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Adaptation through Collaboration: Evaluating the Emergence of Institutional Arrangements for Catchment Management and Governance in England

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Local-scale collaborative catchment management pilot projects were established in England in 2011 as part of an initiative to improve implementation of the EU Water Framework Directive (WFD), give more control to non-government groups and deliver multiple economic, social and environmental benefits. Local experiences were examined with respect to six criteria: motives and frames; focus and purpose; structures and niches; engagement, power and use of facilitation; deliberation and social learning; and cross-scale institutional linkage. The findings indicate that organisational histories and established power relations among the participants were important influences on the initiation, development and impacts of collaboration. Catchment-scale collaboration did strengthen inter-organisational relationships and did increase support for specific water management activities. However, the full potential of an integrated approach to resource planning and management was not realised during the piloting phase because institutional structures and mechanisms were not established to link collaborative catchment groups with key water and resource governance regimes, including the WFD planning process. Collaborative governance has not taken the place of government-based decision making. However, more limited arrangements are developing for collaborative water management at a catchment scale which are sanctioned by government and, to variable degrees, orchestrated by established and powerful local organisations and groups.

Keywords: catchments, collaboration, England, governance, management

Introduction

Problems related to flooding, drought, water quality, access and rights, and the impacts of land-use developments are increasingly common and controversial, indicating an urgent need to adapt our relationships with rivers, and each other. Throughout most of the last century, rivers were viewed as unlimited resources that should be used to satisfy increases in demand for water, raise food production and facilitate economic growth. In many cases, that perspective led to an over-reliance on 'supply-side' solutions that involved the construction of physical infrastructure and manipulation of the hydrologic

cycle in order to maximize resource yields and economic values. These practices still define the dominant water management paradigm that is in use around the world today, although a more adaptive and integrated management approach that reflects the ethics and principles of sustainability is starting to emerge (Mitchell, 1990; Gleick, 2000; Pahl-Wostl, Kabat, & Möltgen, 2008).

The beginning of a paradigm shift in water management has coincided with, and has become enmeshed within, the emergence of a new 'Network Society' (Castells, 1996) which has fundamentally transformed economic, political and social structures and altered relations among people, places and organisations. The rise of the Network Society in the last few decades has profound implications for how we think about, and attempt to adapt, river and river basin management. If, as has been widely claimed, the traditional power and authority of the nation-state has been eclipsed (Kooiman, 1993; Pierre, 2000; Hooghe and Marks, 2003; Edelenbos, Bressers, & Scholten, 2013) then we can no longer rely on government departments and public agencies alone to deliver effective solutions to problems involving water. Effective and sustainable management of rivers and other water resources therefore appears to depend much more on negotiated processes of decision making that involve interaction and collaboration among larger and more diverse sets of public, private and civic organizations and groups. Such processes are likely to become increasingly important for long-term socio-ecological adaptation, which is defined here as pro-active intervention in people-environment relationships and systems through experimentation, learning and adjustment with the goal of improving the efficiency, effectiveness, and equity of resource use for sustainable development.

The increasing emphasis placed on collaboration implies that effective strategies that seek to 'make space for the river' by adapting human uses of water and land to accommodate ecological needs will require new approaches for policy making and policy implementation. However, co-management and co-governance of water and other natural resources is still a relatively new field, and knowledge is limited in comparison to what we know about other more conventional top-down and government-based approaches. Furthermore, little agreement appears to exist regarding operational definitions, key variables and other basic research issues. Although there has been significant growth and development of research in recent years (for example: Wondolleck and Yaffee 2000; Conley and Moote, 2003; Connick and Innes, 2003; Imperial 2005; Sabatier et al., 2005; Warner 2007; Margerum, 2011; Grover and Krantzberg, 2013), understanding of the types, functions, impacts and benefits of collaborative arrangements, and also their relationships with government institutions, is still very limited.

This paper addresses these issues in the context of recent policy developments in England, where attempts have been made to initiate a new collaborative and locally-centred approach for river catchments. Catchment (i.e. watershed) management is not a new approach and has been a significant feature in policies and institutional arrangements for water in the UK since the 1930s (Kromm, 1985; Parker and Sewell, 1988; Pitkethly, 1990; Newson, 1992; Watson, 2005). There have been previous experiments in water planning

in England where public agencies have sought to create and direct multi-party groups (Watson and Howe, 2006; Watson, Deeming, & Treffny, 2009). However, the explicit emphasis on collaborative planning and management whereby organisations from the public, private, civic and non-profit sectors work in partnership at a catchment scale is certainly a new development in policy. At the time of preparing this paper, the collaborative catchment initiatives included in this analysis had been in operation for less than three years and it is important to keep this in mind when evaluating their development. Nevertheless, some valuable insights can be gained from examining the initial period of activity that can inform the future development of catchment management and also help to shed light on collaboration more generally.

The discussion begins with an examination of the broad context in which collaborative approaches to water management have developed internationally in the last few decades, including the nature of water-related issues and problems in contemporary society and also changes in socio-economic structures and norms. This is followed by a review of key literature on the nature and facets of collaboration as they relate to the governance and management of water. For clarity, in this paper the term 'water governance' refers to the structures and processes used in society to make decisions and to share power, whilst 'water management' concerns actual decisions and actions pertaining to the resource and its use (after Davidson and de Loë, 2014). Attention is then turned to current government policy for catchment management in England and to the analysis of the catchment-based initiatives that were developed in response by local organisations and groups between 2010 and 2013. Finally, the significance and wider implications of the findings for understanding of collaboration are discussed and conclusions are presented.

Wicked Water in a New Society

Water and rivers have always played a vital role in human development. However, due to the growth of increasingly complex and dynamic systems of economic production, water is either directly or indirectly involved in many different interconnected aspects of life. During the last century, water management was generally treated as a distinct area of policy concerned with discrete activities and functions such as domestic and industrial water supply, waste disposal and treatment, land drainage and irrigation, navigation and power production. In the present era, however, water is also implicated in many more matters of public and political concern related to, for example, public health, food security, energy and climate change, biodiversity and sustainability. Thus, the water management challenges that confront society at present are significantly different to those faced by previous generations, not only due to their greater number but also because of their greater complexity, interconnectedness, persistence and intractability. Inspired by the seminal work of Rittel and Webber (1973), several analysts have contended that many current problems involving water are 'wicked' or 'messy' rather than well-fined or 'tame'

(Ludwig, 2001; Mitchell, 2014). As described by Lachapelle, McCool, & Patterson, (2003, p. 474):

> "Wicked problems and messy situations are typified by multiple and competing goals, little scientific agreement on cause-effect relationships, limited time and resources, lack of information, and structural inequalities in access to information and the distribution of political power."

