nurture and develop it. These include the ongoing support from organisations like the NFU for an efficient, expansive, and productive farming sector, the ideological basis of agri-food politics in the UK, and the structure of the corporate agri-food chain in which farmers operate. As a result, today productivism remains an integral component of farming activity and culture in lowland England (Wilson, 2001; Walford, 2003; Burton and Wilson, 2006; Marsden and Sonnino, 2008), which has been given added impetus since the price rises on fuel and food during 2008 (Marsden, 2010).

The power 'within' that the productivist identity bestows on many lowland farmers is likely to inhibit their power 'to' participate in water governance because of its general failure to account for the environment and the often strong ideological strands of individualism and competition that accompanies this perspective (Marsden et al., 1993). This would help to explain the general lack of involvement of farmers in voluntary initiatives like the Catchment Based Approach. This same power dynamic would appear to inhibit the ability of farmers to cooperate with each other in order to contribute to water governance objectives as part of a collaboration. The analysis did draw attention to the emergence of farmer water abstractor groups, and indicated that despite their focus on lobbying, over time they have also benefitted water management. Yet according to our findings, the degree to which these groups could 'comanage' (Berkes et al., 1991; Carlsson and Berkes, 2005) water resources appears limited at best. Instead, farmer cooperation is most obviously linked to the goal of increasing profit by removing obstacles to productive capacity.

The second barrier concerns the ability of government agencies, and in particular the EA, to move from exercising relationships of power 'over' farmers to developing relationships of power 'with' them. During the course of the last century, the technically minded administrations in charge of managing water in England became increasingly consolidated and centralised. In this light, the organisational and cultural challenge posed by more recent developments in water governance that champion decentralisation and a partnership approach, is a very real one. It is therefore not clear how easily the bureaucracies charged with managing the water environment are willing or able to relinquish power, despite adopting a discourse which would suggest otherwise. Perhaps the major difference now is that where once government water managers exercised visible power 'over' farmers in order to regulate their behaviour, today the same outcome may require the use of hidden power instead. For example, in the case of the WFD we saw a tendency for the EA to exercise hidden power so as to maintain control of the management process in spite of a more pluralistic and dispersed governance structure. Furthermore, developing power-sharing arrangements between the government and farmers is also undermined by the distance and mistrust that has come to characterise their relationship (Hall and Pretty, 2008).

The third and final barrier concerns the possibility of farmers developing relationships of power 'with' non-governmental stakeholders. In particular, this relates to groups such as the rivers trusts, wildlife trusts, and RSPB who under the WFD can now position themselves as 'co-deliverers' in the management process. Yet the relationship between modern farming and the environmental movement

is one founded on conflict and dispute. We have seen that both sides have tended to exercise their power 'to' act in ways which are often diametrically opposed. Although the environmental movement has achieved a number of gains with respect to agri-environmental practices in lowland England, this has tended to be as a result of its ability to curtail (often peripheral) aspects of a production-oriented system. Now, with the possible rise of a 'new productivism' (Lobley and Winter, 2009b), the likelihood of lowland farmers and environmental groups finding the common ground needed to develop relationships of power 'with' seems some way off.

CONCLUSION

The introduction to this paper brought attention to the importance of context for understanding both the relevance and feasibility of garnering the participation and cooperation of lowland farmers in English water governance. We have investigated this issue from a power perspective, by using an approach known as the Power Cube. Broadly speaking, this has revealed how since World War II the system governing farming and water management has witnessed a dispersal of power across different levels of organisation from the local to the international, and in different types of spaces (Figure 2). One outcome is the establishment of 'invited spaces' in which non-state actors, including farmers, have an opportunity to influence planning and decision making.

Yet despite this opportunity, the power dynamic revealed by our analysis indicates that three distinct barriers stand in the way of involving lowland farmers in English water governance. These are, 1) the power 'within' these farmers, which continues to be defined in large part by a productivist ideology that favours individualism, competition, and profit, often at the expense of the environment, 2) the ongoing power that government water managers exercise 'over' farmers (and other non-state actors) instead of sharing power 'with' them, and 3) the relationship between farming and environmental interests, which is characterised by a history of conflict and mistrust. As a caveat, we must also point to the broad political economy approach we have adopted. To this extent, despite the generality of these claims, the degree to which they apply in reality is of course far more nuanced and variable than our conclusions might suggest.

