The Idea(s) of 'Valuing Nature': Insights from the UK's Ecosystem Services Framework

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Abstract

The variety of ideas about ways nature is 'valued' in public policymaking are investigated. A theoretical ideational approach is combined with empirical analysis of the UK's Ecosystem Services Framework. Several types of ideas are identified, and how they interact is examined: ideas about nature itself; about the role that different research on the value of nature can or should play in decision-making; and about how policy decisions are made. In particular, the ways these ideas appear in academic debates, especially in ecological economics and philosophy, are confronted with how ideas appear in the *policy practice* of employing a 'valuing nature' concept. This reveals political dynamics sometimes missed by both advocates and critics of the concept of ecosystem services, such as the importance of promoting organisations and their agendas and activities, persuading different actors to change positions, and institutional commitments and sunk costs.

Keywords

ecosystem services, ideational policy analysis, valuing nature

Ideas matter

It hardly needs restating in 2017 that 'ideas matter' in public policymaking. Recent years have seen a (re)-discovery of the value of studying ideas and exactly *how* they matter (Schmidt 2008). Ideas in the context of political analysis are classically defined as 'a systematic and rationalized "image of the world"' (Weber 1948, p. 280), but they are also a dynamic motor for political change: 'causal beliefs' (Béland and Cox 2010, p. 3) that 'provide guides for action' (p. 4). Approaches include tracing the influence of ideas on policy, and the relation between ideas and political power in policy - the power of ideas, how ideas become powerful (Parsons 2016) and how power is exerted in relation to ideas (Carstensen and Schmidt 2016).

Here, we focus on the case of the 'value of nature', and how, and what type of, value is attached – and by whom - to the natural environment in public policy-making. This is a

particularly interesting case because the current literature reveals a rich variety of approaches to 'valuing nature' across different disciplines. It includes extensive literatures in economics (e.g. Turner *et al.* 2003, Costanza *et al.* 2014) and ecological sciences (e.g. Balvanera *et al.* 2016, Raffaelli 2016) on techniques for valuing natural environments and assessing impacts of policies. There is also growing work in development studies around, for example, justice implications of attempts to value nature (e.g. Sikor 2013). Some philosophers have mounted a strong critique of the principles and process of such attempts (e.g. Read and Scott Cato 2014, James 2016). But communication between these positions is often frustratingly unfruitful (although there are positive initiatives: in the UK see for example the Ecosystems Knowledge Network[1], the Natural Capital Initiative[2], the Valuing Nature Network[3] and the UK Arts & Humanities Research Council[4]). We claim that one reason these debates are hard to resolve is a lack of clarity about the different ideas behind the policy positions and prescriptions, mixing positive, theoretical and normative positions. We note that 'ambiguity and incoherence in ideas opens space for politics as people seek to make policy decisions reflect their preferred interpretation' (Béland and Cox 2010, p. 9). This is certainly the case for environmental problems, which are particularly prone to debates between differing ideas about what problems are, and what could or should be done about them (Dryzek 2013). This is not a normative concern on our part. It is rather a challenge that an explicitly ideational approach to studying 'valuing nature' might provide an alternative perspective to help take forward some of the debates.

[1] http://ecosystemsknowledge.net/ [accessed 20 December 2016]

[2] http://www.naturalcapitalinitiative.org.uk/ [accessed 20 December 2016]

[3] http://valuing-nature.net/ [accessed 20 December 2016]

[4] For example the 2016-18 Research Network on Valuing Nature

In particular, since better understanding of ideas is a key aspect of political analysis, this is also a way in to studying a concept's use (or lack thereof) in public policymaking. Ideas do not occur in a vacuum; what they mean in practice is at least as important as in theory, and reveals different political dynamics (e.g. Mehta 2010). This is particularly important for a case like 'valuing nature', which suggests itself as a quintessential policy analytical technique within an administrative rationalist discourse (Dryzek 2013). Interrogating the extent to which that is the case, 'the search for administrative rationalism should begin not with the writings of theorists and the proclamations of activists, but with an examination of actual policy practice' (Dryzek 2013, p. 90). Here, we confront differing ideas about valuing nature 'in theory' with ideas wrapped up in the *policy practice* of employing a 'valuing nature' concept, including examining whose ideas are seen as relevant. This builds on a growing literature that unpacks the normative, political and ideological underpinnings of broadly economic ideas around nature, in particular their (variable) appearance in policy practice with sometimes paradoxical outcomes (see for example Fuentes-George 2013, Rodriguez de Francisco and Boelens 2015, Coffey 2016). It speaks too to the wider perspective that policymaking is less a rational, apolitical process of solving clear given problems, and more a space where problems and solutions are actively constructed (e.g. Bacchi 2009).