In addition, wicked problems tend to spill-out across disciplinary, organisational, economic, political and cultural boundaries and, in so doing, produce dynamics and interactions that transcend the various spatial and temporal scales that are often used for resource analysis, governance and management. Furthermore, the uncertainty that characterises wicked problems results not only from a lack of scientific and technical knowledge but also from a lack of clarity regarding the perceptions and intentions of the actors involved, and the fact that decisions are made in different places and times within global, international, national, regional and local policy arenas (van Bueren Klijn, & Koppenjan, 2003). These conditions are compounded, and therefore take on even greater significance and meaning, when attention is focussed on entire catchment areas and whole river basin systems, since they represent particular spatial assemblages of interrelated actors, wicked problems and management-related issues, challenges and conflicts.

At the same time as water has evolved from a tame to a wicked problem-type, some equally fundamental changes are said to have occurred in social structures and organisational arrangements. For example, Castells (2000) has contended that a new, more fragmented, uneven and less hierarchical 'Network Society' has started to emerge in the last quarter of a century as a consequence of five key interdependent changes: the deployment of information technology; the globalization of the economy and associated institutional, organizational and technological capacities; the internet and use of hypertext as a mainstay of cultural identity and experience; the demise of the sovereign nation-state and emergence of networks of shared power which involve supranational, national, regional, and local governments, institutions, organisations and groups in negotiated processes of decision making; and lastly scientific advances which are changing our understandings of our relationships with the environment and affecting the way we live. This implies that society is increasingly reliant upon multi-party and trans-scale networks of interconnected nodes, powered by information technology and capable of expanding, contracting, re-configuring and adapting to changing circumstances and new tasks.

The kinds of social structures and network arrangements which have emerged during the last few decades might appear, in principle at least, to be a good 'fit' for the types of wicked and messy problems which have come to be associated with the governance and management of water. However, as is the case with any form of social and organisational arrangement, networks have their own political economies that reflect differences in power, knowledge and transaction costs among the members and their abilities to draw on external linkages to protect and advance their own interests (Berkes, 2002). In any given network there are likely to be networkers, those who are networked, and others who are switched-off. Thus, as concluded by Adger, Brown, and Tompkins (2005), the cross-scale dynamics of networks produce winners and losers because linkages can

emerge that may alter the playing field or reinforce inequalities among the powerful and less powerful players.

Collaborative Water Management and Governance

Networks provide a useful departure point for considering new ways of managing and governing water, particularly during a period when government capacity is in decline and interest is increasing in integrated, holistic and ecosystems-based approaches. Nevertheless, it is abundantly clear that simply 'building networks' is not in itself an adequate response to the complex challenges and problems associated with water, land and related resources. To be effective, water management networks should be functional and purpose-driven and provide a sense of solidarity whilst at the same time enabling the participants to individually and collectively adapt or transform their resource use practices (Pahl-Wostl et al., 2008). This ability has been variously described as 'connective capacity' (Edelenbos et al., 2013), 'collaborative capital' (Watson, 2004), 'collaborative advantage' (Huxham, 1996) and 'network power' (Booher and Innes, 2002). Despite differences in terminology, there is substantial agreement within the literature that effective collaboration among multiple participants can, given appropriate circumstances and conditions, produce knowledge, practices and behaviours within networks and inter-organisational settings that are valuable for managing water and other complex systems (Taylor, de Loë, & Bjornlund, 2012).

According to Gray (1985), collaboration is a process whereby two or more stakeholders combine appreciations and resources in an attempt to solve a set of problems which they cannot solve individually. Gray (1989) added to this interpretation by stating that the parties constructively explore their differences and search for solutions that go beyond what they each imagine is possible. Thus, collaboration is defined as an interactive, social, form of decision making in which a diverse group of autonomous actors (for example, communities, firms, user groups, individuals, government departments, public agencies, voluntary or 'third' sector organisations) search for agreement on a collective issue or problem in which they all have stakes, and find ways to translate consensus into actions which they believe will yield worthwhile results and benefits (McCann 1983; Imperial, 2005). Collaboration therefore relies on a political contract which defines the rules and arrangements for shared decision making (Sabatier et al., 2005), although other forms of interaction such as communication, consultation, conflict resolution, consensus building, cooperation and coordination may also be involved (Margerum, 2011).

Because collaboration involves commitment of time and resources and the relinquishment of some degree of individual control decision making power, initially actors are unlikely to regard it favourably. Rather, as argued by Roberts (2000, p. 12), organisations and groups tend to "fail into collaboration" following unsatisfactory experiences with authoritative or competitive strategies that have not resolved problems or improved conditions sufficiently. Furthermore, according to theories of rational choice, decisions to engage in collaboration are based on transaction costs and expected benefits. Consequently, organisations and groups choose collaboration when the perceived benefits outweigh the

costs although, in practice, decisions will involve risk since the immediate and up-front costs of engagement are likely to be more certain than the future benefits. As the nature and scale of benefits become clearer over time relative to the costs, individual actors can be expected to review their earlier decisions and may either continue to participate in or withdraw from the collaborative arrangement. Overall, collaboration is hypothesised to be advantageous because it can produce more effective responses and solutions to complex problems as a result of improving relationships and access to different forms of knowledge, levering resources, reconciling competing values and resolving conflict, legitimizing decisions, re-allocating roles and responsibilities, and building commitment to long-term goals (Fish, Ioris, & Watson, 2010).

Research on specific cases of multi-party collaboration has led to the development of a widely recognised process-based model (McCann, 1983; Gray, 1985; Selin and Chavez, 1995; Bentrup, 2001; Watson, 2004). Although there are some subtle variations among the different versions of the model, collaboration is typically conceptualised as a cyclical rather than a linear process in which the participants work together towards the development and implementation of agreed policies and actions. In brief, *antecedents and contextual conditions* provide the incentives and disincentives for collaboration. These can include some sort of crisis, changes in legislation and institutional policy, political leaders and policy entrepreneurs who champion the value and importance of collaboration, and issue-based or place-based social movements seeking to bring about improvements in conditions. *Problem-setting* involves the development of a common understanding and definition of the problem(s) faced by the participants through the sharing of knowledge, beliefs, ideas and experiences. *Direction-setting* is the process of establishing long-term goals that encapsulate the needs and aspirations of all of the participants. *Structuring* involves the creation of decision rules and guidelines, group structures and the allocation of roles and responsibilities. *Outputs* refers to the phase where policies, plans, agreements, programmes and projects are established and implemented, whilst *outcomes* are actual consequences and benefits such as improved environmental quality, reduced conflict, enhanced knowledge and problem-solving capacity, and more efficient or equitable use of natural resources. Ideally, the whole process should be subject to on-going monitoring and evaluation so that collaboration evolves and iteratively adapts in response to feedback regarding impacts on processes, outputs and outcomes as well as changes in contextual conditions. Furthermore, the measurement and assessment of 'success' should reflect the particular circumstances of the initiative, including the previous state of affairs, progress made through the different phases of collaborative working, and the kinds of problems and problem responses that are being considered and developed.