Nonetheless, the power dynamic highlighted in this paper appears to undermine any expectation that lowland farmers in England would willingly participate and cooperate in water governance. This realisation provides justification for the use of regulations and financial incentives designed to instigate behaviour change. The claim is strengthened by what our analysis has revealed about the evolving notion of 'agricultural stewardship', which since World War II has become increasingly tied to an expectation of financial compensation. This points to the importance of the current system of agri-environment and water-related schemes and programmes. Encouraging farmer participation and developing a more cooperative approach to water governance will depend on the structure of such schemes. To this end, we suggest a greater integration of government programmes and a channelling of funding sources. Here CAP payments under ESS options such as HR8 (see above) could combine with initiatives like the Catchment Based Approach to provide an impetus for farmers and farmer groups to participate in collaborative catchment-wide objectives or joint action at the scale of the local water body.

Yet there is a limit to how far top-down incentives can induce substantive change in the identities underlying farmers' behaviour, at least in the short to medium term (Burton and Wilson, 2006). There are enduring discourses, ideologies and power relations born out of the massive upheaval of war which remain entrenched in the collective psyche of the farming community, and are associated with notions of feeding the nation and what it means to practise 'good farming'. These have been strengthened and maintained by the structure and volatility of the global food system, and the economic pressures and incentives farmers face (Weis, 2007; Lobley and Winter, 2009b). Although many farmers have adjusted to the more recent 'greening' of agricultural policy, time-worn divisions such as the distinction between

productive agriculture and a picturesque and wildlife-friendly countryside (Pretty, 2002) will not be easily replaced.

ACKNOWLEDGEMENTS

The authors gratefully acknowledge the funding provided by the Engineering and Physical Science Research Council (EPSRC). This research is part of the EPSRC-funded project Transforming Water Scarcity through Trading (TWSTT) project reference EP/J005274/1.

REFERENCES

Bankoff, G. 2013. The 'English Lowlands' and the North Sea basin system: A history of shared risk. *Environment and History* 19(1): 3-37.

Barker, I. and Turner, A. 2011. Intergrated land use and water management. *Irrigation and Drainage* 60(1): 27-34.

Berkes, F.; George, P. and Preston, R. 1991. Co-management: The evolution of the theory and practice of joint administration of living resources. *Alternatives* 18(1): 12-18.

Body, R. 1981. *Agriculture: The triumph and the shame*. London, UK: Temple Smith.

Brassley, P.; Segers, Y. and van Molle, L. (Eds). 2012. *War, agriculture, and food: Rural Europe from the 1930s to the 1950s*. New York, USA: Routledge.

Brotherton, I. 1990. On the rise and demise of conflict in Exmoor. *Journal of Environmental Management* 30(4): 353-370.

Burton, R.J.F. and Wilson, G.A. 2006. Injecting social psychology theory into conceptualisations of agricultural agency: Towards a post-productivist farmer self-identity? *Journal of Rural Studies* 22(1): 95-115.

Carlsson, L. and Berkes, F. 2005. Co-management: Concepts and methodological implications. *Journal of Environmental Management* 75(1): 65-76.

CAWC (Central Advisory Water Committee). 1960. *Sub-committee on the growing demand for water: Second Report.* London, UK.

Cheshire, P. and Bowers, J. 1983. *Agriculture, the countryside, and land use: An economic critique*. London, UK: Methuen.

Collins, K.B. and Ison, R.L. 2009. Trusting emergence: Some experiences of learning about integrated catchment science with the Environment Agency of England and Wales. *Water Resources Management* 24(4): 669-688.

Collins, A.; Ohandja, D.; Hoare, D. and Voulvoulis, N. 2012. Implementing the Water Framework Directive: A transition from established monitoring networks in England and Wales. *Environmental Science & Policy* 17(1): 49-61.

Cook, H. and Williamson, T. (Eds). 1999. *Water management in the English landscape: Field, marsh and meadow*. Edinburgh, UK: Edinburgh University Press.

Dahl, R.A. 1957. The concept of power. *Behavioural Science* 2(3): 201-215.

DEFRA (Department for Environment, Food, and Rural Affairs). 2008. *Future water: The government's water strategy for England*. Norwich, UK: The Stationary Office (TSO).