We employ a case study of the Ecosystem Services Framework in the UK, within which we aim to 'identify the ideas people use' (Béland and Cox 2010, p. 14) around valuing nature, in both academic debates and in policy practice. This is an important first step, because debates around valuing nature are so contested and apparently complex; there is not one easily-identifiable idea, although particular ideas such as putting a monetary value on nature's services to humans appear prominently. To achieve these aims we employ a methodology that combines a more theoretical ideational approach with empirical analysis,

including elite interviews with practitioners. We do not look directly at the influence of one idea on policy *outputs;* elsewhere (e.g. Russel *et al*. 2014) we examine the (lack of) *influence* of ideas about valuing nature on policy processes.

We proceed as follows. In the next section, we present a framework for analysing ideas, followed by some of the main ideas thus evident in literature across various academic disciplines. We then introduce the particular UK case, introducing first the Ecosystem Services Framework and then our approach to the empirical research. We follow this by proposing five different types of ideas about the Ecosystem Services Framework in policy practice, as revealed by the empirical research. In the final section, we re-interpret these findings through the groupings obtained from the literature review, drawing conclusions about the dynamics of ideas, and the importance of observing ideas in policy practice as well as in theory.

Ideas present in the concept of 'valuing nature'

What value is attached to the natural environment in the process of public policymaking? For an increasing number of commentators the answer is 'not enough', leading to major impacts on the ecological and natural systems upon which human wellbeing depends (MA 2005, Rockström *et al.* 2009). But *some* judgement about this value, however implicit, is always made in every policy process that has any relation to the natural world. Exactly *how* natural systems are valued is hence a key question. Yet the concept of valuing nature is acknowledged to be nebulous by both academics (Cowell and Lennon 2014, Haines-Young and Potschin 2014) and practitioners (a typical response being this from a senior UK government official: 'it is the current sexy term but people struggle to understand what it means'), and hence potentially a source of conflict and a contested policy debate. This lack

of clear meaning suggests we might find a rich tapestry of different but overlapping ideas, along with a variety of mechanisms for promoting these ideas.

Following Jal Mehta (2010), we explore ideas of valuing nature through a three-fold classification. The first dimension is that of **policy solutions.** This type of idea might be summarised as 'the solution is....'; in our case the solution could be a particular framework or technique for specifying the value of a natural environment (e.g. UK NEA 2014). But the question arises straightaway: 'the solution to what?'. Therefore the second dimension is based on the assumption that a policy solution contains ideas, either implicitly or explicitly, about the **problems** being addressed. These are the organising principles of policy and suggest a range of possible solutions. Problem definition is a contested process, whether actors are aware of this or not, to establish a particular way of understanding a complex reality (Mehta 2010, p. 27). In our case, one problem could be framed as 'nature is under-valued in public policy-making'. There is a third dimension of types of ideas: **public philosophies,** which includes deep-core worldviews and assumptions about the world, particularly related to government. These may be openly questioned, or they may be implicit. In the case of valuing nature, an example would be 'protecting nature is important'. These different levels influence each other (Mehta 2010). For example, the failure of a particular policy solution to achieve its aims makes the underlying problem definition less viable. Conversely, the success of a policy solution can expand the attendant problem definition. Public philosophies also draw credibility from success or failure of attendant problem definitions.

In the case of valuing nature, there are substantial literatures that set out different policy solutions, problems, and public philosophies. Our primary purpose here is not to reproduce all the arguments in this literature, but to set out some of the most prominent ideas present for comparison with ideas in practice derived from empirical work. Within these

literatures, we observe at least three such types of ideas: ideas about nature itself, about research to value nature, and about the role in policy of research on valuing nature.

Ideas about nature itself

At the level of public philosophy, there is widespread agreement that nature is the basis of human survival (Costanza *et al.* 2014). A commonly-expressed variant is of nature as a form of capital, and nature as the basis of the economy (see for example debates in Spangenberg and Settele 2010, Costanza *et al.* 2014, Pellizzoni 2015, Spash and Aslaksen 2015). Nature here is seen as vitally important, with a corresponding idea that nature must be protected in some way, and must cross academic disciplinary divides and practitioner perspectives. But another public philosophy explicitly opposes the view that nature can be reduced to its instrumental services to human beings (e.g. Lockwood 1999, Kosoy and Corbera 2009, Norgaard 2010, Spangenberg and Settele 2010, Castree and Henderson 2014, Read and Scott Cato 2014, James 2016). Opposition is partly to a language of commodification, which misses specific environments being parts of valuable wholes, a sense of human place, and conceptual and moral problems with substituting nature with other types of 'capital'.