Collaboration can be used in many different situations and is relevant to water governance, management and also planning. In water governance, collaboration affects how decisions are made and who gets to decide whereas, in water management, models, principles and information are developed and used collaboratively to make decisions and take action (Bakker, 2007). Furthermore, collaboration can be applied to specific water management

activities or functions such as resource appraisal, protection, allocation, development, rehabilitation, monitoring and evaluation. In contrast, collaborative water planning involves jointly identifying future end states that are desirable to multiple actors and developing courses of action to reach those end states (Mitchell, 2002).

There has been a great deal of debate regarding the factors which affect the performance of collaborative initiatives. For example, the saliency of the issues and problems can be very significant. Writing about the Little Miami River Partnership in the United States, Bonnell and Koontz (2007, p. 158) noted:

> "There were no riveting social, political, or environmental issues in the watershed to galvanize concern for protecting the Little Miami river, and board members perceived that residents of the watershed would prefer to work on issues that hit closer to home, where their decisions and actions would be more likely to have a direct impact in their own quality of life."

Thus, salience is needed to build social interest and political support, which themselves help to legitimize the creation and maintenance of collaborative arrangements. Another recurring argument in the literature is that a diverse and balanced mix of participants that reflects the complexity of the problem or the system under consideration is necessary (Gray, 1985; Bunker and Alban, 1997). In addition to diversity, Booher and Innes (2002) identified two other factors – recognition among the participants of their interdependence, and authentic dialogue based on open, accurate and trusted communication. Deliberation is also claimed to be an important characteristic of the dialogues that occur within collaborative processes, whereby information, ideas, values and beliefs are shared, explored and evaluated (Bevir, 2009).

Furthermore, diversity is necessary in order to fully reflect and represent the complexity of the problem or situation that is being faced. Equally, there is a need for some similarity and common concerns so that an appreciation can emerge among the collaborators of their interdependencies. Similarity among participants is likely to make collaboration easier, but may result in minor benefits when compared with diverse collaborative groups where both the challenges and the potential benefits of collaboration are probably much greater. One of the key functions of dialogue in this context is to encourage and enable greater diversity whilst also reducing the risks that collaboration will fail. Additionally, appreciation of uncertainties and acceptance of different types and sources of knowledge are important factors that can promote collective problem-framing and creativity (Bardwell, 1991; Roberts, 2001). Similar arguments appear in the literature on social learning, which emphasizes the importance of jointly-produced knowledge as a key element in adaptive co-management and governance (Schusler, Decker, & Pfeffer, 2003; Pahl-Wostl and Hare, 2004; Berkes, 2009). Social learning was defined by Armitage, Marschke, and Plummer (2008, p. 88) as:

> ". . . a process of iterative reflection that occurs when we share our experiences, ideas and environments with others. Social learning includes single-loop (correcting errors from routines), double-loop (correcting errors by examining values and policies) and triple-loop learning (designing governance norms and protocols)."

Whilst it is important that collaborators are able to learn together and appreciate their interdependence, it has been suggested that effective collaborative arenas occupy distinctive niches that provide independent spaces for learning and negotiation that are not tied to, or controlled by, any one particular constituency or group. For example, in their analysis of watershed management in Oregon, Bidwell and Ryan (2006) found that independent partnerships tended to develop their own priorities, but partnerships affiliated with existing agencies tended to adopt problems and strategies as already defined by their parent organization. The later of these two situations, they argued, may "raise concerns that some partnerships may be forgoing the deliberative dialogue, shared learning, and consensus decision making that are often the primary features of collaborative processes" (840). Nevertheless, at the same time as ensuring independence for negotiation and learning, maintaining close contact with the constituencies of the participants is also believed to be important for maximizing support and avoiding potential implementation problems later in the process (Gray, 1989; Rotmans, Kemp, & Van Asselt, 2001; Warner, Lulofs, & Bressers, 2010).

Mutual trust among participants has also been found to be a significant factor in the success of collaboration. From their study of community-water resource management agency relationships, Leahy and Anderson (2008) identified five key factors: general trust in government, social trust in people, technical competency, shared values and interests, and procedural justice. Due to the potential for weak communication, misunderstanding and distrust, a skilled facilitator can have a significant impact on collaboration. As noted by Sink (1986, p. 102), a major challenge is "dealing with individual representatives' idiosyncrasies, egos, personal agendas and interpersonal quirkiness". Furthermore, the affiliation of the facilitator can have important consequences. For example, Leach and Pelkey (2001) explained that government agencies often invite senior technical staff to act as facilitators for collaborative initiatives but they may lack the time, neutrality, training or experience to perform the task well even though they can provide expertise and authority.

Due to the complex nature of water problems and institutional arrangements, 'boundary spanning' is an important activity in governance, planning and management (Tushman and Scanlan, 1981). Boundary spanning functions may be performed in collaborative settings by individuals or, in some cases, groups of people or entire organisations. Effective boundary spanners share some common characteristics and qualities including networking skills, entrepreneurial and visionary capacity, abilities to engage with others, to act as cultural brokers, build trust, act as leaders, and demonstrate virtues such as diplomacy, tact, sincerity and honesty (Williams, 2002). This point serves as an important reminder that organisations and groups are composed of people and that the success or failure of collaboration is strongly influenced by inter-personal skills and qualities and cannot be assured by organisational design alone. Lastly, the time and resource commitments required for collaboration are significant and, while not insurmountable, can act as significant barriers. Huxham (1986, p. 6) observed:

> ". . . collaboration is inherently more time-consuming – and hence resource consuming and costly – than non-collaborative activities. The time required is of two sorts: actual time invested in achieving mutual understanding, gaining goodwill, negotiating bases for action, and co-ordination (all of which are related to creating trust) – and lapsed time to cope with accountability issues and other organizational priorities."

Although previous research has provided some important insights and clues regarding the nature of collaboration and the factors influencing its successful application in the water arena, the development of knowledge has been hesitant, plagued in part by a lack of agreed definitions and the fact that collaboration is often implicitly practiced but not explicitly stated or recognised in water governance and management initiatives. To address this gap, several authors have proposed typologies as a basis for describing and understanding collaborative approaches and arrangements. For example, Sabatier et al. (2005) identified three formulations:

1. Collaborative engagement processes: time-limited conflict management and resolution.
2. Collaborative superagencies: composed of multiple public, private and voluntary sector actors engaged in joint planning and implementation.
3. Collaborative watershed partnerships: relatively informal multi-party forums or platforms used to make plans which are implemented by the participants.

