

**Pollinating insects:
what do they mean to people
and why does it matter?
SUMMARY REPORT**

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Key findings

1. People value pollinating insects, and especially bees, in a wide range of different ways: as beautiful or fascinating creatures; as providers of goods; as objects of stewardship; as participants in a greater, interconnected whole – in which humans also participate; and as creatures with lives and characters.
2. An understanding of pollinators as *creative connectors*, sustaining and creating life by moving from plant to plant, is particularly powerful. Pollinators prompt people to think about nature as an interconnected whole, in which they too participate; and can unlock feelings of wonder, awe, groundedness, concern, responsibility, and nostalgia.
3. Social and cultural values provide a powerful resource for effective communications, a store of pre-existing meanings and associations that can be used to frame messages. Communications about pollinators would resonate more powerfully if they framed pollinators as creative connectors, emblematic of the interconnected and interdependent nature of ecosystems. By contrast, communications which focus on what pollinators do for us (e.g. pollination framed as an ‘ecosystem service’) are rational but unemotional.
4. Communications drawing on these insights should:
 - Highlight first and foremost the critical role played by pollinators as creative connectors in a greater, interconnected whole
 - Acknowledge our dependency on that greater interconnected whole, but also our responsibilities as participants in it
 - Be willing to embrace and use non-scientific language, ideas and tonalities in talking about both pollinators and the interconnected whole of which they are part, for example:
 - spiritual/religious language in evoking feelings of awe and wonder at the greater interconnected whole
 - evocations of an idealised, traditional way of life, and the possibilities of reconnecting in some small way
 - metaphorical characterisations of pollinators as spreading life and love
 - Recognise that we face choices about the environment not just as individuals, but as a society; that people see evidence of our society as a whole making the wrong choices; and that the actions of any body seeking to campaign about pollinators will speak as loudly, if not louder, than the messages it promotes
 - Emphasise – in messages, but also in developing the case for a campaign – the link between the holistic perspective, subjective wellbeing, and reconnection:
 - reconnection with nature: the consolation of knowing that one has a place in an enduring, greater whole, and a responsibility to play a positive role in that whole
 - reconnection with self: the experience of a moment of self-aware contemplation in contrast to the day-to-day stresses of life
 - reconnection with history: a sense of contact with an idealised traditional way of life
5. If developed effectively, such campaigns will contribute to many of the key actions in the National Pollinator Strategy, and in particular actions relating to “supporting pollinators across towns, cities and the countryside” (including encouraging the public to take action) and to “raising awareness of what pollinators need to survive and thrive”.

6. Because they prompt people to think about and respond emotionally to the interconnectedness of nature, pollinators framed as *creative connectors* could play an important role in communications seeking to increase awareness and change behaviour in relation to a much wider range of policies and approaches which relate to the *connectedness* of nature: for example, maintaining wider natural connectivity, protecting biodiversity, and ensuring environmental resilience through approaches such as those relating to the concept of landscape level conservation. As such, pollinators could play an important role in delivery of the 25-year plan for the environment, and in particular in efforts to increase public engagement.
7. Compared to other pollinating insects, bees occupy a central position in our culture. The ‘popular bee’ is not a *real* insect, but a product of a blurring of species, idealisation of the past, ignorance of the diversity of pollinators and, often, a shaky grasp on what pollination actually means. It is, however, a very *meaningful* and *valued* insect, and as such can serve as a flagship for communications in all of the above areas.
8. In terms of wider policy and decision-making, this research offers a potential model of how to create an evidence-based catalogue of social and cultural values. The development of such an evidence-based catalogue, using a mix of interpretative and participatory methods to explore how, and in what capacities, people can and do value objects of interest, should be an essential pre-requisite for robust valuation across a wide range of natural environment policy areas, but in practice is rarely undertaken.
9. Some types of social and cultural value can be captured through economic valuation: either through monetisation or through the inclusion of non-monetised criteria in multi-criteria analysis approaches. To do this, however, it is essential that data-gathering tools assess the right things: e.g. that willingness-to-pay questions frame the object of value in the right capacity and from the right perspective.
10. It may be more practical and/or appropriate to take account of some types of social and cultural value in policy and decision-making through other mechanisms, such as public consultation, political representation, or open policy-making. It may not be possible to monetise some kinds of value. In other cases, the effort involved in economic valuation may be disproportionate. If alternative mechanisms are not used, there is a risk that certain kinds of social and cultural value, or certain objects of value, are systematically overlooked.
11. Key levers to ensure that these alternative mechanisms are used effectively include:
 - Align policy frameworks – for example, set priorities and requirements in overarching national policies which ensure key social and cultural values or objects of value are taken into account.
 - Provide contexts – for example, create public consultation contexts in which certain kinds of value will be surfaced, or objects of value considered.
 - Improve processes – e.g. ensure consultation questions frame objects of value in ways that invite the articulate of key values.
12. An evidence-based catalogue of social and cultural values also provides a basis on which to anticipate risks and opportunities arising from changes in public opinion. Social and cultural values may be widely *available* within a society or culture but not, at any given moment, widely *used*. It is not always possible to predict how patterns of use *will* change in response to policies (e.g. forest privatisation, neonicotinoid pesticide policy); but an evidence-based understanding of underlying social and cultural values makes it possible to develop and explore scenarios of how they *could* change and develop responses accordingly.