DEFRA. 2011a. *Water for life*. www.defra.gov.uk/environment/quality/water/legislation/whitepaper/ (accessed 19 January 2014)

DEFRA. 2011b. *The natural choice: Securing the value of nature*. www.defra.gov.uk/environment/natural/whitepaper/ (accessed 14 January 2014)

DEFRA. 2011c. *Defra statement on the principles of river basin planning guidance and the future direction of Water Framework Directive implementation*. www.wwf.org.uk/wwf_articles.cfm?unewsid=5791 (accessed 19 January 2014)

DEFRA. 2012a. *Evaluation of the catchment-based approach – Pilot stage, second quarterly review: Draft final report*.

http://ccmhub.net/case-studies/pilot-catchment-evaluation/evaluating-the-catchment-based-approach/ (accessed 18 January 2014)

DEFRA. 2012b. *Making envioronmental stewardship more effective (MESME)*. www.naturalengland.gov.uk/ourwork/farming/funding/es/mesme.aspx (accessed 15 January 2014)

DEFRA. 2013a. *Catchment based approach: Improving the qualtiy of our water environment* www.gov.uk/government/publications/catchment-based-approach-improving-the-quality-of-our-water-environment (10 January 2014)

DEFRA. 2013b. *Evaluation of the catchment based approach pilot stage – Appendix D.3: Final participant survey report*. http://ccmhub.net/case-studies/pilot-catchment-evaluation/evaluating-the-catchment-based-approach/ (accessed 18 January 2014)

DEFRA. 2013c. *Evaluation of the catchment based aproach, pilot stage: Final evaluation report*. http://ccmhub.net/case-studies/pilot-catchment-evaluation/evaluating-the-catchment-based-approach/ (accessed 20 January 2014)

DEFRA. 2014. Structure of the agricultural industry in England and the UK at June: county/unitary authority. https://www.gov.uk/government/statistical-data-sets/structure-of-the-agricultural-industry-in-england-and-the-uk-at-june (accessed 9 January 2014)

Dobbs, T.L. and Pretty, J. 2008. Case study of agri-environmental payments: The United Kingdom. *Ecological Economics* 65(4): 765-775.

ENDS (The ENDS Report). 2013. Water abstraction reforms a decade away. www.endsreport.com/42267/water-abstraction-reforms-a-decade-away (accessed 15 November 2013)

UNECE (United Nations Economic Commission for Europe). 1998. *Convention on access to information, public prticipation in decision-making and access to justice in environmental matters*. www.unece.org/fileadmin/DAM/env/pp/documents/cep43e.pdf (accessed 2 December 2013)

EC (European Commission). 1991a. *Communication of the commission to the council: The development future of the cap*. Brussels: EC.

EC. 1991b. *Reform of the common agricultural policy: Legal texts (arable crops, sheepmeat, beefmeat)*. Brussels: EC.

EC. 2000. Directive 2000/60/EC of the European Parliament and of the Council. *Official Journal of the European Communities* L 327/1.

Fish, R.D.; Ioris, A.R. and Watson, N.M. 2010. Integrating water and agricultural management: Collaborative governance for a complex policy problem. *The Science of the Total Environment* 408(23): 5623-5630.

Flynn, A.; Lowe, P. and Winter, M. 1996. The political power of farmers: An English perspective. *Rural History* 7(1): 15-32.

Foucault, M. 1980. *Power/knowledge: Selected interviews and other writings, 1972-1977.* New York, USA: Pantheon Books.

Franks, J.R.; Emery, S.B.; Whittingham, M.J. and McKenzie, A.J. 2011. *Options for landscape scale collaboration under the UK's environmental stewardship scheme*. www.ncl.ac.uk/cre/publish/researchreports/options%20for%20landscape.pdf (accessed 02 February 2014)

Franks, J.R. and Emery, S.B. 2013. Incentivising collaborative conservation: Lessons from existing environmental stewardship scheme options. *Land Use Policy* 30(1): 847-862.

Gaventa, J. 2006a. Finding the spaces for change: A power analysis. *IDS Bulletin* 37(6): 23-33.

Gaventa, J. 2006b. *Reflections on the uses of the 'Power Cube' approach for analyzing the spaces, places and dynamics of civil society participation and engagement.* Brighton, UK: Institute of Development Studies (IDS).

