

NATURAL  
ENGLAND



# Mapping Diverse Public Engagements with Nature and Biodiversity

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## Summary

- Public engagement and participation are increasingly seen as crucial to addressing problems associated with nature and biodiversity. Dominant and popular approaches to public engagement – focused on communication to the public and discrete one-off engagement events – are not enough on their own to deal with the systemic nature of the challenge.
- A new perspective on public engagement has emerged, in other areas of science, environment and across the social sciences in recent years, that views publics and participation as being highly diverse, already existing, and interrelating in wider systems. This new perspective has been taken forward in other domains, for example in energy and climate change by the UK Energy Research Centre's (UKERC) Public Engagement Observatory which is based in the Science, Society and Sustainability (3S) Research Group at the University of East Anglia.
- Through a Strategic Research Partnership, researchers in the 3S Research Group at UEA and staff in Natural England have collaborated to form a Public Engagement Laboratory for Nature and Society which is translating approaches of remaking participation and the Public Engagement Observatory into the nature conservation and Natural England setting. This report presents the findings of the first collaborative research project as part of this work.
- The project aimed to pilot a novel approach for mapping diverse forms of public engagement with nature in the UK and explore the implications for approaches to public engagement with nature in Natural England and beyond. The study used the comparative case analysis method developed by the UKERC Public Engagement Observatory. Searches of academic and grey literatures identified 76 diverse cases of public engagement with nature and biodiversity occurring between 2010-2022 which were analysed to map how people are engaging, who is engaging, what they are engaging in, and where. A workshop with 36 staff from across Natural England was then held to explore their reflections, learning and responses to the mapping findings and to consider implications for public engagement with nature and biodiversity.
- The mapping shows that public engagement with nature and biodiversity is highly diverse. While mainstream approaches to public engagement are often institution-led and invited, such as surveys and consultations, our mapping analysis has opened up to wider forms of engagement that are citizen-led, ranging from activism and community action through to ongoing engagements with nature in everyday life. This opens up and goes beyond the dominant existing framings of participation and the public found within Natural England.
- The mapping analysis shows how these varied forms of public engagement involve and construct different publics and produce different public views and actions on nature and biodiversity issues. The cases of engagement in our dataset span across 16 different aspects of nature and biodiversity that publics are engaging with, ranging from generalised nature, improving nature, making use of nature, through to wider framings of nature linked to social and ecological change. There is a need for organisations like Natural England to become more responsive to these diverse forms of participation, publics, and their views and actions.
- In addition, the mapping shows how the diverse forms of public engagement with nature identified do not occur in isolation but interrelate in a wider system or ecology of participation. It is necessary to move beyond discrete, one-off instances of participation and to recognise how diverse forms of public engagement with nature and biodiversity are already existing, ongoing and interrelate within a wider system. Public engagement conducted by Natural England is part

of this wider landscape of participation which creates new challenges and opportunities for the organisation in developing more systemic approaches to engagement.

- A workshop with Natural England staff demonstrated the potential of the mapping participation approach to transform learning, reflection and approaches to public engagement with nature. The mapping findings prompted reflections and reflexive learning about diverse publics (who), issues (what), and forms (how) of public engagement with nature. Workshop participants reflected on how Natural England frames these dimensions relatively narrowly, how it might open up to diversities shown by the mapping, and the position and role of the organisation in relation to the wider system of engagement.
- Most workshop participants were positive about the possible roles the mapping participation approach could play across Natural England and beyond. They identified a wide range of possible contributions ranging from supporting a more strategic and systemic approach to engagement, attending to pre-existing engagements and exclusions, enhancing the design of participatory processes, monitoring and evaluating engagement, and informing governance and decision-making. In addition, 30 specific areas of work across the organisation were suggested as possible sites to trial and experiment with this new approach.
- This research project has shown the value of remaking participation and approaches to mapping participation within Natural England and in public engagement with nature more broadly. It opens up new ways of mapping, practicing, learning about and responding to diverse public engagements with nature and biodiversity within Natural England and beyond.



## 1. Introduction

Public engagement and participation are increasingly seen as crucial to addressing problems associated with the conservation of nature and biodiversity. Traditional science-centred and regulatory-based approaches to conservation on their own can lack effectiveness in mitigating ongoing declines in nature in ways that address the needs of society. It has been suggested that this should be treated as a socio-ecological challenge (Mace, 2014) which emphasises a fundamental shift to more people-centred approaches and meaningful societal engagement. Public engagement has been shown to be beneficial in improving the quality of science and decision-making (Fiorino, 1990), bringing benefits ranging from human health outcomes (Bell et al. 2019; Richardson & Hamlin, 2021) through to enhanced legitimacy and trust in management practices, while ensuring measures to enhance nature and biodiversity are democratically accountable, just and in the public interest (Brown, 2009). This has brought forward a drive to engage the public over the past few decades.

There are two main ways in which public engagement with science and environment has been conceived (for an overview see Chilvers, 2009; Chilvers et al., 2022), including in the contexts of nature and biodiversity. Dominant approaches tend to focus on either a 'deficit model' of the public (Wynne, 1991) whose understanding needs to be corrected through one-way communication, or on inviting an unengaged public to participate in discrete, often one-off, engagement processes – such as surveys, deliberative processes, community-based conservation projects, citizen science initiatives, and so on. While important in their own right, these two dominant perspectives on public engagement are increasingly seen to have limitations, not least because their discrete and narrow focus fails to attend to the multiplicity of different ways that people engage with nature and biodiversity as inherently systemic problems.

Partly in response, a third perspective on participation has emerged in other areas of science and environment and across the social sciences in recent years (see Chilvers and Kearnes, 2016). Rather than being individual, specific, and discrete, this third perspective views participation and publics as being:

- *Diverse* – recognising the many different ways publics are already engaging, including those that are uninvited and citizen-led such as activism and community action (Wynne, 2007).
- *Constructed* – understanding that what publics say and do is shaped by the ways in which they engage or are engaged (Marres, 2012; Stirling, 2008).
- *Systemic* – in that public engagements do not occur in isolation but continually interrelate in wider systems and ecologies of participation (Chilvers et al., 2018).

This perspective on 'remaking participation' has been taken forward in other domains, for example in the context of energy and climate change by the Public Engagement Observatory of the UK Energy Research Centre (UKERC) (Chilvers et al., 2022). The Observatory is based in the Science, Society and Sustainability (3S) Research Group at the University of East Anglia (UEA), where new approaches have been developed to map diverse forms of public engagement (Chilvers et al., 2017, 2018, 2021, 2023; Pallett et al., 2019) with energy and climate change across the UK on an ongoing basis. The Observatory uses these mappings to inform decisions, innovations and new forms of participation as well as making connections across a disparate system of public engagement.

This report presents the findings of a collaborative research project between researchers in the 3S Research Group at UEA and Natural England that forms a part of work that seeks to translate approaches of remaking participation and the UKERC Public Engagement Observatory into the

Natural England setting. This includes a wider Strategic Research Partnership formed between UEA and Natural England in 2022, and as part of this ongoing collaborative work to create a Public Engagement Laboratory for Nature and Society within Natural England. The research project ran from October 2022 to April 2023.

The research tested a novel approach to mapping diverse public engagements with nature in the UK, translating the mapping method developed in the 3S Research Group and the Public Engagement Observatory. It applied the comparative case analysis method to map the diversity of publics engaging in nature, what they participate in, how they participate, and where. The findings were then explored in a workshop with Natural England staff who reflected on the mapping results, how the method might be applied in the organisation, and considered implications for approaches to public engagement with nature in Natural England and beyond.

*The project aim was: to pilot a novel approach for mapping diverse forms of public engagement with nature in the UK and explore implications for approaches to public engagement with nature in Natural England and beyond.*

The project addressed three research questions:

1. What diverse public engagements with nature are occurring in the UK and what are the different qualities of these engagements?
2. How do individuals and Natural England as an organisation respond to and learn from this new mapping evidence and approach to public engagement?
3. What are the implications of this mapping participation experiment for approaches to public engagement with nature in Natural England and beyond?