Summary

The National Pollinator Strategy set out eleven evidence actions which Defra committed to take forward, including three actions focused on understanding of the economic and social value of pollinators. The current project takes forward the third of these evidence actions, and addresses the question of social and cultural values.

Specifically, the project aimed to enhance understanding of the social and cultural values of pollinators, and to improve the way in which these values are taken into account in policy development, decision-making and evaluation at a variety of spatial scales.

At a more general level, the project set out to contribute to Defra's wider work on valuing natural capital, and to the development of approaches and methods to help take the social and cultural value of other aspects of the natural environment into account more effectively in policy- and decision-making.

The project also aimed to inform communication with public and other audiences, and to help to ensure that future policy interventions and engagement activities are as targeted and effective (and cost effective) as they can be, and thus have greatest impact.

The project was structured around two parallel strands:

- The research strand aimed to enhance understanding of the social and cultural values of pollinators. A programme of in-depth qualitative, interpretative, creative and participatory research was undertaken, using a mix of methods: interviews, discourse analysis, art ethnography, participatory workshops, and workshops with children.
- The application strand aimed to explore in more detail how the values identified might be taken into account in policy development and other decision-making at a variety of spatial scales. Interviews were carried out with key informants involved at national and local level in policy- and decision-making with a bearing on pollinating insects. A review of existing frameworks for taking into account social and cultural values was also undertaken.

A summary overview of the primary research methods used in each strand is provided at the end of this document.

The social and cultural values of pollinating insects

How we value any object depends on the perspective we take on it. Consider, for instance, the different perspectives from which the participants quoted below understand and value bees.

I love hearing bees. [...] I love that sound, that buzzy, busy sound, I find that very relaxing, other people working, or other things working, so that's nice.

I'd never kill a bee, because we get quite a few in the conservatory, I always catch them and put them out because I'm aware, in fact bees you see, I depend an awful lot, I know you... if all the bees went... we, I'm not quite sure what, but I know that we'd be in trouble.

He was struggling out there, and I put a little bit of sugar in the water, put it in the syringe, put two droplets out there, and within two minutes he's flown off. [...] It's just natural. It just came natural.

I do like seeing bumblebees on flowers because I just think it's the contrast of sometimes the colours.

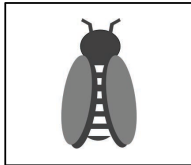
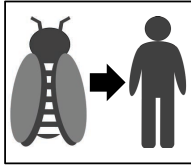
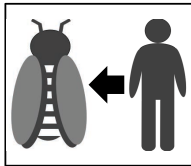
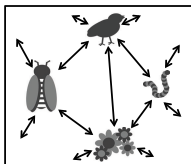
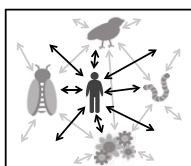
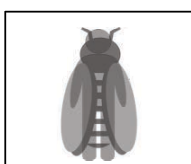
I'm not bothered by them really. They just... you can't get rid of them, can you? [...] as long as they don't land on me, then I'm quite... I'm more than happy.

You're annoyed by the bees. [...] You're always scared to be stung. [...] Wasps and bees. Anything flying can sting you is annoying. [...] My partner, she's allergic to bee stings.

The bumblebee is certainly in my psyche and I think typically is, sort of, considered to be a, kind of, affable, sort of, pleasant insect, even though it stings. [...] A wasp is typically likely to be a bit more aggressive, you're more likely to get stung by a wasp.

Each participant understands 'the bee' from a different perspective and in a different capacity. The value they attach to 'the bee' varies accordingly, as does the behaviour that follows.

Perspectives such as these can be *shared* across a community or society, and available for individual members to use on specific occasions. In this report, we use the term 'social and

Pollinating insects understood...	...and valued in their capacity as...
 <p>...as they present themselves to direct experience</p>	<p>Beautiful objects Fascinating creatures Objects of a different kind of experience</p>
 <p>...as providers of goods to humans</p>	<p>Useful (or harmful) things</p>
 <p>...as objects of human stewardship</p>	<p>Signifiers of achievement</p>
 <p>...as participants in a greater, interconnected whole</p>	<p>Manifestations of the greater whole Creatures with a purpose Creative connectors</p>
 <p>...as participants in a greater, interconnected whole <i>in which humans also participate</i></p>	<p>Reminders of our own place in nature Signifiers of damage or recovery Focal points of responsibility and action Focal points of nostalgia for an idealised past</p>
 <p>...as analogous to human beings</p>	<p>Creatures with lives Creatures with characters Partners in relationships</p>

cultural value' to describe the way in which an object is valued when understood from one of these shared perspectives.¹

The table on the previous page summarises the shared perspectives we have found being used to understand and value pollinating insects, and the associated capacities in which pollinating insects are understood and valued. A brief overview of the associated types of social and cultural value follows:

Beautiful objects. Living things can be objects of aesthetic appreciation, and pollinating insects are no different in this respect. It is not just the colours of pollinating insects which are appreciated aesthetically, but also their characteristic movement and sound.