These ideas are related to particular problem definitions. Problems are sometimes expressed around nature being in crisis (e.g. Pellizzoni 2015), and that proper consideration of the natural environment is missing in decision-making. The problems are in turn related to particular policy solutions. Attaching an economic value to natural systems, such as through an Ecosystem Services Framework (e.g. Turner *et al.* 2003, Fisher *et al.* 2009), is one commonly-advocated policy solution. This is itself clearly premised upon public philosophies about nature as a form of capital, and the basis for the economy. Strong critiques of this policy solution are premised upon alternative problems and public philosophies, such as scepticism of a commodification of nature (Kosoy and Corbera 2009,

Spangenberg and Settele 2010, Read and Scott Cato 2014). These lead to alternative policy solutions (Norgaard 2010), which embed alternative problems and public philosophies, such as legal remedies and alternative views of what counts as valuable (e.g. Lockwood 1999, Kumar and Kumar 2008, Read and Scott Cato 2014, James 2016).

Ideas about research to value nature

Public philosophies include the idea that it is possible to put a meaningful numerical value on nature (Spangenberg and Settele 2010) – and that it is essential to do so since credibility of advice is premised on being able to speak the language of economic and numerical values (Costanza *et al.* 2014). This public philosophy is based on a belief that 'environmental concerns lack a voice at the political table and that modernity is obsessed with economics ... [which justifies] changing to the language of money and finance as a necessary evil' (Spash and Aslaksen 2015, p. 248). It is also seen as possible by some to separate value to humans from intrinsic value (e.g. Fisher *et al.* 2009). 'Problems' associated with these public philosophies include the claim that putting values on nature marginalises some peoples' ways of knowing (Sikor 2013), and generally limits what is counted as 'important' (e.g. Norgaard 2010), prioritising for example anthropocentric concerns, failing to capture elements that cannot be measured, and assuming the objectivity of analysis (Read and Scott Cato 2014). Conversely, incomplete knowledge about how environmental systems work can be seen as a problem for those advocating numerical values (e.g. de Groot *et al.* 2010). These problems suggest certain policy solutions, including actively seeking to expand knowledge (e.g. of tipping points or impacts) (Fisher *et al.* 2009, de Groot *et al.* 2010), or of using different tools like multi-criteria analysis to capture wider concepts of value beyond numerical representations of exchange (Lockwood 1999, Read and Scott Cato 2014, Spash and Aslaksen 2015, Armstrong 2016, James 2016).

Ideas about the role in policy of research on valuing nature

The literature reveals, through the debate around valuing nature, differing ideas about how policy decisions are made. Underlying public philosophies particularly include the idea that better and more comprehensive knowledge about a subject will lead to better decisions in that area (Farber *et al.* 2002, Turner *et al.* 2003, Fisher *et al.* 2009, de Groot *et al.* 2010, Costanza *et al.* 2014). Exactly how this might work also appears: the idea that people respond best to the language of economics (Spangenberg and Settele 2010), or that people change their decisions when alarmed about consequences. A key idea is the perceived need to provide a way for decision-makers to decide which priorities to pursue in what order (Fisher *et al.* 2009). The related policy solutions proposed depend especially on public philosophies. If the public philosophy is that good policy requires better analysis, and the only research assumed to be credible in this process involves numerical / economic values on natural systems, then the policy solution becomes clear. However, an alternative public philosophy, on the importance of dialogue and political leadership in policymaking, would lead to a different type of policy solution, around wider and more inclusive debate about the right policy direction to take (e.g. Norgaard 2010).

In summary

Based on the brief review above (see Table 1 for a simplified summary), it can be seen that some aspects of ideas are more widely held: especially around the public philosophies and problems about the importance of nature, the threats to nature and the importance of political action to redress these threats. Disagreements seem to focus more on: policy solutions, on the one hand, and, on the other, the research approach to valuing nature, and the role this does

or should take in influencing decisions. There is thus a sense that some academics are suggesting a controversial solution to a commonly-agreed problem and public philosophy.

