

# Naturally Speaking...

A Public Dialogue on the UK National Ecosystem Assessment

Executive Summary

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## DIALOGUE PARTNERS

### **Sciencewise**

Sciencewise is the UK's national centre for public dialogue in policy making involving science and technology issues and is a programme of the UK government's Department for Business, Innovation and Skills.

### **Natural Environment Research Council**

NERC is the leading funder of independent research, training and innovation in environmental science in the UK.

### **Defra**

The Department for Environment Food and Rural Affairs is the UK government department responsible for policy and regulations on environmental, food and rural issues.



## SUGGESTED CITATION

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**A fundamental and unambiguous connection was drawn between the natural environment and the well-being of people.** The natural environment was valued by participants for a range of cultural and health benefits and considered central to human livelihoods and prosperity. Yet participants were generally pessimistic about the future of their local natural environments at the outset of the dialogue and ambivalent about whether progress was being made on current and emerging environmental risks and challenges.

**The work of the National Ecosystem Assessment (NEA) was viewed as providing an authoritative, though quickly dating, body of evidence.** Participants were generally encouraged to learn that an assessment of the scope and ambition of the NEA had been commissioned by government and its findings should be welcomed and acted upon by policy and decision makers. At its most positive, some participants suggested the Assessment might serve as a modern day and environmental equivalent of the 'Beveridge Report', around which publics should be encouraged to rally.

**The concept and framework of ecosystem services advanced by the National Ecosystem Assessment was viewed in a cautiously positive, or constructively critical, way by participants.** They were particularly supportive of its holistic ambitions and its interconnected perspective and felt that it would challenge preconceived wisdoms about the remit of the environmental agenda. However, a significant minority were sceptical about advancing use of the term 'services' to describe and manage human uses and understandings of nature. They felt it was consumerist in outlook and expressed concern that people would end up paying for things they currently have the right to access and use freely. In general, participants tended to be more positive about the concept and framework of ecosystem services the more they considered it in the context of decision making and real world applications of the Ecosystem Approach.

**Many of the characteristics that participants associated with good decision making about the natural environment are consistent with the principles of the Ecosystem Approach.** The positive and inclusive outlook of the Approach appealed to people, and they saw procedural and economic advantages in applying these principles. They felt it helpfully emphasised natural solutions to environmental challenges. However, a number of risks and challenges were identified in taking the Approach forward including how to: foster awareness and engagement of relevant stakeholders; create a credible evidence base; implement goals and; ensure that objectives are met over the long term.

**State and third sector actors were considered to play a central role in governing and delivering ecosystem services.** Participants were generally suspicious about the interests and involvement of business in dictating and delivering priorities for the natural environment. Participants viewed national government as playing a strong enabling and leadership role, and valued highly the role of publicly funded institutions and programmes of research to deliver long term public benefit from the environment, and to protect against risks. They viewed third sector actors, particularly those with localised and specialised environmental remits, as playing an important role in managing and informing new arrangements for ecosystem services delivery, such as 'payments for ecosystem service' schemes.

**Valuation techniques were considered helpful within policy and decision making processes, although participants queried how valuation evidence is created, what it signifies and what it can be expected to do.** Participant views on the use of valuation methods had political, ethical and tactical dimensions and were often sensitive to the scale and object of decision making. Monetary valuation techniques were considered important tools for helping to communicate and influence the general case for natural environment and were often associated with the virtues of transparency, objectivity and clarity in decision making. They were interpreted as a necessary, but insufficient, basis for decision making. In general, the rationale and need for different types of valuation was sensitive to the perceived uncertainty and complexity of a decision issue and whether the issue was of national and local concern. Overall, there was a very strong message about the need for pluralistic approaches to valuation, especially for issues of high complexity at all levels of decision making.