Moore and Koontz (2003) proposed a three-part typology consisting of citizen-based, agency-based and mixed collaborative watershed groups. From empirical research conducted in Ohio, USA they found that mixed groups tended more often to focus on producing management plans, and both mixed and agency-based groups perceived group development and increased public awareness as significant outcomes. In contrast, citizen-based groups regarded lobbying, petitioning and forcing policy changes to be their key accomplishments. In contrast, Margerum (2011) proposed a typology of: 1) policy-oriented collaboration focused on constitutional issues and rules; 2) organization-oriented collaboration concerned with collective choices and plan/program development; and 3) action-oriented collaboration aimed at watershed restoration and improvement. In practice, initiatives may include more than one of the three types or may shift from one to another as time progresses. Together, the different typologies reveal some of the potential variations among collaborative processes and groups in terms of their motives, purposes, niches and structures, constituencies and power relationships, approaches to decision making, and cross-scale links to other governance arrangements. As such, these six variables were used to construct a framework for the evaluation of collaboration, which is elaborated later in this paper and used to examine recent developments for catchment management and governance in England.

From the literature, it is apparent that collaboration is a complex process that can develop in different ways in a variety of policy and managerial contexts. The likelihood of success for any collaborative arrangement or initiative is extremely difficult to predict, given the number and range of interrelated political, organisational, inter-personal and personal

variables and factors that are involved. Much of the previous research on collaborative water management, as opposed to work on participatory processes in general, has been geographically focused on experiences in countries such as the USA, Canada, Australia and the Netherlands, where there are strong traditions of local and regional governance. However, relatively little is known about approaches and experiences in other countries, including the UK, where historically governance has been more centralised and top-down in style.

Analysing Catchment Management and Governance in England

In 2000, the European Union (EU) adopted the Water Framework Directive (WFD), which established a new integrated approach for the protection of rivers, estuaries, coastal waters and groundwater. Each Member State of the EU was expected to designate River Basin Districts (RBD) for all areas under their jurisdiction and to set biological standards in additional to existing chemical standards for assessing water quality. For each RBD, a set of environmental objectives and a corresponding programme of measures are required in the form of a River Basin District Management Plan. The WFD includes a requirement for public disclosure of information and participation throughout the RBD planning process, and updated Plans are to be produced on a six-year cycle. The Environment Agency (EA), an arms-length public body operating under guidance from the Department for Environment, Food and Rural Affairs (Defra), was designated as the competent authority for implementing the WFD in England and Wales. While the UK government was a long-standing supporter of the WFD during the drafting and development of the EU legislation, the EA later expressed concerns regarding the requirements for public engagement. For example, in her evidence to a House of Lords European Union Committee investigation into the WFD, the Chief Executive of the EA stated:

> "To spend a lot of public money trying to get the intricacies of the Water Framework Directive over to the man in the street, when he has already told us that he does not want to know that, seems to me to be not what we are about. I want action. I do not want discussion. I want doing; I want outcome; I want river basins to get better. I would rather spend more money on getting river basins better than making sure that all 60 million people in Britain know their water catchment and know exactly what we are doing in it." (House of Lords, 2007, January 17, Question 24).

The approach taken by the EA for public engagement was heavily criticised by environmental groups. Two organisations (the Angling Trust and World Wildlife Fund UK) threated to seek a judicial review of the WFD implementation process on the grounds that plans produced by the EA for River Basin Districts (Figure 1a) only provided very weak targets for environmental improvements that had been set without adequate public input (Watson, 2014). Against this background of threated legal action, in March 2011 the Environment Minister for England announced a fundamental review of the Government's river basin planning strategy. The review focussed on institutional arrangements, which are defined in this paper as the combination of legislative, political, policy, financial and administrative structures and processes used for making and implementing decisions, and for influencing the behaviours of public and private actors. Subsequently, the Government

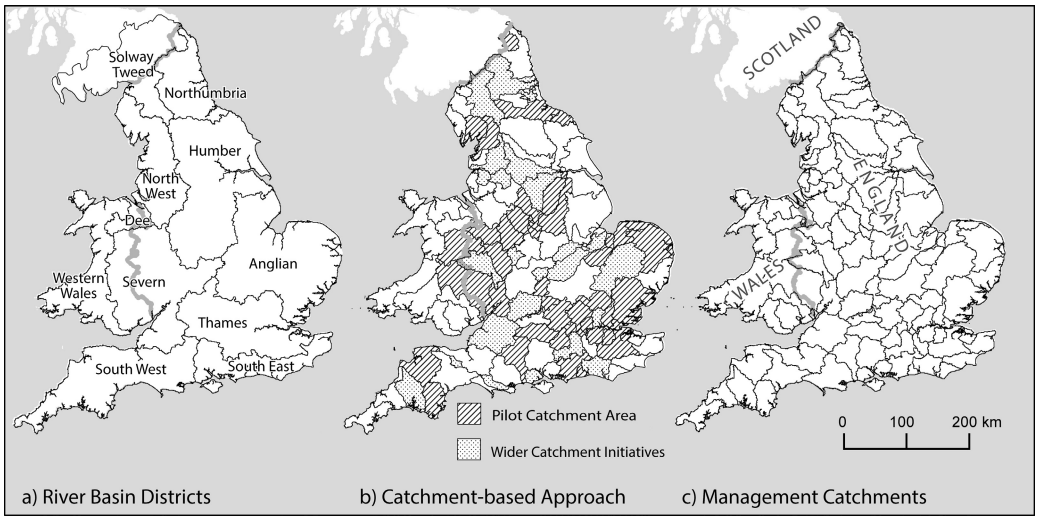

Figure 1. The Spatial Re-organisation of Water in England

made a commitment to develop a more local and catchment-based approach that would engage stakeholders, foster common ownership of problems and solutions, and help to deliver economic, social and environmental benefits. This new initiative became known as the Catchment-based Approach (CaBA) and was proposed by government policy makers as a way of generating more local-level action from across society to improve water, developing new approaches to water management capable of delivering multiple economic, social and environmental benefits, and also improving the river basin planning process as required by the EU WFD. National government policy makers intended that CaBA would eventually be applied to all of the eighty-three catchment areas in England (Figure 1b). This change in thinking and scale for planning and management was confirmed with the publication of two government policy statements – the Natural Environment White Paper '*The Natural Choice'*, and the Water White Paper - '*Water for Life'* (HM Government 2011a, 2011b). Key principles which underpin the CaBA policy include: organisations and groups with interests in a particular catchment working collaboratively; non-government rather than government or public sector organisations undertaking activities such as public engagement and group facilitation; stakeholders who benefit from catchment resources providing new sources of funding to support action, and delivery of multiple benefits such as flood risk management, climate change adaptation and economic regeneration, in addition to water quality improvements.