Table 1. Summary of some of the (often contested) ideas around valuing nature in academic literature

	About nature itself	**About research to value nature**	**About the role in policy of research on valuing nature**
Public Philosophies	• Nature is vitally important • Humans must protect nature • Nature as capital, and basis of the economy • Nature cannot be reduced to its services to humans	• Research can give meaningful numerical values of natural systems • Value of nature must be expressed in numbers to be credible • Can separate value to humans from intrinsic value • Research can be value-free	• Better knowledge leads to better policy • Better political engagement and dialogue leads to better policy
Problems	• Nature is in trouble; ecosystems are being depleted	• Putting a value on nature is anthropocentric	• Decision-makers need a way to prioritise actions

	• Nature is not being included in decision-making	• There is incomplete knowledge about natural systems • Putting a value on nature limits what counts as important • Putting a value on nature is meaningless	
Policy Solutions	• Attach an economic value to natural systems • Explore alternatives to attaching economic value to natural systems	• Work towards filling in gaps in knowledge • Use different tools to capture wider values • Valuing nature is not perfect but better than nothing	• Express values as prices • Improve political and public debate rather than analysis techniques

Overall, these debates within and between disciplines focus much on whether valuing is a right – or necessary – thing to do, and also the importance of valuing nature for achieving certain ends such as improving equity in societies or improving environmental protection. Debates are often rather normative around whether there are fundamental structural constraints on environmental action. However, the debates often do not yield much more than a (re-)statement of different positions.

More importantly, a critical engagement with the third type of idea – about the role in policy of research on valuing nature - features much less prominently in these debates. This suggests a line of enquiry which shifts the focus beyond the *ostensible* idea of valuing nature – exploring what valuing nature could / should / ought (not) to do and how and why we should (not) be doing it – onto examining the ways the concept is actually used in practice. There is an emerging area of research in political science around utilisation of knowledge about nature in different policy venues (Jordan and Russel 2014), and what shapes and constrains its use. This area of work starts with the premise that 'what counts as knowledge and how it is presented... is an inescapably political act' (Jordan and Russel 2014, p. 194). In particular, Mehta (2010, p. 35) has argued that political dynamics around ideas in policy practice are often over specific types of ideas:

> Where a political decision needs to be made, the fight will usually be over the policy itself. Problem definition is generally in the background; it enters into the discussion surreptitiously as each argument for or against the policy implicitly privileges one problem definition over another. In contrast, discussions in the media or in the academic literature are more often explicitly about how to define an issue.

Next, we investigate how far this is the case in the policy practice around valuing nature, through a specific case study where attempts have been made to embed a mechanism for valuing nature within policymaking.

Case Study and Research Design

The UK Ecosystem Services Framework

We focus specifically on the Ecosystem Services Framework (ESF) as applied in the UK since the UN-sponsored Millennium Ecosystem Assessment (MA 2005) revealed the impact of human activities on ecological systems through its unprecedented overview of the state of the world's natural environment. The Millennium Ecosystem Assessment argued that unless the issue of ecosystem degradation is addressed, human activity 'will substantially diminish the benefits that future generations obtain from ecosystems' (MA 2005, p. 1). Crucial within the Millennium Ecosystem Assessment was a new way of estimating wealth based on the idea of the services that ecosystems provide to humans. A similar framing was made by the United Kingdom's National Ecosystem Assessment (UK NEA 2011a, b; 2014), which demonstrated that the ability of UK natural resources to deliver ecosystem services has declined dramatically over the last 60 years, despite showing that the services provided by the natural environment are estimated to contribute billions of pounds to the UK economy (UK NEA 2011b). The UK NEA approach recognised 'the processes that link human societies and their wellbeing with the environment' (UK NEA 2011a, p. 15). Central to this conceptualisation is an understanding of the complex role played by biodiversity in providing services which 'flow from [ecosystems] to deliver a range of goods that we value individually and as a society' (UK NEA 2011a, p. 15). Goods in this respect represent all monetary and non-monetary values that enhance wellbeing. Also implicit in this understanding is the consideration of drivers of change on ecosystems and the direct, indirect and long-term impacts on services of any resulting change.

The ESF provides a system for specifically assessing the value of different 'services' provided by ecosystems to human society and economy. This is a live and prominent policy area in the UK; the different parts of government in the UK have for some time sought to act on the UK NEA through for example the Natural Environment White Paper (HMG 2011), the Living Wales Programme (see the process leading to the Environment (Wales) Act 2016),

and the 2016-21 Land Use Strategy for Scotland (Scottish Government 2016). While ESF may at first sight appear to be a clear 'policy solution', we unpack exactly what it is and what it 'means'.