**The dialogue saw many virtues and challenges in the use of 'Payments for Ecosystem Service' schemes (PES) at the local level.** They liked the PES focus on rewarding and encouraging positive behaviour, although they frequently returned to the idea of 'polluter pays' in order to emphasise that poor environmental practices should be penalised. There was concern that PES schemes appear rather voluntaristic and market orientated in outlook, but participants recognised

## KEY MESSAGES

that there are many opportunities and rationales for a variety of local beneficiaries to pay in to schemes. In terms of the co-ordination and implementation of local PES schemes, participants overwhelmingly associated desirable scheme design and implementation with the involvement of third sector organisations.

**A desirable future for UK ecosystems shared many of the characteristics of the NEA perspective.** Participants emphasised desirable futures in terms of: multifunctional uses of the environment; social values cohering around care for the environment; active participation of communities in decision making; pluralistic forms of evidence to inform management; a strong leadership/enabling role played by government; and technology playing a central role in innovation towards sustainable landscape and ecosystem management.



## About this public dialogue

- The purpose of the '*Naturally Speaking...*' public dialogue was to open up the concepts and findings of the UK National Ecosystem Assessment (NEA) to public debate and scrutiny as the basis for informing applications of this assessment work within natural environment policy and practice.
- The dialogue was run in partnership with the Natural Environmental Research Council (NERC), the Department for Environment, Food and Rural Affairs (Defra) and Sciencewise, the UK's national centre for public dialogue in policy making involving science and technology issues.
- From a Sciencewise perspective, public dialogue provides a forum for active and critical public engagement with innovations at the interface of science, policy and practice. The work of public dialogue more generally reflects the ambitions of the government's *Open Policy Making* agenda: that is, being open to new ideas, ways of working, evidence and expertise, including the insights of citizens without formal roles and responsibilities in specific areas of policy making. This commitment to dialogue extends to the strategic priorities of Research Councils UK, specifically reflecting its *Concordat for Engaging the Public with Research* and its commitment to research impact, to add value and benefit to policy informing research and to augment its impact with respect to issues of public interest and concern.
- The project follows a set of general principles of public dialogue developed by the UK Government and set out by Sciencewise. In general, the emphasis of dialogue is on publics, scientists and policy makers exploring and debating issues, aspirations and concerns together, rather than one-way communication with publics or seeking acceptance for preconceived ways of doing things. In an important sense dialogue is about enabling publics to express their views and reasoning about a topic and this includes the capacity to actively challenge and transform the terms of a debate.
- The dialogue was led by the Centre for Rural Policy Research, University of Exeter, and delivered with the facilitation assistance of Hopkins Van Mill: Creating Connections. The dialogue was evaluated independently by 3KQ.

## Approach to dialogue

- The dialogue involved a cross section of the general public scrutinising the concepts and findings of the NEA with specialists, including policy and practice stakeholders, and wider academic researchers. Unlike quantitative and extensive social research methodologies, where the focus is on gathering broad and representative understandings of how people think about an issue, for instance by putting a schedule of closed questions to participants, dialogue brings together an illustrative sample of the public into a sustained process of discussion around which patterns of group and individual reasoning can be identified.
- In total there were 118 members of the public who participated in this process, and 341 person days committed. There was strong retention of participants throughout the process. Against the general standards of this methodology, this was a significant public dialogue, and the largest of its kind undertaken by Sciencewise. Participants in the process were recruited to ensure a broad demographic in terms of gender, age, educational attainment, ethnicity, rural and urban populations and environmental attitudes and depths of environmental knowledge.
- Nine one-day events were held across three locations: Birmingham, Exeter and Glasgow, with a one and a half day finale event in London involving a subsection of 34 invited participants from the earlier dialogue events (with more than double that number expressing interest in participating). In total, 43 specialists attended and participated in the overall dialogue process. These included representatives from national and local government, policy delivery bodies, non-governmental organisations and academics and encompassed a range of different views and skills within, and with respect to, the work of the NEA.
- The project delivered the process using a mixture of stimuli: presentations, visual aids and written texts, including data, maps, cartoons and animations. A record of proceedings was provided in the form of audio recordings, flip charts, posters, postcards, questionnaires and blogging. All discussions were recorded and transcribed in full, and coded and analysed against key dialogue themes and emerging areas of discussion.