Gay, S.H.; Osterburg, B.; Baldock, D. and Zdanowicz, A. 2005. *Recent evolution of the EU Common Agricultural Policy (CAP): State of play and environmental potential*. www.ieep.eu/assets/224/WP6D4B_CAP.pdf (accessed 15 January 2014)

Getzler, J. 2004. *A history of water rights at common law*. Oxford, UK: Oxford University Press.

Griffiths, C. 2012. Heroes of the reconstruction? Images of British farmers in war and peace. In Brassley, P.; Segers, Y. and van Molle, L. (Eds), *War, agriculture, and food: Rural Europe from the 1930s to the 1950s*, pp. 209-228. New York, USA: Routledge.

Grigg, D. 1989. *English agriculture: An historical perspective*. Oxford, UK: Basil Blackwell Ltd.

Hall, J. and Pretty, J. 2008. Then and now: Norfolk farmers' changing relationships and linkages with government agencies during transformations in land management. *Journal of Farm Management* 13(6): 393-418.

Hamett, P. 2013. Personal communication with Paul Hammett, National Water Resources Specialist for the NFU (National Farmers Union).

Harvey, D. 2005. *A brief history of neoliberalism*. Oxford, UK: Oxford University Press.

Hodge, I. 2007. The governance of rural land in a liberalised world. *Journal of Agricultural Economics* 58(3): 409-432.

Howkins, A. 2003. *The death of rural Engalnd*. London, UK: Routledge.

Huitema, D; Mostert, E.; Egas, W.; Moellenkamp, S.; Pahl-wostl, C.; Yalcin, R. 2009. Adaptive water governance: Assessing the institutional prescriptions of adaptive (co-)management from a governance perspective and defining a research agenda. *Ecology and Society* 14(1): 26.

Ingram, H. 2008. *Beyond universal remedies for good water governance: A political and contextual approach*. Zaragosa, Spain. www.zaragoza.es/contenidos/medioambiente/cajaAzul/IngramACC.pdf (accessed 12 December 2013)

Kantar, 2013. No stopping Aldo: Another record share for the disount retailer. http://uk.kantar.com/media/552615/22_10_13_kantar_worldpanel_supermarket_share_data_and_commentary.pdf (accessed 5 Januray 2014)

Kay, A. 1998. *Reform of the Common Agricultural Policy: The case of the MacSharry reforms*. Wallingford, UK: CABI Publishing.

Kloezen, W.H. 1998. Water markets between Mexican water user associations. *Water Policy* 1(4): 437-455.

Leathes, W.; Knox, J.W.; Kay, M.G.; Trawick, P. and Rodriguez-Diaz, J.A. 2008. Developing UK farmers' institutional capacity to defend their water rights and effectively manage limited water resources. *Irrigation and Drainage* 57(3): 322-331.

Lobley, M. and Winter, M. 2009a. 'Born out of crisis': Assessing the legacy of the Exmoor moorland management agreements. *Rural History* 20(2): 229-247.

Lobley, M. and Winter, M. 2009b. Introduction: Knowing the land. In Winter, M. and Lobley, M. (Eds), *What is land for? The food, fuel, and climate change debate*, pp. 1-22. Oxon, UK: Taylor & Francis.

Lowe, P.; Cox, G.; MacEwan, M.; O'Riordan, T. and Winter, M. 1986. *Countryside conflicts: The politics of farming, forestry, and conservation*. Aldershot, UK: Gower Publishing Company.

Lowe, P.; Buller, H. and Ward, N. 2002. Setting the next agenda? British and French approaches to the second pillar of the Common Agricultural Policy. *Journal of Rural Studies* 18(1): 1-17.

Lubell, M.; Schneider, M.; Scholtz, J. and Mete, M. 2002. Watershed partnerships and the emergence of collective action institutions. *American Journal of Politcal Science* 46(1): 148-163.

Lukes, S. (2005). *Power: A radical view* (2nd edition). Basingstoke: Palgrave Macmillan.

Marsden, T.; Murdoch, J; Lowe, P.; Munton, R. and Flynn, A. 1993. *Constructing the countryside*. King's Lynn, UK: UCL Press.