Fascinating creatures. Living things can be inherently fascinating to watch. Evidence of this perspective was strongest among children.

Objects of a different kind of experience. When adults do find time to indulge in the experience of watching with fascination an insect or other living thing, the focus of their attention can shift to the act of observation itself, and the pleasant *contrast* between this contemplative frame of mind and the day-to-day stresses of adult life.

Useful (or harmful) things. There is a long history of human beings valuing living creatures in their capacity as useful providers of goods and services. The honeybee has been prized since antiquity for its provision of honey and wax. Recent campaigns to raise awareness of the importance of pollinators, such as *Bees' Needs*, have tended to position pollinators in this way, highlighting their provision of services/goods to human beings.

Signifiers of achievement. Stewardship of living things brings pleasures of its own. As such, living things can become detached from the usefulness that originally made them objects of stewardship, and instead understood and valued as signifiers of achievement. For those who take action to provide habitats for insects (pollinating or otherwise), similar feelings of personal satisfaction may be associated with seeing the insects they have created a home for.

Manifestations of the greater, interconnected whole. There is also a long history of valuing living creatures as manifestations of a greater, interconnected whole in which they participate. This manifestation of an enduring greater whole in a detail can acquire an explicitly religious significance. Even when it does not, it may evoke a sense of awe and wonder at the operation of natural processes.

Creatures with a purpose. Understood as participants in a greater, interconnected whole, living things may also be valued for the *job* they do in keeping that greater whole functioning.

Creative connectors. Pollinating insects play a very particular kind of role in the greater, interconnected whole: as creative connectors. Indeed, 'pollinator' and 'creative connector' are so closely linked from a social and cultural perspective that at times they are effectively synonymous. This is a role which, *by its nature, draws attention to the greater whole* – and therefore prompts a more holistic perspective.

Reminders of our own place in nature. Seeing living things as participants in a greater, interconnected whole can raise a question for a human observer: what is my place, our place, in this whole? The sense that one also has a place is associated with positive emotions of groundedness and calm.

¹ Note that, in this report, we do not attempt to distinguish *social* and *cultural* values from each other, but use 'social and cultural' as a single modifier.

Signifiers of damage or recovery. Thinking about humanity's place in the greater, interconnected whole can also prompt reflections on the ways in which we are destabilising the natural processes which sustain it. In the context of these concerns, living things can become powerful signifiers of damage to the environment. The positioning of the decline of bees as an early warning of greater problems is now widespread. However, observations of living things can also provide positive reminders that those natural processes endure, and that the larger whole persists despite the damage caused by human beings.

Focal points for responsibility and action. Our place in the greater, interconnected whole implies not just dependency but also responsibility. Living things such as pollinating insects can become the focal point for actions to attempt to reverse at least a little of the damage done by humans. Seeing things from this perspective may also highlight the fact that, sometimes, our responsibility is to do *less* rather than *more* – to leave space for wildlife, allow natural processes to take their course, find a better balance between the needs of humans and the needs of nature.

Focal points of nostalgia for an idealised past. The decision to play a more responsible role as part of nature can be framed as an individual or a *collective* one. The view that our society has made, or is making, the wrong decisions is widespread. A contrast is often made between modernity and an idealised past when human beings lived in harmony with nature: this contrast cuts across a number of the social and cultural values already identified, and has roots in Romanticism. Honeybees have become a powerful focal point for a discourse of cultural nostalgia for an idealised, traditional way of life.

Creatures with lives. Seen as analogous to human beings, individual living creatures – including insects – can be objects of empathy and compassion. Collectively, living creatures can be considered to have *rights* – to food, to space, or simply to exist

Creatures with characters. As well as empathising with other living things, human beings also have a tendency to project onto them human characteristics. Three broad classes of insects were identified: cuddly bugs, workers, and scary beasts. Bees have long been seen as workers: however, there is plentiful evidence of them now being seen as cuddly bugs – especially bumblebees, on account of their being fat and fluffy.

Partners in relationships. While pollinating insects do not make good candidates for pets, it was striking that there were *any* occasions when participants spoke about them in terms that suggested “friendship” or “companionship”.

NOTE: the above are ways of understanding and valuing pollinating insects which are socially and culturally *available* for individuals to use. While this means that they are used at least sometimes and by some people, it does not necessarily mean that they are currently widely used, or used by many people.

Perspectives on pollinators: atomism and holism

To see pollinating insects *as* pollinators is already to understand them in a particular capacity, and from a particular social and cultural perspective. To avoid confusion, we adopt the following convention:

- We use ‘pollinating insects’ to refer to insects which, as a matter of fact, pollinate, irrespective of the capacity in which they are being understood and valued.
- We use ‘pollinators’ only in cases where those insects are being understood and valued specifically *in their capacity as pollinators*.