Approach to research

We do this by examining the presence of policies, problems and public philosophies revealed through 32 semi-structured elite interviews with a range of – broadly labelled – 'policy practitioners'. To ensure a range of perspectives was captured, a four-fold classification of policy advisors (Howlett 2011) was used to select interviewees. Howlett identified four main groupings organised according to two main dimensions: inside government (including actors in the devolved areas of UK decision making) vs. outside government; and proximate vs. peripheral actors. In our case, 'proximate' means those with a direct day-to-day responsibility for the ESF and/or valuing nature more generally, including those who: appraise policy; implement the ESF; champion analytical techniques; and write guidance for ESF in policymaking. 'Peripheral' in this context means those more distant from the policymaking process, but with an interest or stake in the ESF and/or policy analysis, for example: those who are consulted by government on nature and biodiversity issues; those who supply data to government such as scientists; and those representing bodies with some responsibility for managing ecosystems, be they private or public actors. In all, 54 people were approached and a total of 32 agreed to participate, from UK and devolved governments, arms-length bodies, consultancies, and non-governmental organisations (Table 2). The interviewees were asked a number of questions based around what they saw as the aim of the ESF, how important it is to their sector/organisation/day-to-day work responsibilities, the factors influencing the adoption of the ESF in their organisation or sector more generally, the perceived advantages and disadvantages of the ESF, the ways they have

attempted (if at all) to embed the ESF in policymaking processes, and the main factors that limit – or enable - this embedding. Interviews took a semi-structured format to allow for both comparability and flexibility. These questions were broad enough to explore views on the 'ideas' of ESF while simultaneously avoiding steering or leading the interviewees. The interviews were conducted either face-to-face or via telephone. Interview summary transcripts were produced shortly after each interview to enable thematic data analysis.

Table 2: Number of interviewees by relationship to the ESF in the UK, adapted from Howlett (2011)

	Proximate Actors	**Peripheral Actors**
Public/Governmental Sector	**(A) Core Actors** (e.g. national and devolved government departments, executive Staff, governmental policy analysts) **15 interviewees**	**(B) Public Sector Insiders** (e.g. Commissions and Committees, task forces, Research Councils, scientific advisors, advisory bodies) **6 interviewees**
Non-Governmental Sector	**(C) Non-governmental Insiders**	**(D) Outsiders** (e.g. businesses,

	(e.g. consultants carrying out policy appraisals) **4 interviewees**	trade associations, Third Sector Organisations, independent academics, think tanks, media) **7 interviewees**

In the following analysis, the references to perspectives of different interviewees have been anonymised in the following way, referring back to Table 2:

A1 to A15: 'Core Actors'

B1 to B6: 'Public Sector Insiders'

C1 to C4: 'Non-governmental Insiders'

D1 to D7: 'Outsiders'

The relative weights of points made by interviewees are visible through indication of the numbers and range of interviewees who made those points.

Ideas about ESF in policy practice

At the most general level, the ESF aims to 'inform decisions' [B5] and 'enhance policy support' [A3]. But how, and why? The interviews revealed five main different ideas surrounding ESF – what it is, and what its purpose is.

Idea Type 1: Promoting environment

Our interviewees suggest the ESF provides a more compelling way to 'sell' the idea of environmental protection to non-interested parties, by attempting to 'capture' the value of the environment so that this can be better recognized and represented in policy making [B3, D4]. In so doing the ESF provides a policy solution to various different perceived problems [B3], including that nature is undervalued in policymaking [A1, A14, B3], as captured in the remark of one interviewee: '*[the ESF is a way beyond the] problem not having ANY values attached to environment'* [A14]. This perspective is more than simply valuing the environment through assigning a monetary figure: *'even if you don't get an economic value, you get a better picture'* [A1]. Indeed, as one interviewee argued: the ESF is '*a way of going beyond just costs and benefits of development'* [A14].

These views are themselves based on philosophies, sometimes explicitly (*'I think it's a whole philosophy'* [B5]) but often with varying degrees of implied underlying beliefs around the importance (or not) of the natural environment and how this is not valued or captured in conventional decision making. ESF is also an attempt to promote the services provided by the natural world [D3], which is based on a somewhat different philosophy about why the natural environment is important: *'[ESF] provides a useful narrative – crucial services are underpinning the conventional economy'* [D3]; *'it is about making the link between nature and what it does for humans'* [A2]. The problems in this case can be both that the economy is vulnerable to environmental harm, but also that there is a lack of understanding of what nature does: *'[ESF] help[s the] public understand [the] wide range of benefits from nature – rather than seeing nature as a constraint'* [A14]. There are also critiques of the ESF that reveal a rather different philosophy, namely that nature is more than just the value humans derive from it (A4, A9, D3). As one interviewee remarked: *'[there is] concern that focusing*

on services took us away from link with biodiversity' [D3]. Overall, there is evidence that different philosophies and different policy solutions may still be formed around common perceived problems (i.e. that the natural world is undervalued in decision-making).