Marsden, T. 2010. Food 2030 : Towards a redefinition of food ? A commentary on the new United Kingdom Government food strategy. *The Political Quarterly* 81(3): 443-446.

Marsden, T. and Sonnino, R. 2008. Rural development and the regional state: Denying multifunctional agriculture in the UK. *Journal of Rural Studies* 24(4): 422-431.

Mazoyer, M. and Roudart, L. 2006. *A history of world agriculture: From the Neolothic age to the current crisis*. Canada: New York University Press.

McCay, B.J. 2002. Emergence of institutions for the commons: Contexts, situations, and events. In Ostrom, E.; Dietz, T.; Dolsak, N.; Stern, P.; Stonich, S. and Weber, E. (Eds), *The drama of the commons*, pp. 361-402. Washington, DC: National Academies Press.

Meinzen-Dick, R. 2007. Beyond panaceas in water institutions. *Proceedings of the National Academy of Sciences of the United States of America* 104(39): 15200-15205.

Nedergaard, P. 2006. The 2003 reform of the Common Agricultural Polciy: Against all odds or rational explanations? *Journal of European Integration* 28(3): 203-233.

Newby, H. 1987. *Country life: A social history of rural England*. London, UK: Sphere Books LTD.

Newby, H. 1979. *Green and pleasant land? Social change in rural England*. Hounslow, UK: Hutchinson & Co.

Newby, H.; Bell, C.; Rose, D. and Saunders, P. 1978. *Property, paternalism, and power: Class and control in rural England*. London, UK: Hutchinson.

NFU (National Farmers Union). 2013. Abstraction reform: NFU position paper - November 2013. www.nfuonline.com/science-environment/irrigation-and-water-resources/nfu-sets-out-position-on-abstraction-reform/ (accessed 3 December 2013)

Ostrom, E. 1990. *Governing the commons: The evolution of institutions for collective action*. Cambridge, UK: Cambridge University Press.

Page, B. and Kaika, M. 2003. The EU Water Framework Directive: Part 2. Policy innovation and the shifting choreography of governance. *European Environment* 13(6): 328-343.

Pahl-wostl, C.; Sendzimar, J.; Jeffrey, P.; Aerts, J.; Bergkamp, G. and Cross, K. 2007. Managing change toward adaptive water management through social learning. *Ecology and Society* 12(2): 30 www.ecologyandsociety.org/vol12/iss2/art30/ (accessed 15 February 2014)

Parker, D.J. and Sewell, D. 1988. Evolving water institutions in England and Wales : An assessment of two decades of experience. *Natural Resources Journal* 28(4): 751-785.

Pierre, J. and Peters, G. 2000. *Governance, politics and the state*. Basingstoke, UK: Palgrave Macmillan.

Pretty, J. 2002. *Agriculture*. London, UK: Earthscan.

Pretty, J. 2003. Social capital and the collective management of resources. *Science* 302(5652): 1912-1914.

Purseglove, J. 1988. *Taming the flood: A history and natural history of rivers and wetlands*. Oxford, UK: Oxford University Press.

Reeves, A. and Williamson, T. 2000. Marshes. In Thirsk, J. (Ed). *Rural England: An issustrated history of the landscapes*. Oxford: Oxford University Press.

RT (The Rivers Trust). n.d. *The Water Framework Directive.* www.theriverstrust.org/environment/wfd/ (accessed 29 January 2014)

Sheail, J. 1995. Nature protection, ecologists and the farming context: A UK historical context. *Journal of Rural Studies* 11(1): 79-88.

Shoard, M. 1980. *The theft of the countryside*. London, UK: Maurice Temple Smith Ltd.

Strosser, P.; Pau Vall, M. and Plotscher, E. 1999. Water and agriculture: Contribution to an analysis of a critical but difficult relationship. In *Agriculture, environment, rural development: Facts and figures - A challenge for agriculture*. http://ec.europa.eu/agriculture/envir/report/en/eau_en/report.htm (accessed 12 January 2014)

Swinbank, A. 1999. EU agriculture, Agenda 2000, and the WTO commitments. *World Economy* 22(1): 41-54.

Swinbank, A. and Daugberg, C. 2006. The 2003 CAP reform: Accommodating WTO pressures. *Comparative European Politics* 4(1): 47-64.