The report is structured as follows. A brief review of the academic literature on public engagement with nature and biodiversity is summarised in Section 2, before providing background on past and current developments in public engagement within Natural England in Section 3. In Section 4 we explain the mapping public engagement method undertaken in the study and then present the results of the mapping in Section 5. Analysis of the reflections on the mapping findings and implications for approaches to public engagement is then presented in Section 6. Finally, in Section 7 we set out the key insights and recommendations from the research.

## **2. Three perspectives on public engagement with nature and biodiversity**

In this section, we summarise a brief review of the academic literature on public engagement with nature and biodiversity. The review situates the project in the context of past and present research and practice on public engagement with nature as well as prospects for the future. In doing this we are interested in exploring how these literatures relate to the three perspectives on public engagement outlined in the introduction above.

We show how traditional science-centred approaches to nature conservation have been associated with the first perspective that assumes a deficit of ‘the public’ understanding of scientific knowledge which means they are often excluded or on the receiving end of communications. The past few decades have seen increasing emphasis on developing more active and interactive forms of public engagement with nature and biodiversity, associated with the second perspective. In some contexts, this has become a dominant way in which public engagement with nature is approached. Our review finds that the third perspective, which takes a more constructivist and systemic approach to participation, is largely missing from the existing literature on public engagement with nature, although we find a few studies taking forward aspects of this approach as detailed below.

### **2.1 Public understanding of nature**

Traditional science-centred approaches to nature conservation have historically assumed a reduced role for society (Adams, 2004). Under this perspective ‘the public’ is assumed to have a deficit of understanding and knowledge (Wynne, 1991) about nature and biodiversity which acts as a barrier to their positive engagement with it. Citizens tend to be at the back end of science-led conservation measures, either being excluded from such processes or on the receiving end of communication as a means of enhancing public engagement and connection with nature. Such a perspective often assumes a single external ‘nature’ that is seen to be separate from society.

A common assumption under this perspective is that if citizens’ knowledge deficits are overcome through information provision, they will come to better understand the myriad benefits of nature and biodiversity use (Bell et al., 2019; Richardson and Hamlin, 2021). It is also expected that citizens need to be ‘nudged’ to orient themselves towards nature and biodiversity to engage with it. In this vein, rather than define what form of nature is being discussed, engagement with nature and biodiversity has often been reduced to getting people engaged or assessing how they engage with generic ‘nature’ space – either outside (Gilmore, 2017; Rishbeth et al., 2019; Poortinga et al., 2021), in digital forms (Jones et al., 2019; Searle et al., 2023), or through a hybrid mix of digital and physical engagements (McEwan et al., 2020). More effective communication and awareness raising is thought to emerge through public engagement with artificial nature spaces, like zoos and conservation parks (Novacek, 2008; Consorte-McCrea et al., 2017; Smart et al., 2021), or through the popular viewing of nature documentaries (Jones et al., 2019).

While communication and information provision are necessary, the proposition that there is an external ‘nature’ to be understood and communicated to a receptive and unknowledgeable public obfuscates or excludes the presence of lay knowledge and engagement with nature and biodiversity. In addition, it assumes there is a single common meaning of nature which will resonate with ‘the public’. However, what nature is can mean different things to different people and this poses a real challenge to educational programmes, government strategies, research, or outreach programmes. The idea and recognition of ‘multiple natures’ underscores the breadth of values, knowledges, framings, and ideas associated with what publics think of when engaging with nature (Castree, 2017). Nonetheless, recognising multiple natures is not commonplace in institutional settings of science and policy. Institutional perspectives of the ‘natural’ world are shaped by focuses and aims,

often unique to the organisation, that are embedded in particular imaginaries and visions of the desirable futures that underpin those aims.

## **2.2 Increasing public engagement with nature**

As the deficiencies of this science-centred approach have become apparent, the past few decades have seen a drive to more actively engage citizens and publics with nature and biodiversity in different ways. Under the second perspective, the assumption moves on from knowledge deficits to recast the problem as a deficit of public engagement (Chilvers and Kearnes, 2016). The emphasis becomes one of inviting an unengaged public to participate in discrete, often one-off, forms of engagement – such as consultations, citizen science projects, volunteering, citizens’ assemblies, community-based initiatives, and so on. This has become a dominant way in which public engagement with nature is conceived in the literature and various fields of practice.

Engagement with nature and biodiversity in the literature is also often grounded in the ideas of an external ‘nature’ that can be engaged or participated in through discrete and one-off instances often orchestrated for specific instrumental purposes. From local to global scales – engagement through means of ‘public’ participation is seen as a key factor by decision-makers in making procedures more legitimate and democratic (Brown, 2009). Yet, who is included, how and through what forms are often taken for granted, with the aims of producing better forms of ‘engagement’ and more socially robust, inclusive or ‘legitimate’ decisions being the central rationale (Fung, 2015; Sterling et al., 2017).

Deliberative modes of engagement like citizens’ panels and citizens’ assemblies are growing in interest. These bring together representative members of the public to learn about, deliberate and provide recommendations on particular issues relating to nature and biodiversity – either as individual events, like a singular workshop (Collins et al., 2022), multiple workshops (Milligan et al., 2009) or alongside other participatory methods (Phillips and Abbas-Nazari, 2022). The People’s Plan for Nature (2023) which pursued a citizens’ assembly format to engage UK citizens is the most recent high-profile attempt to advance deliberative modes of engagement centred around nature to provide broad recommendations for nature strategy and conservation across the UK. Elicitation is also a key reason to engage with publics and often takes place in focus groups (Asah and Blahna, 2020), through surveys (Cox et al., 2017) or interviews (Thomas, 2022).

The examples above often seek to explicitly understand public perceptions, attitudes and values for instrumental purposes, such as helping to guide strategy or decision-making (Hoyle et al., 2017). Alternatively, citizen science programmes often involve making material connection with nature and co-producing knowledge through rapid, organised collection periods with mass volunteers. Examples include a 24-hour ‘BioBlitz’ (Postles and Bartlett, 2018), leisurely uploading sightings and identification onto social media (Turnbull et al., 2022) or cultivating pro-nature conservation attitudes by creating a ‘connection’ with nature (Toomey and Domroese, 2013).

This second perspective on public engagement with nature and biodiversity, or any other issue for that matter, assumes what Chilvers and Kearnes (2016) call a ‘residual realist’ view – i.e.

“pre-given (often highly specific) normative models of participation that assume... external ‘public’ existing in a natural state waiting to be discovered and mobilized by participatory techniques and procedures” (p.4).

Under this perspective, the focus is on developing specific methods of public engagement, which tend to be studied, evaluated, and practiced in isolation from one another. Each version of public engagement prescribes pre-given, specific, and mutually exclusive meanings of participation, the



public and ‘best practice’. The emphasis is on achieving complete representations of, or desired shifts in, ‘the public’ relating to particular ‘decision moments’ framed by institutions governing nature and biodiversity transitions. Most existing approaches therefore struggle to attend to the multiplicity of different ways that people engage with nature and biodiversity and fail to address the systemic nature of the challenge, focusing on discrete forms of participation in specific parts of wider systems and debates.

### **2.3 Remaking participation with nature**

In this review, we are interested in exploring the extent to which research and practice of public engagement with nature is moving to a new third perspective that has emerged in other areas of science and environment and across the social sciences in recent years. In *Remaking Participation* Chilvers and Kearnes (2016) articulate this as a constructivist and relational perspective where participation, publics, and the issues in question do not pre-exist but are co-produced through the performance of public engagement in practice. It is suggested that:

“far from being pre-given categories external to participatory practice, the subjects (publics and their concerns), objects (issues and material commitments) and formats (political ontologies and participatory procedures) that comprise the constituent elements of participation can more accurately be seen as both constructed through and emergent in the performance of carefully mediated, open-ended participatory experiments” (p.13).