To develop and test the Catchment-based Approach, a piloting process was established by the Department for the Environment, Food and Rural Affairs (Defra). In April 2011, the Environment Agency (EA) began pilot collaborative planning and management projects in ten catchments and in January 2012 an additional fifteen projects were initiated that were hosted by other organisations including Rivers Trusts (5), Groundwork Trusts engaged in local regeneration (4), water companies (2), Wildlife Trusts (2), and national

park authorities (2). The twenty-five pilot projects were selected by Defra so as to include a range of catchment sizes (between 50 and 1500 km^2), mixes of land uses and locations throughout England (Figure 1b).

The EA-hosted pilots were funded directly by the Agency itself, while the additional fifteen received £30,000 in government funding per project. Due to the high level of interest shown by non-government organisations in hosting pilot projects, an additional thirty-seven catchment-based initiatives were awarded £5,000 each by Defra. All sixty-two catchment planning and management projects were included in an evaluation exercise conducted by a team of independent consultants on behalf of Defra, which ran from January 2012 to January 2013 (Cascade Consulting, 2013). The thirty-seven additional initiatives were also the focus of a further study of organisational arrangements for catchment management (Watson, 2013).

The analysis presented below focuses on the period April 2011 to December 2012, when collaborative arrangements for catchment planning and management were being initially developed by local hosts and the EA. Information was collected from a number of sources, including twenty-two semi-structured interviews with leaders of the newly formed catchment groups, observations at five national and seven local-level workshops, analysis of mid-point and final reports produced by the evaluation team and also independently by the author, catchment plans produced by local groups, and discussions with policy makers and stakeholder representatives who had participated in one or more of the collaborative groups. The findings pertaining to six criteria and associated questions shown in Table 1 are presented in the following section.

Table 1
Framework for Evaluating Collaborative Catchment Governance and Management

Evaluation criteria	Key questions
Motives and frames	What motivated organisations and groups to pursue collaboration? How did host organisations and participants interpret catchment-scale collaboration?
Focus and purpose	What kinds of issues or problems did collaborative groups focus upon, and why? What was the intended purpose and perceived advantage of working collaboratively?
Niches and structures	What kinds of organisational and policy niches did collaborative groups seek to occupy? What kinds of inter-organisational structures were developed to support collaboration?
Engagement, power and facilitation	Which interests were involved, and how were they engaged in collaboration? Did collaboration result in the reproduction or adjustment of existing power relationships? To what extent was independent facilitation used, and what impact did it have on collaboration?
Deliberation and social learning	To what extent were deliberation and social learning evident in the collaborative processes, and how can differences be explained or accounted for?
Cross-scale institutional links	To what extent were collaborative groups and actions at the catchment scale linked with wider governance arrangements, including resource planning and management at other spatial scales and in other jurisdictions?

Motives and Frames for Collaboration

The resolution of conflicts and the need to address complex problems are highlighted in much of the literature as primary motives for collaboration. However, the findings from this evaluation suggest that access to funding to support existing work under a new banner of 'catchment management' was actually a key factor for many of the host organisations and other participants. Although the availability of funding was less of a concern for relatively well-resourced hosts such as the EA, water companies and park authorities, it was identified as a significant factor by many of the voluntary-sector organisations such as Rivers Trusts and Wildlife Trusts. The hosts from the voluntary sector had become very skilled at winning funding to support their environmental conservation work and in some cases had operated for more than 15 years on project-related sponsorship alone rather than sustained core funding. Thus, the availability of £5-30,000 was a significant incentive for those organisations to act as hosts, even though they had not necessarily operated at a catchment-scale in the past.

Host organisations dealt with the requirement to work at a catchment scale in a number of ways, depending on the degree of spatial 'fit' with their on-going projects and activities. For example, for hosts such as the EA, water companies and Rivers Trusts, working at the catchment scale was already an integral part of some of their operations. Therefore CaBA was considered by those organisations to be both advantageous and unproblematic as it was perceived to be a close match with their existing frames of reference, priorities and management arrangements. However, in other instances, host organisations had to find ways of adapting and merging their activities at contrasting spatial scales so that they could show they were at least working towards a catchment-scale approach. A common strategy used by a number of voluntary sector hosts was to retain their primary focus on specific local sites such as nature reserves and other designated areas, but to seek to engage other organisations and groups from the surrounding catchment in developing actions to further protect and enhance those sites. As such, different spatial models or interpretations of catchments and their inter-relationships were developed according to the history and pre-existing priorities of the hosts. In some cases, a whole-of-the catchment approach was initiated from the outset of the pilot phase but in others the hosts opted to begin at specific sites and to gradually work upwards in scale and outwards in terms of increasing engagement and network development.

Despite the challenges involved, the prospect of working at a catchment scale appeared to be an important motive for hosts to develop collaborative groups. For example, during the first cycle of implementing the WFD (2006-2015) attention had been focused on large River Basin Districts. It became clear from interviews and workshops that many stakeholders believed that important issues and problems within smaller catchment areas had been overlooked during the WFD implementation process, and that this had provided motivation for collaborative groups to be formed in small-scale catchments as part of the piloting phase of CaBA.

The findings also suggest that scale was an important influence on the pace at which collaborative groups and working arrangements were developed. Initiatives in small-scale

catchments (<500 km^2) took longer to get started compared to those in medium-sized catchments (500–1500 km^2), although by the end of 2012 similar rates of progress were reported in terms of forming collaborative groups, carrying out catchment appraisals and producing draft plans. Thus, it appears that some host organisations had pre-existing links with organisations at the medium scale which they could utilize quickly, whereas more time and effort was needed to initiate new relationships with groups and stakeholders at smaller spatial scales. Progress for large-scale catchment areas (>1500 km2) was much slower due to the complexity of the landscapes, larger numbers of potential participants and extra demands on staff time and financial resources. For example, at the end of 2012, two of the host organisations responsible for large-scale catchments were still at the stage of planning their approach to collaborative working.

Focus and Purpose of Collaboration

As discussed earlier, the development of a clear focus and a common sense of purpose are believed to be critical to the success, and possibly even the survival, of collaborative groups. Catchment systems present very significant challenges in this regard due to the wide range of potential issues and problems that may exist, the diversity of affected actors and interests, and the often complex nature of the institutional arrangements which create both opportunities and constraints for collaborative interventions. For example, a catchment policy, planning process or a management initiative might focus on economy-environment relationships, on connections among uses of land and water, or specific water quality or quantity issues.