### How do ecosystems resonate as important to people?

- Participants in the dialogue drew an unambiguous and fundamental connection between the natural environment and human well-being. People were considered to be dependent upon the natural environment for a range of health, cultural and economic benefits, specifically:
  - Escape and freedom: places where people can get away from work and feel free from constraint;
  - Valued social interactions: places that enable interactions between friends and family and community;
  - Physical and mental health: places for physical exercise and achieving inner peace and mental calm;
  - Tangible and intangible cultural heritage: places for reconnecting people to their pasts and sustainable models of living.
  - Education and learning: places of instruction and where imagination, wonder and interest in life is triggered;
  - Economic productivity: places that support industries and livelihoods, and provide materials that underpin human infrastructures.
- In general, the cultural and health dimensions of human interactions with nature were most prominent in the dialogue. Alongside these benefits participants also understood the natural environment as a physical power that could threaten and overwhelm human livelihoods.

### What do people think about the concept and framework of ecosystem services?

- At the outset of dialogue participants were generally pessimistic about the future of their local natural environments and ambivalent about whether progress was being made on current and emerging environmental risks and challenges. They were therefore generally encouraged to learn that an assessment of the scope and ambition of the NEA had been commissioned by government. They perceived the NEA as providing an authoritative, though quickly dating, scientific evidence base and felt its findings should be considered by policy and decision makers.
- Overall, participants adapted to NEA concepts very quickly and demonstrated a mastery of terms and ideas in a short period of time. They reacted cautiously to the NEA's framework and concept of ecosystem services but tended to be more positive about the framework's utility the more they used and applied it, for instance, within the context of the Ecosystem Approach. People discerned and enjoyed the 'puzzle' element encouraged by the framework and the recognition that decisions are rarely black and white.
- Participants were particularly supportive of the framework's holistic and inter-connected view of the environment and its recognition of complexity. Breaking issues down into a set of categories (provisioning, regulating, supporting and cultural) was felt to be a helpful way of encouraging systematic thinking. In general, the NEA was viewed by participants as a resource for learning and thinking about the natural environment in new ways. For many, the NEA's approach served to challenge preconceived wisdoms about what was considered the remit of the environmental agenda. It encouraged expansive thinking about human dependencies on the environment and was felt to help people make connections between personal behaviour and larger, often global, environmental issues.
- In general, the categories of ecosystem service that resonated most strongly with participants were cultural and provisioning services. Cultural services were frequently singled out by participants as an indication of the framework's holistic outlook, while the logic of provisioning services was well understood and articulated by participants who saw the strong connection between environmental processes and economic prosperity.

**Table E.1. Viewpoints on the concept and framework of ecosystem services**

KEY STRENGTHS AND OPPORTUNITIES	KEY WEAKNESSES AND CONCERNS
<i>Expansive.</i> Challenges assumptions about what environmental issues are all about.	<i>Jargon.</i> Terminology too specialist and obscure for general public consumption.
<i>Holistic.</i> Covers all the issues and brings everything together in one systematic framework.	<i>Bureaucratic.</i> Rather 'tick boxy' and clinical in outlook. Not very flexible.
<i>Complex.</i> Helps recognise how everything is connected and that decisions are not black and white.	<i>Consumerist.</i> Language and framework very much about what people 'get' rather than 'put' back in.

- Participants found the categories of regulating and supporting services less self-explanatory. Supporting services were appreciated by participants as important because their definition captured the idea of human dependencies on a deeper, more fundamental, nature. Participants understood this category as embracing all background processes of nature and were perplexed why specific examples of regulating services belonged in a separate category to that of supporting services. In addition, the regulating services category tended to be equated with the practice of regulation, as in governance and law making, but also the practical act of management. Participants were also sceptical of how well supporting services could be addressed in decision making.
- Participants believed that ecosystem services terminology should be used with caution if the purpose is to: promote general awareness of environmental issues and challenges among society; convey what government is doing about the environment; or more specifically, to involve wider publics in ecosystem service-based decision making. The language was considered too technical and specialist overall and would require explanation and context to be understood.
- A significant minority of participants were sceptical about advancing the use of the term 'services' to describe human relationships with nature. These participants worried about the long term implications of this way of thinking, expressing concern that people would end up paying for things they have currently have the right to access and use freely. They also expressed concern that human responsibilities and duties of care towards nature are obscured by the concept of services and there is a need to bring this aspect out more explicitly if developing policy and decisions around this framework. Some also felt the framework may lead to a rather bureaucratic and 'tick boxy' approach to the management of natural resources.