As a result, this third perspective views participation - and also nature - not as fixed or specific but highly diverse and constructed through practice. Rather than being pre-given, specific and discrete, participation and publics are seen as:

- *Diverse* – recognising the many different ways publics are already engaging with nature and biodiversity, including those that are uninvited and citizen-led like activism and community action (Wynne, 2007)
- *Constructed* – understanding that forms of participation and what publics say and do about nature and biodiversity change are shaped by the settings and practices of engagement, how they are organized and by whom (Marres, 2012; Stirling, 2008).
- *Systemic* – in that public engagements do not occur in isolation but continually interrelate in wider systems and ecologies of participation (Chilvers et al., 2018).

Under this perspective the problem of public involvement with nature and biodiversity is not framed in terms of deficits of public knowledge or engagement, but rather a lack of recognition of and responsiveness to the diverse engagements that are already ongoing. It is suggested that this new way of seeing participation brings forward new ways of remaking participation in practice (Chilvers and Kearnes, 2020) including the need to: have more reflexive and experimental forms of participatory practice; map diverse ecologies of participation across wider systems; be more responsible about the ethics, downsides and effects of participation; to become more responsive to diverse public engagements. Our review finds that this third perspective is largely missing from the existing literature on public engagement with nature, although we have identified some significant studies taking forward aspects of this approach, which are discussed below.

Through adopting a constructivist perspective, in *Environmental Publics* Eden (2017) makes a compelling case to articulate and analyse ‘publics’ through the means and practices by which they engage with nature and the ‘environment’. In this sense:

“...publics are not differentiated by their age, gender, income or education – what are called their ‘sociodemographics’ when the public is analysed and classified into ‘segments’ for policy use – as has often been assumed. Instead, environmental publics are differentiated by how they relate to the environment through their environmental practices, rather than their own characteristics” (Eden, 2017: 1).

Under this practice-oriented perspective, the challenge of public engagement is more than one of aggregating the views of individual members of the public. Publics and forms of engagement multiply, as do the objects of nature and the environment.

Work by Hinchliffe et al. (2005) has sought to attend to this multiplicity in taking forward a more experimental approach to participation with nature. They argue that representational politics is exclusionary, narrow, and not equipped to deal with interests and actors in the ‘natural’ world. In response, they seek to ‘ecologise’ politics by paying closer attention to the representations and relations of human and *non-humans* involved in knowledge-making and governance. In doing so, they go beyond conventional approaches of citizen science identification work to explore how species themselves (in this case water voles) are relating and living in entangled ways with humans. Rather than count presence or absence, the set of observations were opened up and widened, and new knowledge about the species and conservation practices ensued. The water voles’ behaviour and habitat practices were changing in urban environments, populations were not declining but adapting to the ways of urban life. This case reveals the importance of approaching public engagement not with pre-given framings but as a means to diversify knowledge, practices, and attend to the closures and exclusions associated with traditional forms of citizen science and conservation.

Additionally, Ellis and Waterton (2005) attempt to do this by documenting new forms of engagement taking place in UK biodiversity policy, exploring the dominant patterns of engagement and how engagements might be conceptualised in relational ways. By investigating the ways in which ‘nature’ and ‘biodiversity’ were being known through different actors and different means for different political outcomes contingent on the spaces in which they emerged and the relations between each mode of engagement - they were able to explore how knowledge and visions of nature and biodiversity emerge, stabilise and circulate between different spaces and places for different purposes. The move by Ellis and Waterton (2005) to distinguish how different ‘publics’ relate to different ‘engagements’ is critically important in re-making participation and engagement with nature and biodiversity.

Our review includes work that emphasises diverse forms of public engagement with nature that go beyond formal invited institution-led engagement to highlight more mundane, everyday and ongoing engagements with nature. For example, Hitchings (2003, 2021) has documented the more mundane and daily interactions with the natural world to demonstrate the socio-materialities of gardening and urban living. Re-framing these types of practices to align with broader understandings of engaging with nature demonstrates how publics are already engaged in numerous ways, constructing meanings of and commitments to nature through those engagements – often implicitly or without specific intention. Others also emphasise the diverse and often hidden forms of mundane engagement with urban natures, including rooftop gardens, breathing walls or the cultivation of domestic chickens (Newman and Dale, 2013; Oliver, 2021).

The third perspective of participation therefore views nature and society as always intertwined and co-produced together. This more constructivist position broadens understandings of what ‘nature’ and the ‘natural world’ is, as noted above (Latour, 1991; Macnaghten and Urry, 1999; Eden, 2001; Hinchliffe, 2007; Lorimer, 2015). Macnaghten and Urry (1999) advanced this line of thinking to

explore the multiple ways in which ideas of 'nature' are imagined, understood, and enacted through different social practices and in different cultures. For instance, the nature associated with the 'countryside' is produced in very different ways, bound up in very different histories than a nature concerned with ideas of 'sustainability'; but both are equally legitimate conceptions of nature with their associated practices and politics. More recently, Lorimer (2015) has attempted to reconceptualise a nature in response to the challenges of the Anthropocene that expands beyond the binary of nature-society to catalyse modes of governance, stewardship and engagement that are multiple in both the knowledges they produce and the realities they encompass – from the local to planetary scales.

Taken together the studies reviewed in this sub-section suggest that more reflexive and experimental approaches to practicing public engagements with nature are being taken forward. While they allude to a wider diversity of public engagements with nature, our review has not revealed any studies taking a more systemic approach to participation or mapping diverse forms of public engagement and their interrelations – as we undertake in this project. One example where big data have been used to survey public engagement with nature is by Phillips et al. (2022) who have used Google search data as a proxy to identify trends in public engagement with nature over the past 10 years. While identifying trends over time this work focuses public engagement in a rather narrow sense in which people use or materially connect with nature in urban or rural environments, through forms of recreation, and so on. Our interest in this project is to apply aspects of the remaking participation perspective to open up to diverse forms of public engagement with nature and biodiversity and explore and how they interrelate in wider systems and 'ecologies of participation' (Chilvers and Kearnes, 2016).

### 3. Transforming participation in Natural England

Natural England is a non-departmental public body established in 2006 as the UK government's adviser on the natural environment in England. It takes a science and evidence-led approach to the delivery of its statutory purpose: the promotion of nature conservation, protection of biodiversity, landscape conservation and enhancement, access to the countryside and the study, understanding and enjoyment of the natural environment.

A 2016 review of English nature conservation policy and the new strategic approach set out in the report Conservation 21 (Natural England, 2016) concluded that science-led and regulatory-based conservation and practices had not been effective in preventing ongoing declines in the natural environment and delivering Natural England's statutory purpose. It proposed an alternative focus on collaborative, inclusive and diverse partnerships to deliver sustainable environmental outcomes for the benefit of people and nature. This places significant emphasis on new principle of "putting people at the heart of the environment (PPATH)" (Natural England, 2016: 7).

Conservation 21 proposes more deliberative forms of public engagement to enable the organisation to listen to the views, experiences and ambitions of people as part of decision-making, particularly at a local level. It has inspired a new organisational vision of 'Thriving nature for people and planet' and mission of 'Building partnerships for nature's recovery'. This has coincided with increasing recognition by government bodies of the physical and mental health benefits of engaging with nature and the challenges around this, resulting in an organisational shift in 'Tackling Barriers to Nature' (focused specifically on reducing the physical and cultural barriers to individuals accessing greenspace) and Green Social Prescribing run in partnership with the NHS (Morton, 2016; Environment Agency, 2020; Natural England, 2022a, 2022b). The enactment of new policies contained within the Environment Act 2021 (particularly Local Nature Recovery Strategies, Biodiversity Net Gain and the Nature Recovery Networks) from 2023 onwards is likely to place further emphasis on public engagement in the design and delivery of nature recovery at a community level.

These developments indicate a shift in Natural England delivery from a science-centred approach to nature conservation aligned with the first perspective on public engagement introduced in Section 2.1, where publics have mainly been on the receiving end of information provision and science-led management interventions. The reasoning underpinning the principles of PPATH and its resulting actions shows the organisation taking a greater emphasis on the second perspective on public engagement identified in Section 2.2, through recognising the need for and initiatives to increase more active and interactive forms of invited public and stakeholder engagement on nature and biodiversity.