Although the Environment Minister had highlighted a number of potential benefits of CaBA at the launch in March 2011, this evaluation found that most of the pilot projects and additional initiatives were actually focussed on improvements to water quality and river habitats. Indeed, from interviews, workshops and other data sources, it was apparent that many of the host organisations regarded CaBA primarily to be a new approach to implementing the WFD. In a baseline survey conducted in February 2012, host organisations identified the delivery of the WFD as the main aim for seventeen of the pilot projects, and wider aims such as cleaner drinking water and improved land management for the remaining eight catchments (Cascade Consulting, 2013). Almost all of the additional initiatives were also focussed on water quality and habitat issues, linked to the WFD (Watson, 2013). Many of the host organisations themselves had a strong environmental focus and had been delivering habitat and water quality projects for more than 5 years. This legacy tended to encourage the perception of CaBA as an approach to implementing the WFD, rather than a broader initiative designed to improve the use and management of catchment resources.

However, at the end of the pilot phase in December 2012, the focus had widened in several of the pilot projects and in some of the additional initiatives. Indeed, in national workshops, leaders and coordinators from host organisations debated the merits of a 'WFD' or a 'WFD-plus' focus. Although the WFD was considered to be very important by local

organisations and groups with specific environmental interests, other groups with stakes in catchments related to, for example, heritage, recreation and development, perceived it to be far less relevant. Thus, host organisations were faced with a choice between developing relatively small and tightly defined groups focused only on water and habitat within the catchment, or to widen the scope to include more issues and attract support from a larger group of interests. Perceived advantages of a narrower approach were that the hosts could quickly draw on their existing stakeholder networks and inter-organisational relationships, collaborative processes would be less complex and more manageable, and the potential for duplication with other initiatives within the catchment could be reduced. Alternatively, a broader approach could provide alternative perspectives and new information, enhance political support, improve access to funding and create greater opportunities for joint actions and mutual benefits.

The purpose of individual pilots and initiatives also varied in terms of the amount of attention given to catchment planning relative to management. In many cases, the production of a catchment plan was regarded as a key activity that would serve as an important indicator of successful collaboration. However, approaches to planning varied considerably. In some cases, hosts brought groups together to carry out catchment appraisals and gather information as pre-cursors to planning. In contrast, some collaborative groups started to prepare catchment plans almost immediately because they were confident in the quality of their existing data and information. However, in a few cases there was a history of various types of environmental planning within the catchment and hosts believed that a new catchment-scale plan was not needed. In those circumstances, attention tended to be focussed more towards the implementation of previously agreed actions and actual delivery of physical improvements to the river. Overall, these findings shed light on the tensions and challenges that are inherent in establishing a focus for the governance and management of catchment systems. In particular, the interests of host organisations and their constituencies appear to have a strong influence on the breadth of issues that are selected as a focus and the intended purpose and function of collaborative working.

Development of Collaborative Structures and Niches

In the literature, attention is drawn to the need for organisational structures that enable collaborative groups to operate in policy niches that reflect the interests of the participants whilst avoiding duplication or conflict with pre-existing institutional arrangements. In the CaBA initiative, these challenges were addressed in a variety of ways that reflected the organisational histories, the interests and objectives of the hosts, the strength of their existing institutional relationships and the degree of commitment shown by other organisations and groups. However, flexibility was a key attribute of many of the structures that were developed, allowing core group membership to evolve over time and sub-groups to be established as the collaborative process moved forward. Broadly, three different types of collaborative structures were developed in approximately equal numbers. In some cases, a steering group of around fifteen stakeholder representatives was created and met

on a regular basis to make joint decisions, plan further collaboration and to form technical sub-groups. In others, smaller strategy groups of around five key stakeholders were created to consult with wider stakeholder networks and to produce a catchment plan on their behalf. In the remaining situations, the host alone adopted the role of co-ordinator and produced a catchment plan on the basis of consultation and input via its network of organisations and groups. Overall, the observed differences in structures illustrate how the host organisations developed niches and institutional structures for collaborative working that led to varied degrees of power sharing and joint ownership of the process.

Engagement, Power and Use of Facilitation

Collaboration is implicitly about engaging relevant actors in decision making, nurturing relationships, and dealing with differences in power, values, interests, and knowledge. Due to the significant challenges this can present, it is often recommended in the literature on collaboration that the use of third-party external facilitators is considered.

Differences in approach to engaging relevant stakeholders were reflected in the organisational structures discussed previously, and depended on the focus of the particular catchment project and beliefs within the host organisation regarding the advantages and risks of shared decision making. As such, some hosts were very comfortable with the idea that power and responsibility should be equally shared among organisations and groups with interests in the catchment, and that the scope and purpose of collaboration should be determined jointly. Others, however, were more strategic and tended to focus their engagement activities on selected public and private organisations that were perceived to be 'key actors' because they could provide information and resources for planning or had legal powers and responsibilities that would be valuable for plan implementation and later delivery of specific actions. In a few cases, the host organisations struggled to reconcile the need to engage with new groups and, at the same time, maintain and satisfy their own stakeholder networks. For example, in interviews, representatives for some of the Rivers Trusts stated that their organisations had worked collaboratively at a catchment scale for many years and that they had developed strong and reliable networks and relationships with key stakeholders as an integral part of that process. As such, they perceived their existing forms of engagement to be adequate and appropriate for CaBA even though those arrangements had often been built around specific issues and interests related to water quality, habitat and fishing.

Although there were some important differences in the ways that engagement was interpreted and developed, limited public involvement was a very common characteristic of virtually all of the catchment pilots and initiatives. Several host organisations made a distinction between organisations and groups that they believed could make meaningful contributions during the early stages of catchment planning, and members of the general public who they believed needed to be kept informed and consulted later when draft plans and proposals had been created. In addition, there was some evidence that host organisations had deliberately chosen to delay plans for public participation because of uncertainties

surrounding the future of CaBA and concerns that sufficient funding might not be available to continue with the initiative in the future. These findings show that hosts and local groups were working towards collaboration by incrementally expanding their reach and forging links with stakeholders according to their beliefs regarding who should be involved at particular times, rather than by adopting a pre-determined and highly structured approach to engagement. Thus, in practice, collaboration tended to be interpreted very loosely and was often merged with other more traditional and limited forms of participation that enabled the hosts to retain most of the power, thereby controlling decisions regarding who should be included and the extent of their involvement in collaboration (Arnstein, 1969; Cleaver, 1999).