### How can the concept and framework of ecosystem services inform good decision making?

A number of key messages emerged from the dialogue about the way participants characterised good decision making and how the ecosystem services framework might inform this. In general, from very early on in discussion the framework was viewed as inviting a daunting level of complexity and that decision makers faced an unenviable task, not only in understanding the complex interactions between ecosystem services and value systems in decision making, but also in how to build in appropriate safeguards for nature. More specifically, participants emphasised the need to:

- *Prioritise the long term public benefit over short term economic interests.* It was common for participants to question the motivations and interests that lay behind the need to take decisions. They asked persistently on what grounds change is presumed necessary. They emphasised that actions should offer a long term public gain, and this meant prioritising the protection of nature within decision making. They saw risks in decision making being driven by financial concerns and involving commercial interests and were concerned that rights to access fundamental public goods from nature would be jeopardised by short term interests in profit.
- *Utilise scientific evidence to help inform decisions.* Participants viewed expert science as a way of helping to rationalise the challenge of dealing with complex and uncertain problems. This included informing understanding of why certain ecosystem services would be prioritised over others, and clarifying the otherwise hidden knock-on effects of actions. They wanted scientific information to be transparent in its methods, and independent, rather than wedded to a particular interest group. They did not believe formal scientific expertise alone can solve the rights and wrong of

## EXECUTIVE SUMMARY

decisions. They saw this expertise as contributing to a wider body of knowledge and emphasised the need for pluralistic forms of evidence that can deal with decision making complexities.

- *Involve the wider public in decision making.* Participants highlighted the involvement of local communities and beneficiaries as an important condition of good decision making. There was a need to look beyond scientific research findings and expert knowledge, and to avoid over-reliance on decisions being taken from above and at a distance. They argued that local publics have the right to be involved in decision making process across the full range of services and that they bring knowledge and innovation to the way decisions are made and actions framed.

**Table E.2 Ecosystem services and decision making: views on the Ecosystem Approach**

KEY STRENGTHS AND OPPORTUNITIES	
Positivity, inclusivity	The environment is being presented in a less 'doom and gloom' way; conveys to people that positive change is happening.
	Shows that environment is relevant to all sectors and walks of life.
	Everyone is being encouraged to have a view and a role in decision making.
Holistic in outlook and approach	Decision makers are thinking strategically. Approach tries to take all issues into account & evaluate the trade-offs; less fragmented.
	Recognises that money should not be the only thing driving decisions.
	Cultural aspects can provide an important counterweight in decisions.
Practical advantages	Principles connect framework to a set of clear principles for actions.
	Promotes transparency and accountability & strengthens the environmental case by providing a clear reference point for evidence.
	Potential to open up new revenue streams for protecting environment.
Good outcomes for nature	Emphasises more natural solutions/encourages natural methods.
	Will help to ensure that negative actions are offset by good ones.
	Opens up possibilities for win-win situations and synergistic benefits.
KEY RISKS AND CHALLENGES	
Fostering awareness and engagement	Approach may only be picked up on by 'switched on' stakeholders.
	Stakeholders and publics may find it hard to grasp the overall point and rally around it.
	People may object to some of the valuation instruments being applied, and see the Approach as an exercise in giving public money to wealthy land managers.
Creating a credible evidence base	Scope of approach means it is difficult to maintain an up-to-date evidence base.
	Sheer complexity of issues may lead applications of Approach to 'cherry pick' services.
	Salient local knowledge may be lost in the quest for standardised evidence.
Implementing and achieving goals	Complexity of issues being assessed may impede clear aims and purposes being set.
	Applications may be overruled, derailed, diluted or slowed down through ignorance or competing interests.
	May encourage congested decision making leading to co-ordination problems and duplication of effort.
Future-proofing activities	Difficult to maintain long term commitments to project goals as interests, priorities and land ownership changes.
	Challenge to ensure outcomes are properly monitored, adhering to agreed practices.
	The bill for ensuring future maintenance may fall on local tax payers.