Human beings have been experiencing, reacting to, keeping and in various ways valuing at least some pollinating insects, and in particular the honeybee, for millennia. For most of this time, however, this has *not* been in their capacity as pollinators. As such, it is not surprising that many of the social and cultural values identified relate to pollinating insects in capacities other than as *pollinators*.

Two, however, apply specifically to pollinating insects in their capacity as pollinators:

- First, pollinators may be understood and valued as useful things – providers of a vital service to human beings. We describe this as an **atomistic perspective** on pollinators, as it isolates pollinators from the wider natural systems of which they are part, and focuses on services/goods provided to humans. This perspective has been promoted by recent campaigns.
- Secondly, pollinators may be understood and valued as creative connectors – participants in a greater, interconnected whole, alongside many other participants, but with a role which, by its nature, draws attention to that greater whole. We describe this as a **holistic perspective** on pollinators, as it shifts attention to the greater whole in which pollinators participate.

As a matter of *logic*, these two perspectives appear to be consistent with each other. While the holistic perspective highlights the role played by pollinators in a greater whole, rather than services/goods provided to humans, it can still be linked to human needs by noting our dependence on that greater whole. Indeed, it could be argued that, while the atomistic perspective aligns closely with the concept of ecosystem services, the holistic perspective offers an understanding of these services which is more in tune with the broader ecosystems approach.

Logic aside, however, there are clear patterns of difference in the ways in which these two perspectives are *used in practice*. While participants were aware of the atomistic perspective, they tended not to *adopt* it and state with commitment that they valued pollinators as useful things, but instead to *quote* it and observe without commitment that they had heard they *ought* to value pollinators as useful things. This is in contrast to the holistic perspective, which participants adopted confidently and with commitment.

Indeed, participants tended to *default* to the holistic perspective, even in response to questions specifically focusing on pollinators and pollination. This is because the relationship of pollinators to the whole is less like the relationship of a cog to a machine – the cog alone provides no clues as to the nature of the machine from which it has been isolated – than like the relationship of a detail to a larger part of a fractal – the detail recapitulates at a smaller scale the characteristics of the whole, in this case its connectedness and creativity. The unique role that pollinators play as creative connectors draws attention, *by its nature*, to the greater whole in which they are participants (the holistic perspective). By contrast, the role of pollinators does *not* draw attention in the same way to services to human beings (the atomistic perspective). Hence, when asked to look at or think about pollinators, what participants saw was creative connectedness – and *not* services provided to humans.

Adopting the holistic perspective also opens up the powerful meanings and sources of value associated with holism. Seen from this perspective, pollinators and other living things are manifestations of the greater, interconnected whole; creatures with purpose; reminders of our own place in nature; signifiers of damage and recovery; focal points for responsibility and action; and focal points for nostalgia for an idealised past. By contrast, the atomistic perspective can seem cold and sterile, implying little beyond a bald statement that pollinators provide an important service.

The tension between the holistic and atomistic perspectives has deep historical roots. In particular there are strong points of connection between the holistic perspective and Romanticism, and the Romantic critique of analytical and atomistic Enlightenment thinking. Key figures in Romantic science include Alexander von Humboldt, often considered one of the fathers of modern ecology. It is not Enlightenment science that is rejected by the Romantics, but the pretensions of that science to completeness, and its refusal to countenance the possibility of other ways of understanding and valuing nature. In a similar way, it is not logical inconsistency that brings the atomistic and holistic perspective on nature into conflict, but a perception that all other perspectives, including the holistic perspective, can and must be reduced without loss to an atomistic focus on usefulness to human beings.

In *The Master and his Emissary: the Divided Brain and the Making of the Western World*, Iain McGilchrist (2009) advances an argument which suggests the tension between holistic and atomistic perspectives may be underpinned by human anatomy: specifically the separation of the brain into two hemispheres. On the basis of extensive evidence, McGilchrist argues that the two hemispheres can be thought of as having different *perspectives*, with strong parallels to the holistic (right hemisphere) and atomistic (left hemisphere) perspectives.

The ‘popular bee’

Compared to other pollinating insects, bees occupy a central position in our participants’ responses, in the materials reviewed in the discourse analysis strand, and in our culture more widely. The social and cultural category of bees, however, does not coincide neatly with taxonomic boundaries. In particular, popular ideas of the bee may confuse honeybees and bumblebees, while overlooking the existence of other kinds of bee entirely.

The ‘popular bee’ is not a *real* insect, being as it is a product of a blurring of species, idealisation of the past, ignorance of the diversity of pollinators and, frequently, a shaky grasp on what pollination actually means. It is, however, a very *meaningful* insect:

- a creative connector, fulfilling a role which, *by its nature*, draws attention to the greater, interconnected whole of which it is part
- a creature which signifies, through its decline, the damage caused to nature by human activity; and through its presence, the endurance of nature despite human damage
- a symbol of an idealised past in which we lived more in tune with nature
- an object of stewardship and care for nature – actions through which we can reconnect to nature, and to our collective and personal pasts – and an indicator of the good we achieve by such acts of stewardship
- a focal point for experiences of groundedness, calm and wellbeing – linking feelings of being in the moment to a sense of our place in nature and in the narrative of humanity
- the provider of one of nature’s sweetest gifts – honey
- a fluffy, fat, friendly creature which is both cuddly and hard-working

Implications for communications

Social and cultural values provide a powerful resource for effective communications, a store of pre-existing meanings and associations that can be used to frame messages. Communications should work *with* the social and cultural grain, activating perspectives that are already out

there, if latent – rather than trying to work *against* the grain and foster entirely new ways of understanding and valuing the world.