The use of external facilitators was a common feature in almost all of the pilots and many of the additional catchment initiatives. As part of the CaBA policy, additional government funding was made available for host organisations to employ facilitators. In general, host organisations reported that facilitation had been useful, and had helped with the design of the collaborative process, running specific stakeholder events, writing terms of reference for collaborative groups, producing catchment plans, allowing different understandings to be shared, and in providing an independent voice in group discussions. However, facilitators were employed by the host organisations and their roles and tasks were defined according to the host's views and expectations of collaborative working.

Overall, these findings illustrate the highly political nature of collaboration and the power of the host organisations in determining which interests were relevant and the extent of their involvement in the process. Although there were some exceptions, collaborative groups tended to be composed of actors and interests that were already known to the host organisation and were part of their constituency or network. Consequently, existing power relationships tended to be reproduced rather than transformed. Such conditions may be been further reinforced because the facilitators had little autonomy or ability to challenge the wishes of the host organisations or change the composition of the collaborative groups.

The Role of Deliberation and Social Learning

According to theory, deliberation and social learning are particularly important characteristics which help to differentiate collaboration from other processes such as cooperation and coordination. From interviews, reports and observations at workshops and meetings, it was evident that deliberation was an important feature in many of the CaBA projects. However, the nature and degree of deliberation varied considerably depending on perceived needs and the particular types of activities being undertaken at the time, such as identifying problems and assessing conditions, designing the collaborative process itself and identifying relevant participants, producing plans, and implementing actions. Deliberation was particularly associated with efforts to identify and assess the significance of catchment problems and the planning of actions to address them. In the formal evaluation at the end of the pilot phase, 33% of respondents said that sharing knowledge had helped

in finding creative solutions for the catchment, and 46% indicated that it had helped 'a bit' (Cascade Consulting, 2013). Deliberation and sharing knowledge appeared to be particularly important in small catchments (<500 km^2) where more emphasis tended to be placed on inter-personal exchanges within small tight-knit groups and informal site visits. The importance attached to deliberative processes was also influenced by perceptions of the uncertainties surrounding the catchment and the quality of information available. For example, in some cases the hosts believed that issues and problems within their catchment area were well known and understood and therefore were unlikely to generate much debate or controversy. In those situations, relatively little provision was made to encourage or allow for multi-party deliberation. In contrast, more time and effort were given to knowledge exchange and deliberation where problems were perceived to be uncertain, or where relevant data and evidence were held by a number of organisations.

Deliberation was clearly important in a number of instances and promoted social learning within local groups by encouraging knowledge exchange and helping to develop shared understandings. Social learning occurred in a number of other ways. For example, leaders and coordinators from the host organisations were invited to attend a series of national workshops and on-line events held throughout 2012 on collaborative methods and approaches, and were able to share examples of good practices used by the various local groups. At the same time, policy makers were able to provide clarification regarding government intentions and expectations, while the catchment hosts were able to provide feedback and outline their own proposals. Perhaps most important of all, there is substantial evidence of host organisations and steering groups monitoring and evaluating the development of their own collaborative processes, and seeking to make adjustments based on judgements of performance and effectiveness. For example, additional stakeholders were invited to join local groups, the style and structure of group meetings were changed, additional issues and problems were included in discussions and incorporated within catchment plans, and in a few cases the overall focus of the catchment pilot or initiative was revised. This indicates that single, double and triple-loop social learning did occur, but with different degrees of emphasis rather than universal application among all of the groups.

From these findings, it appears that deliberation was important and that a degree of social learning occurred in the early stages of collaboration, even in situations where engagement was limited and attention was focused on a narrow set of issues and concerns. Furthermore, deliberation and learning appear to be more likely when attention is focussed on small geographic areas that enable regular interaction and also in situations where uncertainties and limits to understanding are openly acknowledged.

Cross-scale Links for Integrated Resource Governance

A recurring theme in the literature on governance and management is the need to effectively link collaborative groups with other constituencies via cross-scale policy structures and processes. Collaborative groups rarely, if ever, have complete authority and

control over entire catchment areas or policy domains and consequently must be capable of influencing decision making in other arenas in order to be fully effective.

CaBA was introduced by government as an addition to, rather than a replacement for, existing institutional arrangements and policies related to water, catchment systems and other aspects of natural resources management. Thus, while it was recognised that CaBA could potentially deliver some benefits in its own right, its wider influence and impacts would depend to a large extent on the development of links that would integrate catchment planning with other planning and management initiatives operating in other jurisdictions and at other scales.

Many host organisations and local participants were attracted to the CaBA pilot project because they believed it provided an important new opportunity for local groups to influence and enhance the implementation of the WFD, and subsequently improve the condition of rivers and surrounding catchment areas. At the beginning of the pilot phase, many of the people involved anticipated that catchment plans produced by local collaborative groups would be directly linked to, and integrated within, the larger scale River Basin District Plans produced by the EA as the designated competent authority for implementing the WFD. By linking the two spatial scales of water planning, participants in catchment groups anticipated that more accurate information would become available that would enable specific actions to be identified and effectively implemented by a wider range of groups and resource users.

However, during the pilot phase, it became apparent that the EA itself was unclear about the intended institutional relationship between CaBA and the WFD. In part, this was because some local groups had embarked on producing 'WFD-plus' catchment plans and EA officials were concerned that issues and problems were included that were beyond the legal scope and precise requirements of the WFD. Thus, the EA demonstrated a type of 'path dependency' (Kirk, Reeves, & Blackstock, 2007) in which it was locked into a particular scale of water planning and set of practices which disconnected CaBA from the WFD, even though the Agency had become an advocate for local catchment planning and management.

At the time of writing, local catchment groups had been invited, along with individual stakeholders, by the EA to contribute to the next round of River Basin District Plans via an on-line public consultation exercise. The relatively new collaborative catchment-based approach has, in effect, been isolated and circumvented by the more established WFD river basin planning process. Similar challenges exist regarding the horizontal integration of catchment plans, which have no statutory basis or legal status, with other types of planning related to, for example, flood risk, nature conservation, landscape improvement, and local development. These findings illustrate an important basic dilemma faced by all of the collaborative catchment planning and management groups. On the one hand, they needed to broaden the scope of planning in order to achieve greater horizontal integration but, on the other hand, they were under pressure to narrow the scope in order to improve vertical integration with the WFD implementation process at the River Basin District scale. More generally, the findings indicate that the external institutional environment

should be included as a major design consideration in the development of collaborative arrangements so that decision making processes can be integrated across scales. By linking power and authority across multiple jurisdictions in this way, catchment-scale collaborative groups could be much more effective in influencing decisions pertaining to water, land and related resources.