This has been demonstrated more recently through published guidance on the delivery of nature recovery (Crick et al., 2020) and best practice in public participation (Hafferty, 2022). Here we see some of the hallmarks of a mainstream approach to public participation with a focus on improving the effectiveness of particular methods for involving publics and stakeholders in discrete invited forms of participation. There is an emphasis on deliberative, local, one-off engagement events and activities that can then lead into tangible outcomes. It is important to note, however, that these moves to more deliberative and inclusive models of public participation have a much longer history within the organisation dating back to at least the late 1990s and early 2000s under the previous organisational structure of English Nature (see Studd, 2003). Despite this, there remains some hesitancy and uncertainty among Natural England staff as to whether they possess the skills and capability to undertake such approaches (Chiswell et al., 2022).

A survey of self-selecting Natural England staff during 2022 identified that of the 2438 engagement events reported, over 60% were with Government departments and agencies, local authorities, environmental NGOs, or technical specialists or academics within the environment sector (Chiswell et al., 2022). Less than 7% of engagement involved what may be termed 'local communities' or 'the general public'. Over 91% of participants cited that the main benefit of engagement was the opportunity to build better relationships and strengthen networks with external partners and stakeholders. The same proportion of respondents felt that more targeted engagement would help enable Natural England to achieve its vision and mission, whilst less than half felt the organisation was supportive of wider engagement activities.

Critically, the results from this survey demonstrate the potential of listening to wider public views, experiences, and ambitions for the environment and that 'these views have their own validity' and are yet to be fully realised within the organisation. A large majority of staff surveyed identified the need for improved training, guidance, advice, and standards in order to build their confidence, capability and capacity to engage communities of place and interest in more deliberative events. To address this a project to create a SharePoint-based Engagement Hub is underway to bring together existing and new training, resources, and support for Natural England staff during 2023.

While advances have been made in developing more inclusive approaches to public engagement within the organisation, the emphasis remains on the institution using particular methods to invite publics and stakeholders into discrete forms of participation around specific decision moments. The focus is on addressing the lack of inclusive public engagement in the organisation, building capacities in particular methods, and developing 'best practice'. These are important developments, yet there has been very little engagement with the third perspective introduced in Section 2.3 which captures recent advances in public participation theory and practice across the social sciences.

As noted in the introduction, this is being addressed by collaborative research between the 3S Research Group at UEA and Natural England which seeks to translate approaches of remaking participation and the UKERC Public Engagement Observatory into Natural England. This collaboration has led to the development of a Public Engagement Laboratory for Nature and Society (Chilvers et al. 2024) which "experiments with new ways of mapping, practicing, learning about, and responding to diverse public engagements with nature and biodiversity" in seeking to "transform the organisation's approaches to public engagement and its responsiveness to society" (p.2).

The Public Engagement Laboratory has four interrelating functions and associated aims:

1. **Mapping public engagement** - to map diverse forms of public engagement with nature and biodiversity on an ongoing basis and make this evidence openly available;
2. **Participation experiments** - to experiment with novel approaches to public engagement with nature and biodiversity and translate them into practice;
3. **Learning & evaluation** - to transform learning and evaluation through new ways of seeing, connecting, and reflecting on public engagement.
4. **Responsive governance** - to enhance the responsiveness of governance processes to diverse public engagements with nature and biodiversity.

Approaches to remaking participation that underpin the design of the Public Engagement Laboratory have been advocated in a recent Defra *Review of Public Engagement* (Defra Social Science Expert Group, 2022) which recommends more "pluralistic approaches to participation... to address the diversity of publics" and the use of "mapping exercises" to acknowledge and work with "community-based and other pre-existing engagements". The research presented in this report formed the first experiment of the Public Engagement Laboratory, to map diverse public engagements with nature and biodiversity in the UK.

## 4. The public engagement mapping method

To map diverse forms of public engagement with nature and biodiversity we used the comparative case analysis method developed in previous research as part of the UKERC Public Engagement Observatory coupled with crowdsourcing (Chilvers et al., 2022). Comparative case analysis involves documentary analysis of diverse cases of public engagement to map how people are engaging, who is involved and what they are engaging in (Chilvers et al., 2017, 2018, 2021, 2023; Pallett et al., 2019). Crowdsourcing involved an open elicitation call where staff from Natural England could share cases of public engagement with nature and biodiversity to be potentially added to the mapping database. A key principle of our approach is to attend to the diverse forms of public engagement that exist, rather than claiming to represent all engagements.

In the application of the comparative case analysis method, the research included four steps as shown in Figure 1 and outlined below.

### 4.1. Initial scoping

By reviewing and analysing recent academic and grey literature - including reports from government and government agencies, environmental NGOs and charities - we were able to understand the different ways that public engagements with nature and biodiversity are framed. In doing so, we were able to build a collection of possible search terms and synonyms that relate to the 'how', 'who', 'what' and 'where' of public engagement with nature and biodiversity (see Appendix 1 for final list of search terms and synonyms used in the study).

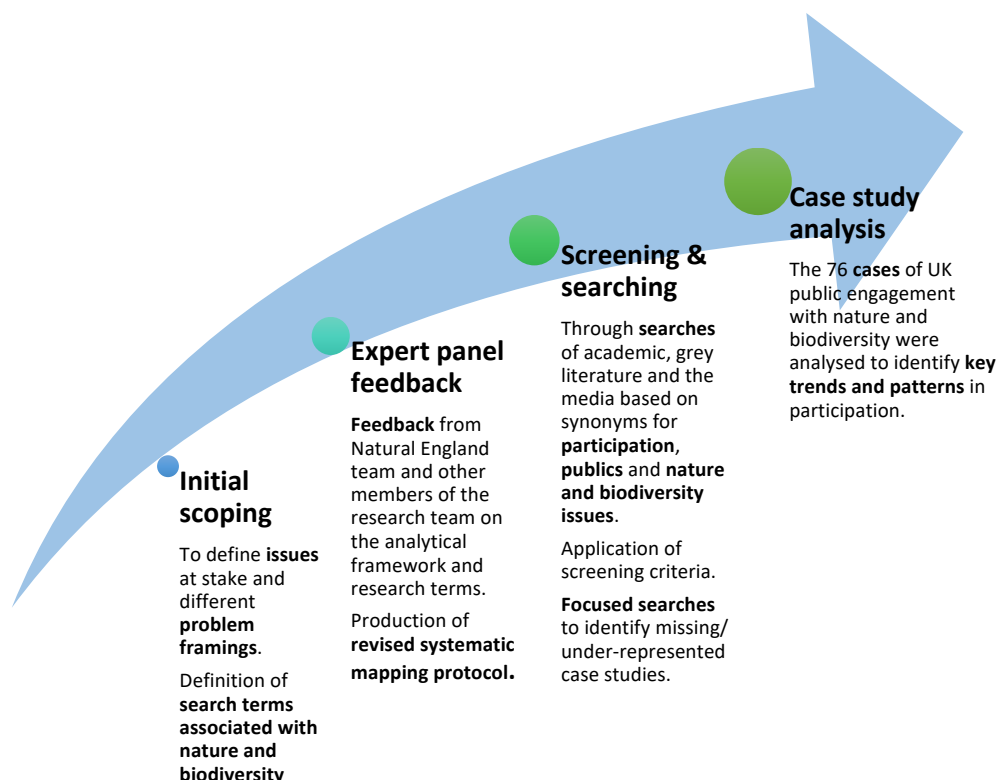


Figure 1. The comparative case mapping process.



#### **4.2. Expert panel feedback**

The collection of search terms and synonyms was reviewed by the wider research team in Natural England to check the relevance of the search terms and to identify any gaps or exclusions. This led to additional search terms being added.

#### **4.3. Screening and searching**

After constructing the search terms, we ran searches on the academic databases Web of Science and Scopus to identify cases of public engagement with nature and biodiversity. The breadth of our terms like 'nature,' 'biodiversity,' and 'wildlife' meant that during our searching and screening our results contained a high proportion of irrelevant material. To overcome this, only cases found in the 'social science index' of the databases were extracted. In total, we found over 2300 potentially relevant cases from academic search engines.