Pollinator campaigns

National campaigns to promote awareness of pollinators, both by Defra and by other organisations, currently tend to emphasise the atomistic perspective and highlight pollinators in their capacity as useful things, providing services/goods to humans. As such, campaigns are missing out on an opportunity to tap into the holistic perspective – a perspective that is more readily prompted by pollinators, more emotionally resonant, and more deeply rooted in our society and culture. Making greater use of the holistic perspective would suggest the following principles for the development of campaigns:

- Highlight first and foremost the critical role played by pollinators as creative connectors in a greater, interconnected role
- Acknowledge our dependency on that greater interconnected whole, but also our responsibilities as participants in it
- Be willing to embrace and use non-scientific language, ideas and tonalities in talking about both pollinators and the interconnected whole of which they are part, for example:
 - spiritual/religious language in evoking feelings of awe and wonder at the greater interconnected whole
 - evocations of an idealised, traditional way of life, and the possibilities of reconnecting in some small way
 - metaphorical characterisations of pollinators as spreading life and love
- Recognise that we face choices about the environment not just as individuals, but as a society; that people see evidence of our society as a whole making the wrong choices; and that the actions of any body seeking to campaign about pollinators will speak as loudly, if not louder, than the messages it promotes
- Emphasise – in messages, but also in developing the case for a campaign – the link between the holistic perspective, subjective wellbeing, and reconnection:
 - reconnection with nature: the consolation of knowing that one has a place in an enduring, greater whole, and a responsibility to play a positive role in that whole
 - reconnection with self: the experience of a moment of self-aware contemplation in contrast to the day-to-day stresses of life
 - reconnection with history: a sense of contact with an idealised traditional way of life

The ‘popular bee’ provides a perfect flagship species for pollinator awareness. On the other hand, the use of the bee as a flagship species carries a clear risk of crowding out other pollinating insects from consideration.

The development of a full campaign strategy making greater use of the holistic perspective is beyond the scope of this project. Work to develop such a strategy would need to consider the implications of this perspective not only for messaging, building on the principles above, but also for objectives, audiences, channels and activities. For example:

- Objectives might be focused on engagement, rather than awareness, with a focus on prompting/helping people and drawing out their own views on creative connectedness.
- Engaging deliberately diverse audiences might help to stimulate thinking around diversity and connectedness.

- Channels and activities might be selected which brought to life the idea of interconnectedness: for example, approaches that involved capturing stories, poems and pictures would create very different experiences compared to, say, the distribution of information leaflets.

Pollinators as flagships for wider issues

Adopting the holistic perspective has larger consequences for the role that pollinators could play in public communications and engagement. In particular, the synecdochic power of pollinators to stand for the greater, interconnected whole of which they are part, and the range of social and cultural values unlocked by the holistic perspective they therefore prompt, makes them ideal flagships for and ways into a wider range of environmental policies and approaches which relate to the *connectedness* of nature: for example, maintaining wider natural connectivity, protecting biodiversity, and ensuring environmental resilience through approaches such as those relating to the concept of landscape level conservation.

Given this, bees and pollinators could play a critical role in delivery of the 25-year plan for the environment, and in particular in efforts to increase public engagement.

This is a timely point. An upsurge in interest in pollinators has been significantly driven by concern about pollinator declines, and in particular colony collapse in domestic bees colonies and related matters such as the role of neonicotinoid pesticides. The synecdochic power of pollinators suggests that – if issues such as these were framed effectively – this upsurge of interest could be amplified and broadened to other issues. A key part of that framing would be to link communications about pollinators to wider communications efforts around biodiversity, natural resilience, and our place in nature.

Using social and cultural values in practice

Our analysis of social and cultural values suggests a number of general implications for communications. For example, these implications should be born in mind in delivery of the 25-year plan for the environment (whether or not bees and pollinators are deployed as flagships for and ways into a wider range of environmental policies, as suggested above).

- The resources to address so-called ‘awareness’ issues may in fact already exist – not in expert knowledge or science papers, but in latent but potent social and cultural values.
- The aim of a campaign which seeks to draw on these latent social and cultural values is not to *educate* so much as to *activate*: to promote the more frequent use, or use by more people, of social and cultural values which are currently available but underused. Achieving this aim will call on techniques and methods which focus less on imparting new knowledge, and more on prompting the use of available templates in discussion or in action.
- Audience research is often used to measure what people already know, understand and value. But audience research can also play a critical role in exploring how people *could* understand and value a topic, especially during the development of a campaign.
- An understanding of social and cultural values provides a starting point for a consideration of the *risks* to a campaign arising from competing social and cultural values.