Tewdwr-Jones, M. and Allmendinger, P. 1998. Deconstructing communicative rationality: A critique of Habermasian collaborative planning. *Environment and Planning A* 30(11): 1975-1989.

UNCED (United Nations Conference on Environment and Development). 1992. *Agenda 21*. http://sustainabledevelopment.un.org/content/documents/Agenda21.pdf (accessed 10 October 2013)

UNDP (United Nations Development Programme). 2014. What is water governance? www.watergovernance.org/whatiswatergovernance (accessed 10 December 2013)

Veneklasen, L. and Miller, V. 2002. *A new weave of power, people and politics: The action guide for advocacy and citizen participation*. Oklahoma, USA: World Neighbors.

Walford, N. 2003. Productivism is allegedly dead, long live productivism. Evidence of continued productivist attitudes and decision-making in south-East England. *Journal of Rural Studies* 19(4): 491-502.

Wallace, J.S.; Acreman, M.C. and Sullivan, C.A. 2003. The sharing of water between society and ecosystems: From conflict to catchment-based co-management. *Philosophical transactions of the Royal Society of London. Series B, Biological sciences* 358(1440): 2011-26.

Warwick, C. 2012. 'Sustainable' water abstraction: Catchment abstraction management strategies in England and Wales. *Water Policy* 14(4): 647.

Watson, N. 2005. The management of British rivers. In Owen, S.; Pooley C.G.; Folkard, A.N.; Park, C.; Clark, G. and Watson, N. (Eds), *Rivers and the British landscape,* pp. 169-194. Lancaster: Carnegie Publishing Ltd.

Watson, N. and Treffny, R. 2009. Beyond bureaucracy? Assessing institutional change in the governance of water in England. *Water Alternatives* 2(3): 448-460.

WCED (World Commission on Environment and Development). 1987. *Our common future*. Oxford, UK: Oxford University Press.

Weatherhead, E.K. and Howden, N.J.K. 2009. The relationship between land use and surface water resources in the UK. *Land Use Policy* 26(1): 243-250.

Weis, T. 2007. *The global food economy: The battle for the future of farming*. London, UK: Zed Books Ltd.

Wesselink, A.; Paavola, J.; Fritsch, O. and Renn, O. 2011. Rationales for public participation in environmental policy and governance: Practitioners' perspectives. *Environment and Planning A* 43(11): 2688-2704.

Wilson, G.A. 2001. From productivism to post-productivism and back again? Exploring the (un)changed natural and mental landscapes of European agriculture. *Transactions of the Institute of British Geographers* 26(1): 77-102.

Wilson, G.A. 2007. *Multifunctional agriculture: A transition theory perspective*. Wallingford, UK: CABI.

Winter, M. 1996. *Rural politics: Policies for agriculture, forestry, and the environment*. London, UK: Routledge.

Wondolleck, J.M. and Yaffee, S.L. 2000. *Making collaboration work: Lessons from innovation in natural resource management*. Washington, DC, USA: Island Press.

Youngs, P. 2013. Personal communication with Peter Youngs, a leader in the east Suffolk farming community and chair of the East Suffolk Water Abstractor Group.

THIS ARTICLE IS DISTRIBUTED UNDER THE TERMS OF THE CREATIVE COMMONS *ATTRIBUTION-NONCOMMERCIAL-SHAREALIKE* LICENSE WHICH PERMITS ANY NON COMMERCIAL USE, DISTRIBUTION, AND REPRODUCTION IN ANY MEDIUM, PROVIDED THE ORIGINAL AUTHOR(S) AND SOURCE ARE CREDITED. SEE HTTP://CREATIVECOMMONS.ORG/LICENSES/BY-NC-SA/3.0/LEGALCODE



https://dspace.org/

Power-sharing in the English lowlands? The political economy of farmer participation and cooperation in water governance

Whaley, Luke; Weatherhead, E. Keith

2015-02-01
Water Alternatives Association
http://www.water-alternatives.org/index.php/all-abs/267-a8-1-11/file
Whaley L. Weatherhead EK. (2014) Power-sharing in the English lowlands? The political economy of farmer participation and cooperation in water governance. Water Alternatives, Volume 8, Issue 1, pp. 820-843

Downloaded from a DSpace repository. https://dspace.org/