Discussion and conclusions

A substantial body of literature has emerged during the last decade on multi-party approaches to water management and, more recently, on collaborative water governance. Whilst research attention has shifted from operational matters regarding the regulation of water use to more fundamental questions regarding how decisions are made and who is involved, most of the literature continues to present an idealised and normative view of multi-party collaboration. Generally, multi-party collaboration is presented as a depoliticised process in which actors gain mutual benefits and advantages simply by sharing knowledge, resources and their other problem-solving capacities. In essence, it is widely assumed that collaboration is a rational choice for the participants because, when faced with complex and seemingly intractable problems, it makes sense to engage in a process whereby diverse and interdependent interests are brought together to engage in dialogue, learning and negotiation so that fuller understandings and appreciations can be created and more innovative and effective solutions can be developed. A particularly striking feature of this dominant narrative is how little attention has been given to the role of power and power relations, other than to emphasize the advantages and additional problem-solving power that is created when collaboration is successful. It is perhaps not surprising that power tends to be overlooked when discussions are concerned with on-the-ground water management activities. However, power is fundamental to any type of governance regime. Consequently, the distribution and use of power is a critically important aspect of collaborative water governance processes, and deserves far more research attention than has been given in the literature to date.

This paper has addressed a very significant gap in knowledge and offers fresh insights into the nature and use of power. The findings are not only relevant to the future development of the catchment-based approach in England, as they also shed new light on the role of collaboration in water management and governance more generally.

The power of the state, in the form of national government, was evident in the initiation and orchestration of this new approach. As proposed by Jessop (2003) and discussed by Walker (2014), the state continues to engage in ‘meta-governance’ through the use of constitutional powers, providing legal and regulatory frameworks, sanctioning of specific forms of governance, and by acting as the organiser and mediator for institutional reforms. At the beginning of the pilot phase of the catchment-based approach, government ministers and policy makers were keen to emphasize the potential benefits of forming collaborative catchment groups, but were remarkably silent regarding the means by which the benefits of such groups could be realised. The legally defined powers of the Environment Agency

with respect to the EU WFD were not changed and collaborative catchment groups were not officially recognised or given any kind of legal status. Furthermore, policy guidance was not provided regarding how collaborative governance arrangements should be organised at a catchment scale. Overall, the findings point towards a state-centred process intended to provide communities and non-government actors with only limited opportunities to contribute to the *management* of local scale catchments, but without any changes to the *governance* arrangements for water, land and related resources which might otherwise involve delegation of authority or devolution of decision making power. Simply stated, it appears that a bottom-up and collaborative approach to catchment management has been created as a response to the implementation problems of the WFD by a top-down and hierarchical water governance regime that remains fundamentally unchanged (Watson, 2014). As such, claims in the literature of 'governance without government' and networks taking the place of hierarchies are misleading, at least in the case of water resources in England.

The use of power was also evident in the formation and the activities of the individual catchment-scale collaborative groups. In particular, the organisations selected to host pilot projects and initiatives were given the power to interpret the concept of catchment management according to their own concerns and priorities, and to subsequently develop collaborative groups that shared their views and interests. This tendency to follow established pathways meant that catchment management initiatives were typically created from established networks of similar organisations and groups, thereby ensuring there was little disagreement within the groups over priorities. Furthermore, very limited attention was given to governance arrangements, and deliberation and learning often occurred in relation to specific matters of water and environmental quality rather than in the wider context of resource use and the overall condition of the catchment. As such, collaborative catchment management was framed and approached by hosts in ways that not only appealed to their own interests but also to other powerful actors who shared their concerns. During the pilot phase, catchment management therefore lacked the diversity, open deliberation, tension and antagonism that is emphasised in the theoretical literature on collaboration. If other, less powerful, interests had been allowed to participate in the collaborative groups, it is likely that catchment management itself would have become much more political and would have developed in ways that simply have not yet materialised in England.

Power was also very apparent in the relationships between individual catchment groups and other relevant platforms and decision making processes operating at other spatial scales. In particular, it was evident that the catchment-based approach was disconnected from the statutory arrangements for river basin planning and there was no obvious mechanism, other than lobbying, to enable local interests and ambitions to be incorporated within the River Basin District Plans required under the EU WFD. Indeed, it appears that the Environment Agency regarded the arrangements for river basin planning and management to be fixed and non-negotiable, implying that any catchment plans produced by collaborative groups would only have advisory status and that their recommendations could be overruled by Agency decision makers. The status of the catchment-based approach was weakened further by a lack of clarity regarding the relationship with other place-based

government initiatives, such as Local Nature Partnerships and Nature Improvement Areas, and also the statutory arrangements for land use planning and the asset management and investment processes operated by water utility companies. Further guidance on the intended role of the catchment-based approach was published by national government at the end of the pilot phase (Department for Environment, Food and Rural Affairs, 2013), but once again the status of catchment groups was not specified:

> "We are not setting out terms of reference for these partnerships; we believe that these, together with any agreements relating to authority to act (beyond those set out in this framework) are an entirely local matter" (p.6)

Thus, it appears that catchment groups will have to create their own positions and niches within the wider sets of institutional arrangements for water, environmental protection and local development. This might imply that in the future the institutional landscape for catchment management and governance will become more diverse and unequal because some collaborative groups have greater power and more resources than others, and are therefore more likely to be able to negotiate and establish their positions alongside other organisations and initiatives.

In conclusion, this paper sheds light on the political nature of multi-party collaboration and the complex ways in which power is marshalled and used. The initiation of collaborative catchment management in England appears to have been an attempt to appease critics of the WFD implementation process and to encourage non-government groups to assume limited managerial responsibilities at a time of severe reductions in public expenditure. Certainly, the findings from this evaluation point towards a constrained approach to collaboration whereby the rules of the game were defined though the meta-governance functions of the state. Local groups were allowed to self-organise according to their own ambitions but without any additional authority or legal status, while the fundamental structures and processes of resource governance remained firmly in place. Consequently, the prospects for a major paradigm shift towards a more collaborative water governance and management regime in England appear to be limited at the present time. Nevertheless, catchment management groups were formed and, since the pilot phase, the number across the whole country has increased to a point where all of the eighty-three catchment areas defined by the Environment Agency have a collaborative group in place. Achievement of complete national coverage could be viewed as a measure of 'success' in its own right, even if the groups are limited in their scope and are comprised of actors from across a narrow range of interests. The future development and success of this approach will ultimately depend on the extent to which collaborative governance arrangements can be developed at a catchment scale, the links that are forged with other important policy processes, and ultimately the extent to which future governments are willing to share power and also act to ensure balanced representation and decision making within multi-actor settings. A practical and positive step towards that goal would be for the Department for Environment Food and Rural Affairs to produce a new national policy for natural resources governance that clearly defines the scope and purpose of catchment management, outlines

the necessary catchment-scale governance arrangements, and identifies the institutional processes and mechanisms that will be used to link decision making occurring within different policy arenas and at a variety of spatial scales.

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