Idea Type 2: Promoting organisations, their agendas and activities

The second set of ideas around ESF relate to the promotion of particular organisations and their agendas and activities [A2, A15, C2, D4, D5], for example: *'the ESF gives more credibility to [the] importance of wildlife protection* [D5]; *'...before, wildlife was in a ghetto, a special interest'* [D4]. This aspect is not just a matter of pushing the agenda forward but it is also something that can impact upon inter-ministerial relations:

'Defra [the UK Department for Environment, Food and Rural Affairs] has traditionally been viewed by other departments as a brake on progress. It's been about either environmental protection or growth. [Ecosystem services] has helped square that circle while also recognising tradeoffs and limits...by using the language of opportunities around [ESF] we can ask departments to build Defra objectives into theirs' [A2]

The ESF in this context illuminates a problem of agendas being ignored and organisations not feeling heard. Another general theme emerging was that ESF can be deployed to promote more joined-up thinking on ecosystems management [A1, A4, A14]. The problem here is seen as 'government / agencies / knowledge production are not joined up', based on the philosophy that such a joining up will help make better policy. The ESF's strength in this regard (to both the problem and philosophy) was argued to stem from its potential to promote and capture the value that the environment provides across sectors early in the decision making process: *'it allows us to follow a more integrated or joined-up approach'* [A4]; *'The*

general principle is to ensure expertise and understanding goes across departments' [A1].

Idea Type 3: Promoting new perspectives

A third set of ideas relates to the role of ESF in promoting new perspectives on problems, as different from direct use of analytical outputs [A1, A2, A14, C1, D1, D3]. For instance it can help to formalize different value perspectives in a transparent manner [A14, B3], to *'make values explicit rather than implicit – see the value in "recognising"*[5] *rather than "capturing" value'* [B6]. In so doing, different actors can be brought into the policy debate who may not have been included before [B5, D1, D3]:

'in [organization Y] it brought people together – mainstream economists, environmental scientists, biologists, ecological economists....[we] asked how do we translate this into policy? Some people wouldn't sit in the same room...but there is a community prepared to do this' [D3]

In this context the ESF can also be a debate starter between different stakeholder groups who can learn from each other [A2, B3, D1, D2, D3]:

'ESF is more as a platform to facilitate debate, a tool to bring stakeholders together with [the] same data and same assumptions, rather than a plan set in stone or a way to get quantitative outputs' [B3]

[5] See www.teebweb.org/about Recognising = simply noticing value like sacred spaces; Demonstrating value = calculating economic costs and benefits; Capturing value = instruments to include in decisions (e.g. payment for ecosystem services)

Each of these ideas can be seen as a solution to various problems, for example that 'different values are not made explicit enough in policy debates', 'there is a lack of dialogue and understanding between different policy actors', and that 'there are (unknown) limits to what is known about the environment'.

Idea Type 4: Persuading other actors

Relating to, but subtly different from idea type 3, are ideas around explicitly setting out to persuade different actors to change at least some aspects of their positions. Several interviewees of different 'groupings' reported that the ESF was deployed to facilitate communication with business groups through providing a stronger business case for environmental protection [A2, A8, A9, A15, B3, C1, C2, C3, D1, D3]: *'[the] aim of ESF is pushing environmental protection onto [the] private sector'* [A9]. But this persuasive element is not just confined to business. As an interviewee working with government observed: *'[we] couldn't sell biodiversity, the public couldn't get their heads round it, so use ecosystem services – people understand fresh air, water....'* [A10]. Moreover, many interviewees felt there was a strong persuasion element needed within government to encourage different departments to include environment in their policy-making (see above arguments on joining up government) and to justify actions [A6, A7, A14, B2, B4]: *'The challenge is persuading other parts of government that nature is valuable to – say, health and economic policy'* [A14]*; 'A lot of our policy is justifiable in ESF terms, less so in economic terms. If [Ministry X] didn't have ESF they would need something like it to explain what they're doing'* [A6]. As in the case of promoting learning, embedded within this idea type is a range of different problems for which ESF is seen as a potential solution.