It was anticipated that the most recent and more informally organised cases of public engagement may not be adequately represented in academic search engines. Therefore, a 'multi-vocal' search strategy was adopted, conducting additional searches for relevant case studies through web search engines. Given our interest in representing diverse engagements around nature and biodiversity, Google Scholar, Google, DuckDuckGo and Ecosia – which each use different algorithms to produce results – were used. For these searches we used more targeted search terms and a simpler search strategy, to accommodate the alternative algorithms used by each search engine, starting with just one term for each of the four categories together (for example 'public' and 'engagement' and 'nature' and 'England'). Multiple searches were needed and were adjusted based on the relevance of the results brought up in each search and by deliberately seeking out cases which seemed to be missing from previous searches.

Cases from both the academic database search and search engines were added to a meta-spreadsheet. To assess a case's relevance, each paper, report or website was read to check whether it fitted our study's open definition of public engagement as: "collective practices through which publics engage in addressing collective public problems" (Chilvers et al., 2021), which in this case meant nature and biodiversity-related issues. The research team screened cases that met this definition, had sufficient documentary evidence to allow case study analysis, and had occurred since 2010. As this was a pilot study, the intention was not to analyse all cases but instead to reflect the diversity and distribution of forms of public engagement identified. This involved accounting for traditionally recognised forms of public engagement like surveys, consultation and citizen science but also going beyond this to focus on more community and citizen-led examples. We also opened up the search to interested staff from Natural England to crowdsource cases of interest that may not have been identified through our search technique and to further diversify the dataset. This led to a corpus of 76 cases of public engagement in total.

#### **4.4. Case study analysis**

For the final stage, we conducted qualitative analysis on the 76 cases of public engagement relevant to nature and biodiversity to establish the 'who', 'how', 'what' and 'where' of public engagement in each case. All the case titles and sources are listed in Appendix 2.

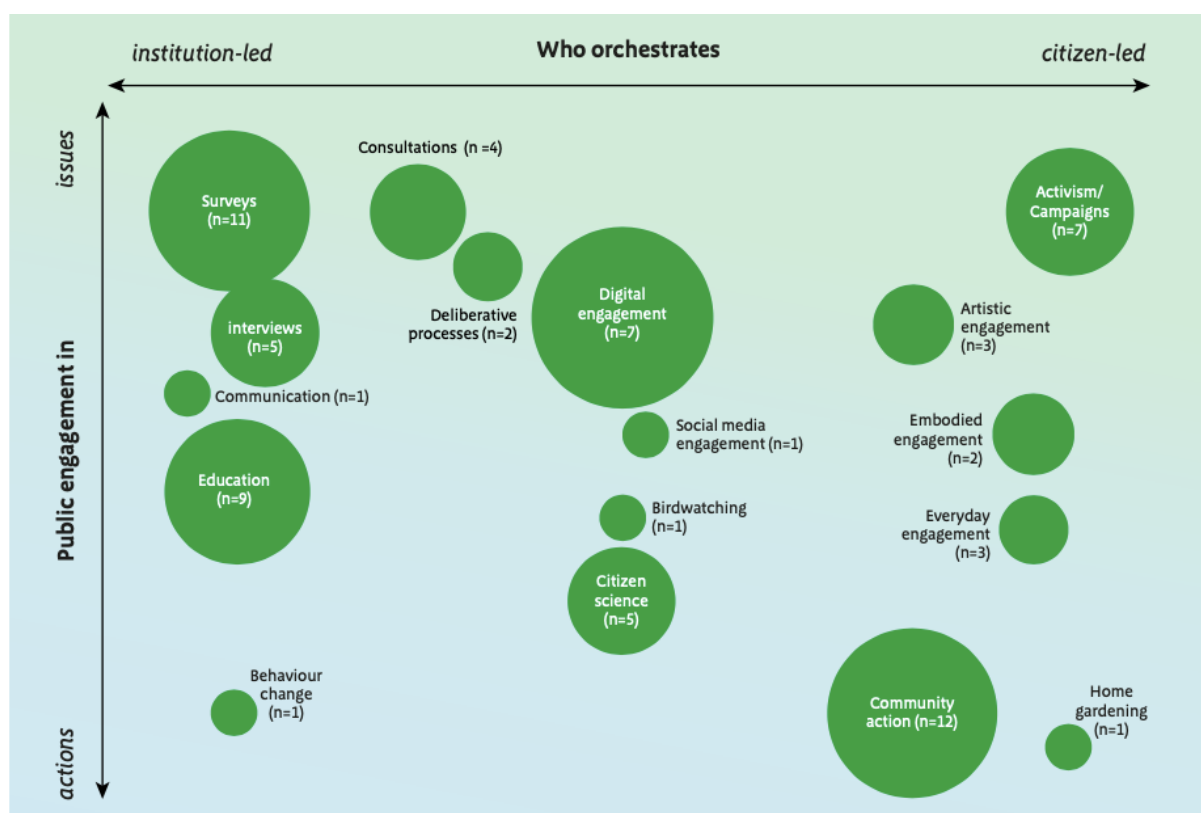
## 5. Mapping diverse public engagements with nature

In this section we present the results of our mapping of diverse public engagement with nature and biodiversity in the UK. We start by mapping the diverse forms of engagement through which publics are engaging, before considering who is engaging, and finally what are the nature-related topics that form the focus of these engagements.

### 5.1 How are publics engaging with nature?

In Figure 2 we plot the 76 diverse cases of public engagement with nature and biodiversity on a mapping space developed in earlier research (Chilvers et al., 2021). It shows that public engagements with nature and biodiversity are highly diverse, ranging from cases that are led by institutions (towards the left of the mapping space) to cases that are citizen-led (towards the right of the mapping space) and ranging from engagements that are about expressing public views (towards the top) to those that are more action oriented (towards the bottom). Figure 2 is a heuristic diagram that helps to visually show the diversity of public engagements, how they relate to one another, and what sorts of things each case typically produces.

The most prominent cluster of public engagement is found in the top-left corner of the mapping space in Figure 2. These instances where institutions invite publics to give their opinions and views are predominant in the dataset. They include public opinion surveys (n=11 cases of public engagement), interviews (n=5), consultations (n=4) and deliberative processes (n=2), like the People's Plan for Nature People's Assembly, along with forms of communication (n=1). Natural England and other organisations often initiate these kinds of engagements and will often record and report on them.



**Figure 2.** A mapping of public engagement with nature and biodiversity in the UK (n = the number of cases of public engagement).

Engagements initiated by citizens themselves are located on the right side of Figure 2. This includes forms of activism and protest (n=7), artistic engagement (n=3), community action (n=12), everyday (n= 3) and mundane engagements, like a daily stroll through the park where publics are in contact with nature in some form, perhaps unintentionally, and embodied engagements (n=2), which represent more active and intentional engagements like going into 'nature' for a particular purpose e.g., to feel 'connected' with nature. Citizen-led engagements often take a different view of engaging with nature and can offer alternative solutions to problems of nature and biodiversity compared to institution-led processes.

Community action (n=12) had the most cases of engagement in the mapping and ranged between cases of community gardening to group walks to more conservation-orientated community nature groups. The everyday and embodied engagements demonstrate the more immediate and daily encounters or experiences with some form of nature or the natural world that surrounds us. We are always engaged in one way or another with the natural world in multiple and often unintentional ways beyond the specific and discrete modes of public engagement in the top right of Figure 2.

Instances of public engagement in learning, education (n=9) and citizen science (n=6) feature strongly in the dataset. Digital engagement (n=7) which includes observing wildlife cameras, engaging with Twitter hashtags, species identification apps on mobile phones, media (n=1), including watching nature documentaries, and recreational engagements with nature, like birdwatching or river swimming also feature, and often blur distinctions between institution and citizen-led forms of engagement. Typically, digital engagements with nature and biodiversity were quite prominent during the global lockdowns between 2020-2021.