- *Build in appropriate regulation and monitoring.* Participants were concerned that interventions should be properly regulated and monitored, and viewed the state as playing an important oversight role to ensure actions conform to agreed standards and that commitments are carried through. They tended to imagine scenarios in which independent bodies, set up by government, assert control over processes, particularly where significant commercial interests were involved. There is a related role for third sector actors in managing and informing new arrangements for ecosystem services delivery, such as ‘payments for ecosystem service’ schemes.

In general, the characteristics that participants associated with good decision making are consistent with the principles of the Ecosystem Approach which were emphasised later in the dialogue during discussion of recent and current projects applying this concept and framework to decision making. The key messages coming out of these discussions are summarised in Table E.2. The table highlights a number of key strengths, including the potential to foster awareness that might arise from applying this thinking, but also risks and potential challenges.

### **What is the place of monetary and non-monetary approaches to the valuation of ecosystem services?**

- Overall, participants saw many ways in which valuation techniques might be helpful within policy and decision making processes, but also queried how valuation evidence is created, what it signifies and what it can be expected to do. Participant views on the use of valuation methods had political, ethical and tactical dimensions and were often sensitive to the scale and object of decision making. In particular, there were notable differences about the rationale and need for different types of valuation in terms of the perceived uncertainty and complexity of a decision issue and whether the issue is of national and local concern.
- Although many participants expressed concern about associating nature with monetary measures of value, monetary valuation techniques were considered generally important tools for communicating and thinking about values within decision making; a tactically useful thing to do in terms of: communicating up – pushing nature up political agendas and unlocking treasury budgets; and communicating out – making nature’s value clear at a broad societal level.
- The generic qualities of monetisation methodologies appealed strongly to participants. Monetary valuation evidence was generally viewed positively because it is quantitative in form and provides information in a tangible, logical and uniform format. They felt these qualities lends the monetary approach transparency, objectivity and clarity even if the assumptions behind the specific application of the techniques might be questioned.
- Participants generally put more conditions on valuation evidence the ‘closer to home’ the decision gets (more personal and proximate), and the more risks and uncertainties the decision seemed to be addressing, with monetary valuation often interpreted as a necessary, but not sufficient, basis for decision making. Participants expressed a logic that is in many respects analogous with the ‘balance sheet’ approach to decision making outlined in the National Ecosystem Assessment. Recurring examples where monetary valuation would not be enough included: the building of new homes; building new airport runways; building new rail links; siting landfills and waste incineration units in neighbourhoods; and adapting to local flood risks. There will often be a need to put valuation on a participatory and qualitative footing so it is sensitive to the cultural and historical context, to appraise decisions from an ethical point of view (rights and wrongs; winner and losers), as well as to test abstract facts with stories and interpretations.
- Overall, there was a very strong message of the need for pluralistic approaches to valuation at all levels of decision making. Participants wanted approaches that produce systematic and precise forms of valuation evidence, but also acknowledge and incorporate complexity. They wanted valuation exercises that are open about underlying assumptions and weaknesses, and realistic in their claims and ambitions. Above all, participants suggested that valuation exercises should not stand and fall on one valuation approach alone. Monetary and non-monetary approaches to valuation are viewed as complementing each other in terms of their respective strengths and weaknesses. Participants suggested different ways in which these approaches could be usefully coupled together as part of iterative valuation processes within decision making.