Idea Type 5: Prior commitment to the concept

The fifth set of ideas can be grouped around the need to continue with ESF because of various institutional commitments to that policy solution, and sunk costs (e.g. political capital, time and research). As an interviewee remarked: '*Defra has spent a great deal of money promoting ES and so they have to have a practical outcome'* [C1]. Such a rationale suggests a problem that would be encountered if the concept were to be abandoned. Related to this idea are the philosophies 'our organisation must be seen to be working properly', or 'we have to do as we are told' as revealed in some interviewee responses [A4, A10, B1]: '*overall, we respond to policy coming down'* [A10]. Connected to this philosophy is the way the policy solution of ESF has a linguistic value that helps explain its employment [A6, A8, A10, A15, B2, B3]. This linguistic bandwagon is expressed through calculated opportunities in employing the language: *'Projects are keen to retain funding so people use language they think will get them funding'* [B2]. Or it can be expressed through relating current activities to past activity: *'ESF is an evolution of where we were anyway – from pre 1990 environmental economics'* [B3]. The problems and philosophies embedded within these ideas relate to a need to maintain funding sources, and a need to follow the most appropriate formulation (logic of appropriateness) (see Powell and DiMaggio 1991).

Discussion

The above analysis shows that the idea of ESF becomes very malleable when entering the policy domain. Policy practitioner ideas of what the ESF means are multiple and nuanced. For many policymakers it helped them do the work they were already doing, suggesting that they can see it as not necessarily a new idea but an extension of existing agendas (e.g. promoting the environment through the persuasive power of official reports, promoting an organisation's pre-existing agenda, or promoting learning about the value of nature to non-environmental bodies). They can also see it as something to meld or manipulate around their

own agendas (learning within a pre-existing set of problems – joining up, tailoring language around ESF to achieve other objectives forming different philosophies and policy solutions around common problems). The data also suggest that other policy actors engaged with the ideas simply as something that they had to do. In some cases this was met with indifference (simply name-checking the concept), others saw it as an opportunity (to get funding), and in some cases there was hostility as ESF challenged underlying values and procedures.

What does this tell us about the multiple ideational functions of ESF in policy practice, and, in particular, how these relate to the ideas present in the academic literature (Table 1)? Woven through the five idea types derived from the interviews are the same three ideational themes – about nature itself, about research to value nature, and about the role in policy of research on valuing nature – as in the literature. How these appear in policy practice has some similarities with their representation in the academic literature, but there are also important differences.

Ideas about nature itself

The underlying public philosophies both in literature and practice seem to be heavily focussed on what nature does for society (see for example Costanza *et al*. 2014). But there is also an argument that appears more commonly among practitioners, around the idea that protecting nature can be a brake on economic progress; this has been particularly pertinent as economies seek to recover from the 2008 economic crisis (Russel and Benson 2014). In terms of 'problems', both academic debates and most practitioners interviewed recognise the interdependencies of the environment, society and the economy, how these interdependencies are under-valued in conventional decision making, and how this relationship defines what is counted as 'the environment', and environmental value, in decision-making (see for example Spangenberg and Settele 2010, Spash and Aslaksen 2015). However, the definition of

'nature' is much fuzzier among practitioners, where ideas commonly held in some academic discussions are challenged by exposure to the messy world of day-to-day policymaking. In terms of policy solutions, the ESF was seen more widely than simply as a numerical exercise, particularly among practitioners - more as a useful tool to verbally engage with other policy sectors through framing discussion around 'what nature does for you/your constituents/ your sector'. So while it embodies a philosophy about nature as contributor to human wellbeing, the 'solution' is not limited to numerical values; one solution does not necessarily follow from the underlying philosophy.

Ideas about research to value nature

Policy practitioners' public philosophies tend to be about understanding the bigger picture of nature's role as a public good, and the value of research in highlighting trade-offs with other public philosophies like the need for continued economic growth. In these senses, research to value nature takes in practice a much less prominent role than the academic 'valuing nature' debates might envisage (or hope) – as part of a much wider suite of analysis and evidence. In terms of problems, many of the practitioners' views are resonant with some of the views in the literature: that the ESF is rather anthropocentric, questioning what the notion of value means (for whom, how to measure) with acknowledgement of uncertainty and knowledge gaps in ecosystems science (compare, for example, de Groot *et al.* 2010 and Read and Scott Cato 2014). However, in so doing, practitioners often challenge the nature of research itself – the specifying of who or what is valuable by 'experts', whether economists, philosophers or others. Solutions were seen both within the literature and among policy practitioners in the context of the ESF helping to build the knowledge base, to facilitate learning around how to better capture the value of nature in decision-making.