Multiple understandings or conceptions of nature across the literature and on the ground have led to diverse modes of engagement. Compared with traditional or more institution-led cases of formal engagement in the top left of Figure 2, our broad search terms extend out to illuminate citizen-led forms of activism through to a greater emphasis on local and more everyday connections with nature and biodiversity, as in always within nature, surrounded by it, and ongoing.

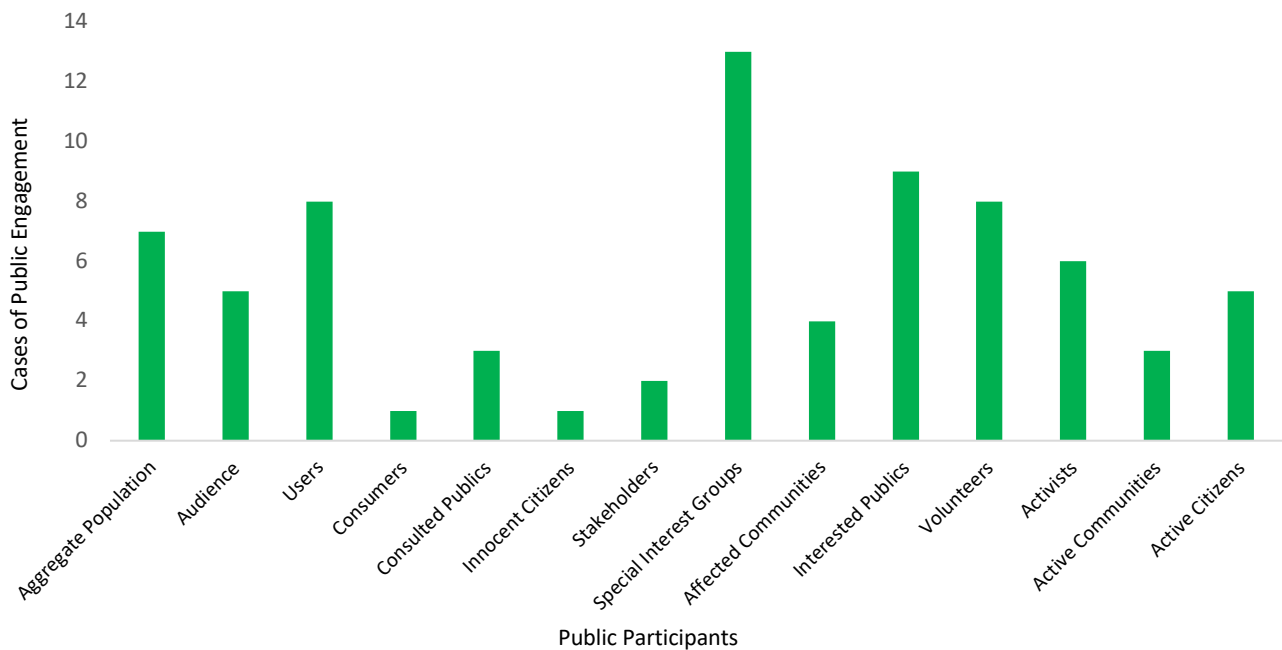
## **5.2 Who is engaging with nature?**

Our mapping also reveals a wide range of different publics engaging with nature and biodiversity. Institutional-led cases seek to definitively represent 'the public' through surveys and other forms of elicitation, as shown towards the left of Figure 3. In these cases, publics are framed as aggregate populations (n=7) drawn from demographically representative samples of the wider population, innocent citizens (n=1) perceived to have no pre-existing knowledge or engagement with the issue in question, and consulted citizens (n=3). Other cases, like information-giving workshops or studies on those who access 'parks' and greenspaces, reduce the role of publics to become simply audiences (n=5), users (n=8) and consumers (n=1) of nature and the services it provides.

There are many instances where publics are recognised as having important characteristics and needs, including as special interest groups (n=13) (such as young people and children, low income communities, marginalised communities, and so on), affected communities (n=4), interested publics (n=9) with a pre-existing interest in a topic (like those who watch digital wildlife cams or those signing up to eco or forest schools), or those simply characterised as stakeholders (n=2).

Finally, in several cases we find more active roles for publics as volunteers (n=8), activists (n=6), active communities (n=3) and active citizens (n=5). These are citizens typically involved with and actually creating community-led action, some types of citizen science from hedgehog monitoring to testing water quality, and those involved in campaigns and protests. These publics, as shown

towards the right side of Figure 3, emphasise the extent to which citizens are already involved in actions and solutions to address problems of nature and biodiversity on their own terms.



**Figure 3.** The different publics engaging with nature in the UK.

Often the already engaged and active forms of publics are excluded, hidden, or ignored by more institutionally-led hegemonic framings of public engagement with nature. Our sample points to broader cases of public engagement and activities that are led by citizens and constructed on their terms. This demonstrates how engaging ‘the public’ is more challenging than often assumed in the dominant approaches of eliciting public opinion or consulting with stakeholders. Diverse publics, their views, and actions must be accounted for if a systemic view of public engagement with nature and biodiversity is intended to be brought forward. There is also an opportunity to accelerate and maximise change through the various and ongoing diverse forms of citizen or community action. Recognising that ‘the public’ are diverse and multiply engaged can better help organisations acknowledge their existing exclusions and closures and enable them to closely attend to different public views and concerns.

### 5.3 What are people engaging in?

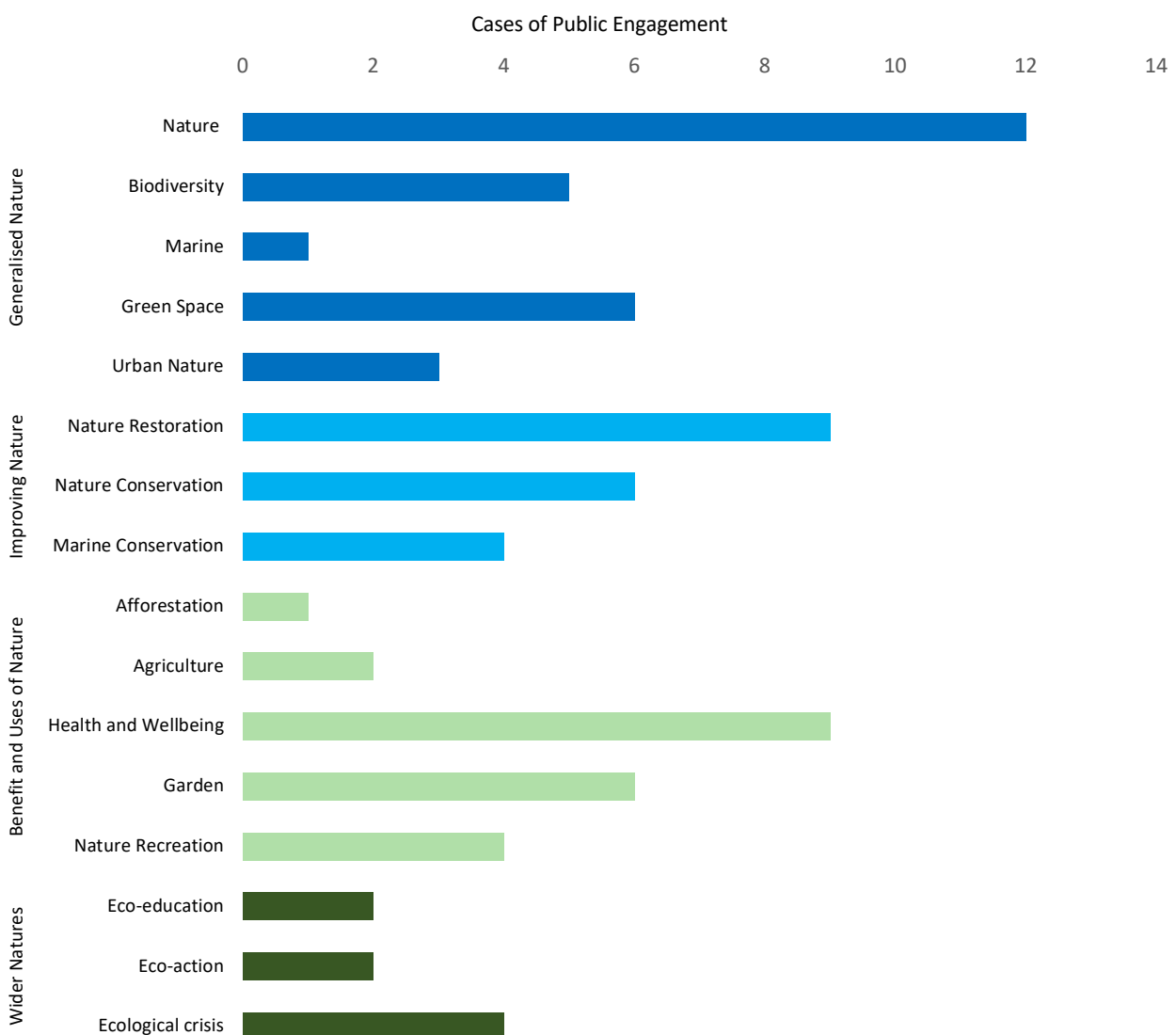
Our mapping analysis illustrates that diverse publics are engaging with multiple objects of participation. As shown in Figure 4 (below), the cases of engagement in our dataset relate to 16 aspects of nature that publics are engaging with, which themselves relate to 4 broader themes: a generalised nature (n=27), improving nature (n=19), benefits and uses of nature (n=22) and wider natures (n=8).