### Who should deliver and pay for ecosystem services at the local level?

- The principles and practice of payments for ecosystem services (PES) schemes were evaluated as a way of managing and delivering ecosystem services at the local level. Participants considered hypothetical examples addressing a range of ecosystem services and vehicles and models of payment.
- In general, participants responded well to the idea of the 'beneficiary pays'. They liked the focus on rewarding and encouraging positive behaviour, although participants frequently returned to the idea of the 'polluter pays' in order to emphasise that poor environmental practices should be penalised.
- Many participants spoke of ecosystem services delivery in terms of obligations and commitments and worried that the PES agenda sounded too voluntaristic and market orientated in outlook. Some also suggested that the language of 'payment' does not capture the need for a wider and long term commitment to environmental ends and many agreed that the alternative term 'investment' would be more appropriate.
- In terms of who pays for ecosystem services at the local level, participants suggested that:
  - Small financial contributions by national government are symbolically important since they convey that government is aware, committed to, and influencing these activities;
  - Local businesses directly or indirectly gain financially from a high quality natural environment and should be expected to contribute towards PES schemes;
  - There is a case for residents and visitors contributing to PES schemes that support the provision of local amenity benefits and there are virtues (and weaknesses) of both voluntary and mandated forms of payment;
  - It is a matter of concern that local consumers may end up footing the bill for activities that are the responsibility of business and their shareholders.
- In terms of the co-ordination and implementation of local PES schemes, participants overwhelmingly associated desirable scheme design and implementation with the involvement of third sector organisations with locally specific environmental remits. These types of organisations were perceived to have the 'right' outlook, ideas and values. Schemes co-ordinated by entities with commercial interests were viewed with suspicion.
- Participants were generally concerned that money might actually be lost within complex intermediary processes. The need to ensure that the administration of schemes is not resource intensive was considered important, otherwise people might be charged more for the same ecosystem services, or less might be provided for the same price.
- An important condition participants placed on payment for ecosystem service schemes was the need for clarity about what the money is used for. Some expressed concerns that PES schemes are in general directed towards activities that are difficult to monitor in practice.

**Table E.3. Taking the agenda forward: What might a good future look like?**

KNOWLEDGE AND GOVERNANCE
<ul style="list-style-type: none"> <li>• There is investment in long term environmental science and technology research programmes.</li> <li>• Publically funded institutions with core environmental competencies are operating beyond short term political cycles.</li> </ul>
<ul style="list-style-type: none"> <li>• Local knowledge and perspectives inform the complex evidence needs of the Ecosystem Approach, through innovative programmes of citizen science.</li> </ul>
<ul style="list-style-type: none"> <li>• A national 'Ecosystems Agency' is set up to co-ordinate and integrate approaches and demonstrate good practice.</li> </ul>
<ul style="list-style-type: none"> <li>• Approaches that recognise and reward ecosystem service provision are encouraged, but there are regulatory mechanisms and penalties for poor environmental practice.</li> </ul>
<ul style="list-style-type: none"> <li>• Third sector organisations with locally specific environmental remits (such as local wildlife and river trusts) are helping to mediate and assure local innovations.</li> </ul>
<ul style="list-style-type: none"> <li>• Influential local stakeholders, such as elected local officials controlling budgets and local planners, understand and appreciate the value of sustaining ecosystem services.</li> </ul>
COMMUNICATION AND UNDERSTANDING
<ul style="list-style-type: none"> <li>• The language of ecosystem services is simplified to engage people but not at the expense of embracing the overall complexity of an ecosystem services perspective.</li> </ul>
<ul style="list-style-type: none"> <li>• Ecosystem services thinking is branded and kite-marked so that people have an identifiable rallying point around which models of behaviour can be influenced, such as assuring and differentiating products.</li> </ul>
<ul style="list-style-type: none"> <li>• The mass media is actively used to promote awareness and understanding, such as ecosystem-based soap operas (e. g. 'salty-street') and ecosystem informed storylines.</li> </ul>
<ul style="list-style-type: none"> <li>• The language of economics is employed to influence and raise national levels of consciousness about the value of ecosystems and influence powerful stakeholders, but money is not the sole currency of decision making.</li> </ul>
CITIZENSHIP AND INVOLVEMENT
<ul style="list-style-type: none"> <li>• Duties and responsibilities to nature are promoted as part of an ecosystem services perspective to decision making.</li> </ul>
<ul style="list-style-type: none"> <li>• Micro affiliations with place are used as a catalyst for local engagement and behaviour change (such as the 'love your place' initiative).</li> </ul>
<ul style="list-style-type: none"> <li>• People are obliged and rewarded in their commitments to ecosystems, for instance through a designated 'National Volunteering Bank Holiday'.</li> </ul>
<ul style="list-style-type: none"> <li>• Technology and social media is harnessed to involve people. Apps are developed that allow people to contribute, and crowd fund, opportunities for ecosystem service delivery and monitor progress.</li> </ul>