Implications for policy- and decision-making

Taking account of social and cultural values through economic valuation

This research offers a potential model of how to create an evidence-based catalogue of social and cultural values. The development of an *evidence-based* catalogue of relevant social and cultural values – in this instance, the ways in which people can and do value pollinators in reality – is an essential pre-requisite for valuation. A descriptive catalogue of this kind would also provide the basis for further important, related, but nevertheless distinct tasks, such as:

- Quantification – mapping not just what perspectives and values are *available*, but also how often they are *used*, and by whom.
- Explanation – drawing on evidence and theory to develop accounts of i) *why* certain perspectives and values are available and/or ii) *why* these perspectives and values are used in certain instances by certain individuals.

A mix of interpretative and participatory methods can be used to explore how, and in what capacities, people can and do value objects of interest (in this research: pollinating insects). In practice, it appears this step is rarely taken; and *de facto* catalogues of social and cultural value are instead based on anecdotes, thought experiments, and theoretical models of economic valuation.

In the absence of such an *evidence-based* catalogue, entire categories of value may be overlooked. For example, to ask a meaningful willingness-to-pay question, for example, one needs to know how to *frame* the object of value in that question: from what perspective, and in what capacity. An evidence-based catalogue of relevant social and cultural values allows a critical review of the evidence on which valuation is based, and the tools used to gather that evidence.

Having developed catalogue of relevant social and cultural values, decisions may be made about the most appropriate approach to taking those values into account. Within the scope of economic valuation, it may be possible and appropriate to monetise some kinds of social and cultural value. Doing so may require thinking about different kinds of exchange other than simple payment – e.g. giving up time and effort.

The concept of subjective wellbeing may be well-suited to thinking about the ways in which pollinating insects can serve as focal points for experiences of reconnection:

- reconnection with self: the experience of a moment of self-aware contemplation in contrast to the day-to-day stresses of life
- reconnection with nature: the consolation of knowing that one has a place in an enduring, greater whole, and a responsibility to live more in harmony with that whole
- reconnection with history: a sense of contact with an idealised traditional way of life

Monetisation may be deemed inappropriate for certain types of social and cultural value: for instance, values which cannot meaningfully be expressed through behaviours involving exchange. For example, it could be argued that experiences of awe or groundedness should be understood as quasi-religious in character, and that monetisation of these experiences (for example, via a measure of subjective wellbeing) does not respect or reflect their spiritual nature. Such non-monetary measures can be incorporated into an appraisal of options using methods such as multi-criteria analysis.

Alternatively, it may be decided that mechanisms other than economic valuation are more appropriate to take certain kinds of value into account (see below). In particular, this may be the case for some non-use values, or for values for which marginal valuation is problematic.

Using social and cultural values as a basis for risk assessment

An understanding of social and cultural values therefore provides a basis on which to develop and explore scenarios, and assess the risks and opportunities arising from possible changes in 'public opinion'. This is because social and cultural values may be widely *available* within a society or culture but not, at any given moment, widely *used*. These patterns of *use* can change rapidly, including in response to policies.

It is not possible to *predict* how patterns of use *will* change in response to policies (e.g. forest privatisation, neonicotinoid pesticide policy); but an evidence-based understanding of underlying social and cultural values makes it possible to develop and explore scenarios of how they *could* change. For example:

- Campaigns or events which moved beyond the current focus on pollinators as service providers and unlocked the social and cultural values associated with a more holistic perspective could lead to a significant mobilisation of public opinion around issues such as, for example, the use of neonicotinoids.
- Setting aside land for pollinator-rich habitats creates opportunities to engage volunteers in creating and maintaining those habitats. Those volunteers may then experience the satisfaction associated with seeing the insects they have created a home for – even if they have not anticipated this sense of satisfaction or cited it as a reason for volunteering. Such a volunteer scheme may therefore create value which can only be anticipated on the basis of an understanding of relevant social and cultural values.

Other mechanisms to take account of social and cultural values

In practice, social and cultural values can and do influence policy- and decision-making through mechanisms other than economic valuation, such as public consultation, political representation, open policy-making, or public lobbying and campaigning.

There is a debate to be had about whether social and cultural values *should* influence policy- and decision-making through mechanisms such as these.

- On the one hand, it can be argued that social and cultural values need to be brought into the scope of economic valuation to meet the aspiration set out in *The Green Book* of “ensuring that public funds are spent on activities that provide the greatest benefits to society, and that they are spent in the most efficient way”. Such mechanisms also run the risk of policy- and decision-making by who-shouts-loudest.
- On the other hand, there may be pragmatic reasons to take the role of such mechanisms seriously, including the technical feasibility and costs/benefits of including different types of value in an economic valuation. Particular issues may arise for some non-use values, and values for which marginal valuation is problematic. There is also a democratic case to be made for the use of appropriate mechanisms which increase the involvement of members of the public in policy- and decision-making *as active citizens*.