#### 5.3.1. Generalised nature

The most predominant theme that emerged from our mapping was that publics are often engaged in generalised definitions of nature as defined by science and policy institutions. This generalised nature theme included issues concerning ‘nature’ (n=12), ‘biodiversity’ (n=5), ‘marine’ (n=1), ‘green space’ (n=6) and ‘urban nature’ (n=3). Public engagements with a generalised nature involve publics in pre-given, universal and often scientifically defined meanings of nature. This theme is the most

prevalent in our dataset and it typically represents the types of engagement that are implemented through institutional means. These cases often explore what publics think or what they do in a form of 'nature' that organisations like Natural England have either pre-defined or made assumptions about.

Through our mapping, we found this theme prominent in cases which use forms of public elicitation where public views are sought through surveys like the annual People and Nature Survey administered by Natural England [case number 3]<sup>1</sup>, interviews or focus groups with special interest groups and stakeholders, or government-led consultations concerning conservation [case 73] or biodiversity [case 43] action plans. We also found cases that are linked to big and broad citizen science-related projects associated with 'biodiversity' in general, like the National Biodiversity Network Atlas [case 1] and crowdsourcing of wildlife sightings [cases 15 and 48]. Some cases sought to engage publics with broad framings of 'urban nature' [case 12] and 'green space' [cases 23 and 26] and getting people to 'connect' with [case 42] or celebrate 'nature' [case 8].



**Figure 4.** A mapping of what different public engagements with nature focus on.

<sup>1</sup> Full list of cases can be found in Appendix 2.

### **5.3.2. Improving nature**

Another theme evident in the mapping is where public engagements are focused on improving nature in some form, from restoring nature to a previous state or conserving what is already there, aligned with ideas of 'nature recovery'. The mapping reveals numerous cases of different publics involved with nature recovery (n=9), nature conservation (n=6) and marine conservation (n=4). This theme illustrates an instrumental view of engaging people with nature and biodiversity, one that frames nature as something that can be acted on, managed, recovered, or shaped in a positive way by human action through multiple means.

We found cases that adopted different positions on rewilding – from information-campaigns like Rewilding Britain [case 20] to the WildEast restoration project [case 37] which encourages more material commitments to leave nature spaces alone without human interference. There are also more specific restoration projects like The Skell Valley project [case 49] which is organised by The National Trust but works with community partners and other environmental organisations, or Action for Conservation [case 66] which is a charity focused on nature restoration that is organised and led by young people.

More specifically focused citizen science projects emerged with aims to aid conservation efforts relate to this theme, like the initiative Sea Search [case 71]. Species reintroduction projects were also an aspect of this theme with many cases discussing how people felt about reintroducing beavers [cases 4 and 31] or the Eurasian lynx [case 53] to restore parts of Britain to a previous ecological state that is arguably more preferable and justified for some. Most recently, the People's Plan for Nature People's Assembly [case 16] has emerged with a set of proposals and recommendations for government, business, communities, and citizens to help conserve and restore nature in Britain in 2023 and beyond.

The diversity of these cases reveals that there is often an implicit contestation about different meanings of nature recovery, including alternative framings like rewilding, nature restoration or species reintroduction and different strategies to get there.

### **5.3.3. Benefits and uses of nature**

Thirdly, several cases of public engagement in the mapping focus on specific or targeted benefits and uses of nature (n= 22). This framing was also instrumental but rather than aiming to shape and improve nature, these cases of engagement centred around what can be extracted from nature and biodiversity for human benefit and use.

The specific engagements focused on more economic uses of nature and biodiversity from sustainable agricultural practices [cases 44 and 61] to utilising nature as a means to reach net-zero (e.g., afforestation initiatives [case 51] and self-sustaining communities in need [cases 7 and 39]). Some cases of engagement focused on the physical and mental health benefits associated with nature and biodiversity which mirrors the recent rise in green social prescription initiatives. These ranged from understanding how often excluded and underserved communities engage with nature (such as those who are visually impaired [case 11]), the social and mental health benefits of community gardening [case 21 and 25], enrolling in forest schools [case 46], observing nature [case 29], or the physical benefits associated with walking [case 27].

Different forms of specific recreational events emerged as key embodied uses of 'nature' such as wildlife cams [case 30], roaming the countryside [case 10] and wildlife tourism [case 67]. These signify examples where publics go out in nature or to see wildlife for a particular use or benefit. More broadly, our mapping analysis illustrated cases associated with everyday or mundane



engagements with nature – like private or home gardening [case 69] or simply walking through the park on a daily commute.

#### **5.3.4. Wider natures**

Finally, our mapping revealed a smaller but significant group of cases that adopt wider framings of nature as entangled with other issues or embedded within alternative futures (n=8). These cases of participation are clustered around wider understandings of issues related to nature and biodiversity including: eco-education (n=2), eco-action (n=2) and more broadly, ecological crises (n=4).

These cases have alternative starting points to understand nature and biodiversity more holistically with varying ideas about the challenges nature and biodiversity face and how we might arrange and organise our lives differently in light of this. Cases like the art installation ‘REDUCE SPEED NOW’ [case 6], the Trash Free Trails movement [case 59], thought-provoking workshops [case 45] and Extinction Rebellion [case 40] bring forward alternative meanings of nature compared to institutional framings, which highlight the human dimensions of living with nature, alternative models of growth, social justice and action. These cases broaden the framings and definitions of engagement organised by institutions as on the left side of Figure 2 and are more aligned to community or citizen-led modes of engagement.

#### **5.4. Insights from the mapping**

Our mapping reveals a wider system of diverse and already existing public engagement with nature and biodiversity in the UK. Publics are already engaging with nature and biodiversity in diverse ways, as shown above. Institution-led engagements are numerous but public engagement goes beyond formal processes initiated by organisations like Natural England. As demonstrated throughout this report so far, public engagement can also be citizen-led. This can bring forward different views on nature (e.g. through activism and artistic engagements), different solutions (e.g. through community action), and a greater acknowledgement of mundane yet meaningful engagements with nature and biodiversity in everyday life.

There is a need for organisations to better recognise and respond to these diverse public engagements, views and actions and become more responsive to society and the public interest. Mapping participation can assist this. Based on our analysis we suggest that systemic mappings of public engagement with nature can:

- Provide more comprehensive evidence about public views, engagements, and actions;
- Identify emerging forms of citizen action that can be harnessed and responded to;
- Reveal possible synergies between otherwise separate forms of engagement;
- Recognise system-level exclusions and support strategic approaches to engagement.