Ideas about the role in policy of research on valuing nature

Differences between academic discourse and policy practice are particularly striking in ideas around the role of research in policy. Practitioner views on their own engagement with the ESF suggest an underlying public philosophy concerned with policymaking rules and compliance: engaging with cross-cutting agendas, following procedure and meeting funding requirements. Research results are seen as just part of concerns beyond the specific subject of the research. Problems in relation to the ESF noted by practitioners and in the literature include a lack of transparency in different values associated with nature between different groups and sectors (see for example Norgaard 2010), and whether the ESF with its narrower anthropocentric focus was actually detracting from implementing a broader biodiversity policy. However, particularly among practitioners, problems were often defined in terms of administrative considerations like fragmented government and weak environmental actors, and the view that regardless of whether the ESF is working or not, prior commitment to the ESF by the UK government reduces its chances of being summarily abandoned. Similarly, solutions among practitioners are very much framed around the ESF helping with policy administration concerns such as joining-up policymaking, enhancing the institutional profile of the natural environment and augmenting decision support capacity. These aspects point towards ideas that go well beyond anything to do with nature, but are filters through which any research will be seen. This compares with an academic debate that is often more narrowly focused on (how to express the) value of nature. To some extent these differences are understandable as policy makers have to balance the ESF with other government objectives, so focusing on improvements to administrative measures is a pragmatic way of taking the agenda forward within the wider context. Literature debates tend to be more focused on the problem and thus promote a more normative and instrumental agenda.

Concluding comments on the dynamics of ideas

We conclude by returning to Mehta's (2010, p. 35) arguments about the dynamics of ideas:

> Where a political decision needs to be made, the fight will usually be over the policy itself. Problem definition is generally in the background; it enters into the discussion surreptitiously as each argument for or against the policy implicitly privileges one problem definition over another. In contrast, discussions in the media or in the academic literature are more often explicitly about how to define an issue

Similarly, many points made by our interviewees are related to differing ideas about the policy solution, but also explicitly reflect differing problem and public philosophy ideas. Mehta does not deny problem definition is present in political practice but rather that it is surreptitious. However, among practitioners in the case of ESF in the UK, arguments are not so much over policy design, but there are quite clear political fights over resources, perceived problems, and different philosophies. Conversely, academic debates (e.g. Constanza *et al*. 2014, Read and Scott Cato 2014) in the field of valuing nature are often over the solution rather than necessarily the philosophy. However, problem definition is important when considering what is being implemented and why. Indeed, the multi-faceted manner in which ESF is interpreted by our interviewees may undermine the ESF's potential for having a coherent influence on policymaking. There are multiple ideas present, and interactions between them, in terms of solutions, problem definition and public philosophies, for example whether the ESF is a help or hindrance in promoting biodiversity preservation. Causes of debates in one idea are sometimes found in other ideas (i.e. not necessarily driven by

philosophies in the same idea). For example, philosophies about the nature of research, and the role of research in policymaking, can strongly influence ideas about how best to capture the value of nature itself.

If the ESF was designed as a quintessentially administratively rationalist policy analysis technique for improving the state of the environment (Dryzek 2013), then the multiplicity of ideas embedded within and around it reveal both the limits of the tool, and the limits of administrative rationalism in addressing environmental problems. What may appear on the surface to be a 'rational' solution to a clear problem becomes an idea having an impact, but not necessarily in relation to the policy solution it was promoted to address. Policymakers fit the concept into the context of their day-to-day practice, focusing more on administrative issues rather than trying to pin down the value of nature and integrating this within policymaking in a systematic manner. Our research thus shows how ideational politics can create a mismatch between academic advocates of an idea to solve an identified problem, and practitioner implementation of the solutions. In the case of ESF, this mismatch can arguably be partly attributed to the concept's development - by ecologists and economists with associated normative assumptions over the philosophy of intervention, the nature of the problems, the solutions needed, and how policy is made, which can be very different from those of practitioners.

Overall, we suggest our insights help better understand the widely differing reactions to the concept of valuing nature, and especially the specific case of the ESF. In so doing we challenge Mehta's arguments on the dynamics of ideas, while confirming the notion that the ideas are fluid, and deployed in a wide variety of ways (Béland and Cox 2010), and the importance of examining practice as well as the concepts; the debates may be a lot more nuanced than what they appear to be about. How 'valuing nature' is actually used is so different from theory that it might be argued that they are different ideas. The empirical

evidence presented here particularly shows how ambiguity and contestation around ideas open up political space; as an idea is employed day-to-day by policy practitioners, it broadens the original idea beyond its academic roots. Political science perspectives can illuminate practitioners' very different ideas of the concept and uses of research, and practitioners might also learn something through systematic analysis and the revealing of ideas. Finally, we have has also shown more generally the importance of considering the boundary not just between concept and practice, but between academic disciplines. Different disciplines see ideas – such as those around valuing nature – differently, and drawing this out may help take long-standing and seemingly intractable debates forward.

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