Currently, a key barrier to the social and cultural values of pollinating insects being taken into account via these alternative mechanisms is the fact that pollinating insects are not on the policy- and decision-making agenda in the first place. Factors that can lead to an issue getting onto the agenda include passionate individuals, existing policy and guidance, and public concern.

Steps that could be taken to ensure that the social and cultural values of pollinators are better taken into account via these mechanisms include:

- Aligning policy frameworks: e.g. set priorities and requirements in overarching national policies which ensure key social and cultural values or objects of value are taken into account
- Providing contexts: e.g. create public consultation contexts in which pollinators, and different kinds of relevant social and cultural value, will be considered
- Improving processes: e.g. ensure consultation questions frame pollinators in ways that invite the articulation of key values

Challenges for objectivity

Consideration of social and cultural values raises two important challenges for the idea of an objective valuation.

The first challenge relates to the idea of objective measurement. In theory, objectivity requires finding methods which create an *opportunity* for social and cultural values to be used without *prompting* the use of those values, and therefore biasing the results. In practice, even if using familiar methods such as willingness-to-pay, it is necessary (as noted above) to specify what a respondent is being asked to pay *for*: the question necessarily frames the object of value *in a particular capacity, from a particular perspective*, and therefore prompts the use of one kind of social and cultural value rather than another. Indeed, just by framing the topic in terms of payment, such questions will exclude some perspectives and prompt others. Even markets are social and cultural phenomena, contexts which require from their participants a particular way of understanding and valuing the world around them. These issues are not insurmountable, but they do require careful thought and judgement. The development of an evidence-based catalogue of social and cultural values could provide a useful starting point for addressing issues such as these.

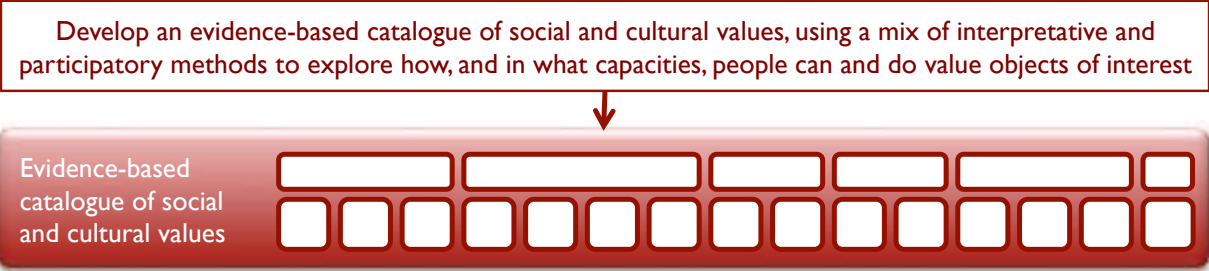
The second challenge relates to the question of whether some social and cultural values should be excluded from policy- and decision-making altogether. For example, should the fact that people like bumble bees because they are “fluffy” really be a consideration in public policy- and decision-making? It is probably impossible, and almost certainly impractical, to take into account every single kind of value in policy- and decision-making. The objective, value-free ‘view from nowhere’ is not attainable.

As such, it will always be necessary for policy- and decision-makers to make judgements about what kinds of value to exclude which will themselves, unavoidably, be made from a particular perspective, and therefore value-based. These judgements, and the perspective and values which underpin them, should be clearly articulated in a form that allows others to contest them.