### What do people think about the future of UK ecosystems?

- Participants considered the long term future of UK ecosystems in terms of key emerging risks, challenges and opportunities. Four NEA scenarios were used as a provocation for debate. Participants also created their own visions of the future for UK habitats and how these might be realised.
- Participants took a favourable view of scenarios that promoted management of the natural environment in terms of its multi-functionality and the provision of ecosystem services. Maintaining the natural environment in terms of its cultural and wider quality of life value was considered an important element. Scenarios that combined strong roles for state and civil society, and invested in technology were also generally favoured. Conversely, there was a very strong negative reaction to scenarios where markets reigned freely, or where national self-sufficiency narratives predominated.
- Visions of the future produced by the participants reinforced and extended themes discussed in the context of scenarios. Participants emphasised desirable futures in terms of: multifunctional uses of the environment; social values cohering around care for the environment; active participation of communities in decision making; pluralistic forms of evidence to inform management; a strong leadership role played by government; and sustainable landscapes aligned to technologies.

## EXECUTIVE SUMMARY

- In terms of key areas for action in realising desirable futures four key themes emerged:
  - The need to develop a strong evidence base, built around publically funded investments in science and augmented by the inclusion of wider lay expertise;
  - The need to shape social attitudes through programmes of education and media campaigns to raise awareness, create shared visions and provoke action;
  - The need to develop novel funding streams to finance pathways to environmentally sustainable futures, and to penalise and incentivise behaviour through the market and state.
  - The need to innovate and invest in technologies to mitigate environmental harm and promote efficiencies in how resources are utilised.
- The overall picture that emerges is an understanding of future ecosystems and their management that shares many of the characteristics and arguments of the NEA's underpinning philosophy.

### Conclusions

- At the outset of the dialogue participants articulated many and diverse ways in which the natural environment might be important for individuals and society, but they were also pessimistic about their local environmental futures.
- Our participants varied significantly in their stated awareness, interest and knowledge of environment issues. Yet many saw decision making in the planning of local environmental assets as piecemeal and short-sighted, and ill-equipped or unprepared to respond to the big environmental issues e.g. building more homes, mitigating flood risks, protecting urban green space, securing energy resources, feeding a growing population, and ultimately, protecting nature as a life-affirming and life-enriching resource.
- It was against this backdrop that the NEA was introduced, discussed and accrued significance. At its most positive, some participants suggested the Assessment might serve as a modern day and environmental equivalent of the Beveridge Report, around which publics should be encouraged to rally. Participants offered a range of critical and imaginative suggestions for taking this agenda forward (Table E.3).
- Ecosystem services and the Ecosystem Approach are not considered panaceas for heading off future risks, meeting challenges and building sustainable futures. Yet this dialogue shows that elements of the NEA logic and its findings have resonance with public aspirations and concerns for credible policy development with respect to the natural environment.



*'Naturally Speaking ...'*

*a public dialogue on  
valuing and managing  
our environment*

Dialogue Cartoons by Luke Warm



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What do publics make of the idea of ecosystem services? How well does this concept resonate with societal aspirations and concerns for the natural environment? What are the key opportunities and challenges in taking the Ecosystem Approach forward in policy and practice?

Drawing on the work of the National Ecosystem Assessment the 'Naturally Speaking...' public dialogue was commissioned by government to provide authoritative insight into these questions. The dialogue was delivered by the University of Exeter and run in partnership with Defra, NERC and Sciencewise, the UK's national centre for public dialogue in policy making involving science and technology issues.