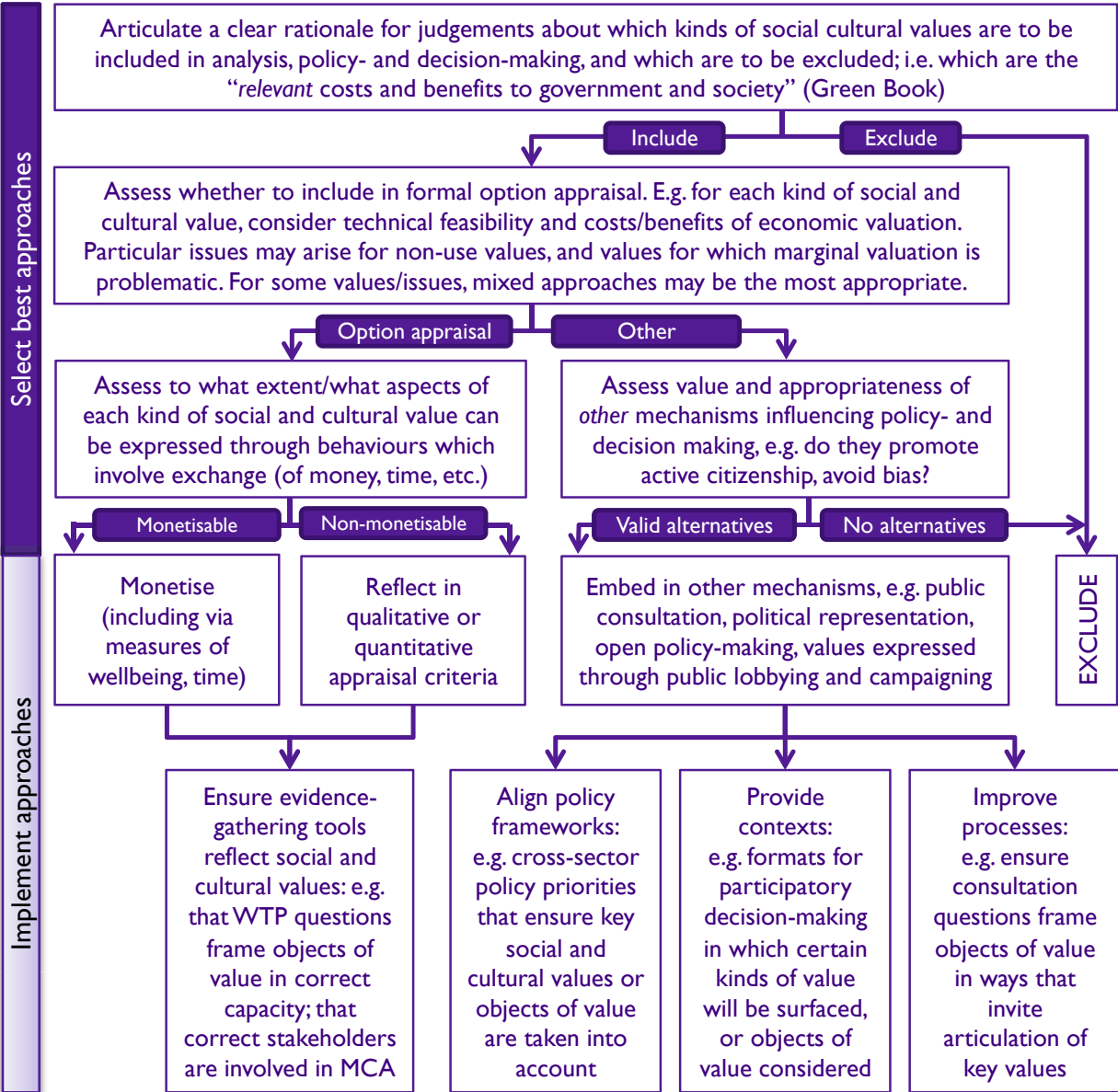
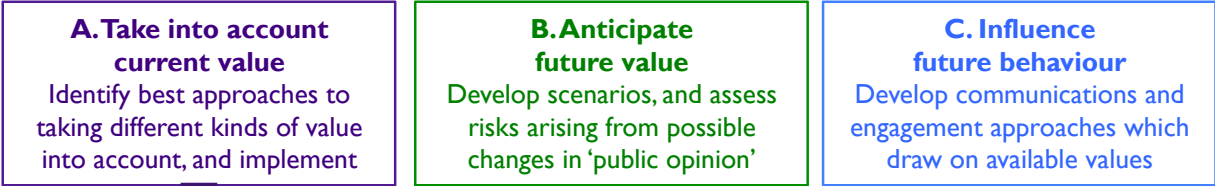
Taking social and cultural values into account: an evidence-based approach

Stepping back from the specific topic of pollinating insects, we propose a generalised, evidence-based approach to taking social and cultural values into account. The starting point is the development of an *evidence-based* catalogue of social and cultural values relevant to particular objects of interest. The flowchart on the next page shows how such a catalogue provides the basis to develop a robust, reasoned and contestable approach to assessing current values – as well as a starting point for anticipating future values, and also for influencing future behaviour.

Taking social and cultural values into account: an evidence-based approach



This catalogue provides a basis on which to:



Summary of primary research methods

What?	Why?	Who?	How many?
Research strand			
Participatory groups (whole day workshops)	Designed to explore collective values using more participatory methods.	Individuals with interest and expertise in pollinators Individuals with a connection to the site where the workshop took place Other local community members	18 in each of two locations. Total: 36
Art ethnography projects (6-8 weeks)	Designed to explore individual values using more participatory methods	Individuals actively involved in the interest of pollinators in some way Also, as co-researchers, artists (composers, sculptor)	3 participants in each of two locations. Total: 6
Discourse analysis	Designed to explore collective values as expressed in popular cultural forms of many kinds, from advertising to home decor to children's' books and beyond.	Samples drawn from popular sources such as advertisements, magazine features and social media postings, and a smaller number of specialist sources such as academic articles.	Visuals and copy from around 350 items in total
Interviews (1 hour, in-home)	Designed to explore individual values, in context of understanding how interviewees experienced, made sense of and found value in pollinating insects.	Individuals with limited engagement, recruited using the Tiering Study in Christmas et al. (2013); participants were recruited from Tiers 1 and 3.	Total: 20
Workshops with children 2 x short workshops	Designed specifically to explore the responses of children.	Children aged 8-11 years (Key Stage 2) at two separate primary schools.	8 children at each school. Total: 16
Application strand			
Key informant interviews	Designed to explore the reality of policy- and decision-making in relation to pollinators	Individuals involved in at national and local level in policy- and decision-making with a bearing on pollinating insects.	Total: 9