## 6. Mapping public engagement workshop

The next stage of research involved creating an experimental setting that allowed Natural England staff to reflect on the mapping approach and results (research question 2) and consider the implications of this for approaches to public engagement in Natural England and beyond (research question 3). In doing this, we sought to prompt reflexive learning of individuals and the organisation by critically reflecting on their assumptions of public engagement and being open to other framings (Chilvers, 2013; Pallett and Chilvers, 2013). In particular, we were interested in what role the mapping - in opening up to diverse forms of participation - could play in prompting reflection and reflexive learning about the publics (who), forms (how) and objects (issues) of public engagement with nature and biodiversity (Chilvers and Kearnes, 2016).

We designed a workshop process for this purpose that was held online on 23 March 2023 and involved 36 participants from across Natural England varying in seniority, programmes of work and regions. The specific aims of the workshop were:

- To introduce Natural England colleagues to the remaking participation approach.
- To present and prompt reflection on the public engagement mapping results.
- To explore the implications of the mapping results for Natural England's approaches to public engagement.
- To identify areas where the mapping participation method could be applied and experimented with in Natural England.

### 6.1 The workshop process

The workshop was held online via Microsoft Teams for 2 hours in duration. The workshop process comprised three main sessions (see Box 1). During Session 1 participants were welcomed by Natural England Chair, Tony Juniper, before being introduced to the background, aims and rationale of the project. The results of the mapping of public engagement with nature and biodiversity were then presented followed by initial questions and discussion.

In Session 2 participants then split into five breakout groups to reflect on the mapping approach and results in more depth. Breakout groups were facilitated by members from the UEA and Natural England research teams and participants were asked to reflect and respond to the mapping space (Figure 2). Participants were encouraged to first give initial responses before thinking more deeply about how this may challenge or transform their perspectives on public engagement (see Box 1). Participants then returned to a plenary session where the facilitators provided succinct summaries of each group's discussion.

In session 3 participants worked in full plenary to consider the wider implications of the mapping exercise for public engagement in Natural England and beyond. Participants initially reflected individually and wrote comments on post-it notes on an online whiteboard (using the Google collaborative Jamboard app) in response to two questions "What are the implications of the mapping results for Natural England's approaches to public engagement?" and "Which areas of Natural England's work could this mapping participation method be piloted on and why?" The contexts of the written comments on post-its were then openly discussed in full plenary and key themes were drawn out, before moving into a broader open-space plenary discussion about the tangible next steps for Natural England.

All plenary sessions and breakout groups were recorded in MS Teams and transcribed. The transcripts were then qualitatively coded according to the main themes and aims of the workshop. The results of this are presented below.

## **Mapping public engagement workshop process**

### ***Session 1: Welcome, introductions and mapping findings (plenary)***

9:30 Opening welcome by Tony Juniper, Chair of Natural England.

9:35 Introducing the public engagement laboratory and mapping project background (Paul Hinds)

9:45 Remaking and mapping public engagement with nature and biodiversity (Jason Chilvers & Elliot Honeybun-Arnolda)

10:10 Initial questions and discussion

### ***Session 2: Reflecting on the mapping results (breakout groups)***

10:40 Breakout group discussions in response to the following questions

1. What are your initial impressions of the mapping? Is there anything particularly surprising or unexpected?
2. How do the forms of engagement identified compare to your own view / Natural England's view of public engagement?
3. Are all these forms of public engagement equal or are some more important than others?
4. Does the mapping challenge or change your view of public engagement? If so, how?

### ***Session 3: Implications for Natural England and next steps***

11:30 Group feedback in plenary

11:40 Exploring implications for public engagement in Natural England and beyond

- What are the implications of the mapping results for Natural England's approaches to public engagement?
- Which areas of Natural England's work could this mapping participation method be piloted on and why?

12:10 Open space discussion on next steps for the mapping and the Public Engagement Laboratory in Natural England.

12:30 Close

**Box 1.** The mapping public engagement with nature workshop process.

## **6.2 Responding to and learning from the mapping**

The mapping approach and results prompted a range of interest, reflection and debate amongst participants in the breakout groups and then the final plenary. The mapping space (Figure 2) generated much participant reflection on their assumptions about participation and publics, their position on the mapping space, how they are situated in relation to a wider landscape of public engagement, and exclusions in terms of their own perspectives and the mapping itself.

### **6.2.1 Initial responses**

The mapping prompted broadly positive and encouraging responses, as one participant noted:

“I’m quite excited about it. I’ll be honest. You know, I think this is needed and you know, not being the experts and saying we know what’s best...[the] people know what’s best in the communities [and] are out there doing this stuff.” (Breakout group discussion)

Participants initially responded in three main ways: responding at an individual or personal level, responding from the organisational perspective, and then recognising the exclusions and gaps made evident by the mapping space and the wider system of engagement it portrays.

Individually a number of participants were not overly surprised to see the diverse forms of participation plotted across the mapping space in Figure 2 but also recognised that Natural England as an organisation has a partial perspective on public engagement and does not recognise or respond to a number of the public engagements identified. Some participants reflected on these partialities: “it really brought it home to me that we are the top left-hand corner [of the mapping space].” Others immediately saw the value of the broader, more open, and systemic perspective on public engagement illustrated by the mapping:

“I think it’s really valuable to kind of capture this really broad framing of these different kinds of engagements and different people who are involved, because if you were to just look at the ‘People and Nature’ survey for example, you get a very particular understanding of nature and what’s important and who we’re talking to. So, I absolutely fully support this kind of this wider view and recognising the citizen-led sorts of things which are really important.” (Breakout group discussion)

A key response to visualising diverse forms of public engagement in the mapping prompted reflection on the exclusions that occur within institution-led engagement processes but also across the wider landscape of participation with nature. For example, discussions noted how citizen-led engagements are often excluded from institutional framings and how the absence or lack of explicit recognition of marginalised or hidden groups (BAME groups, in particular) can act as a starting point to cultivate and harness more targeted approaches to inclusive engagement.

Participants were asked whether all forms of engagement identified in the mapping (Figure 2) are equal or not and they gave mixed responses and definitions across the breakout groups. Some argued that “absolutely...they are all equally as important” and that “enabling a more equal engagement” in the natural world was a moral imperative for Natural England. Whereas others thought the current forms of public engagement focused on “a hierarchy of public participation” that ranged from citizen science data to generating “first experiences in nature”. The view for most was that there is an entrenched focus on science and evidence-led decision-making across the organisation that overlaps into methods of public engagement vis-à-vis a Natural England knows best approach. However, the mapping space increasingly revealed the limitations and exclusions of this approach and opened up discussions about alternatives.

The mapping results enabled participants to reflect on the extent to which Natural England takes into account or recognises the diverse forms of engagement (how), the diversity of publics being engaged (who), and how issues of nature and biodiversity are framed (what), as we now explore in more detail below.

### **6.2.2 Learning and reflection about participation**

Exploring the multiple ways publics are engaging through the mapping space prompted participants to reflect on the position and role of Natural England, the types of public engagement they embark on, and how willing (and able) they may be as an organisation to branch out and recognise more

citizen-led and action-orientated cases that are often not thought of as valid forms of public participation.

Across the breakout groups, some of the participants were encouraged to see the diversity of how publics are engaging with nature and biodiversity. There was discussion about whether Natural England could explicitly embark on or engage with some of the more citizen-led modes of engagement as a government organisation with some participants stating that the organisation needs to “fully support this kind of this wider view and recognise these citizen-led, bottom-up sorts of things which [are] really important”.

Forms of activism appeared to be a challenge for other participants, with Natural England’s government links being seen as a barrier to meaningful engagement with activist groups:

“...we can't fund activism. We're an organisation that supports the central government.”  
(Breakout group discussion)

While staff could be involved in activism outside of their work roles, initiating citizen-led engagement seemed to lie outside of the Natural England’s legitimate role for many participants. Others questioned “...how do we tap into that [activism]?”, which indicated an openness from some participants to acknowledging activist spaces through recognising, listening and responding to their views, concerns and actions in decision-making.

Some participants signalled how the organisation are often multiply engaged “through partners” and so, can touch into the other modes of engagement across the space through the work those partners facilitate. For most, the mapping analysis stretched Natural England’s dominant framing of public engagement:

“I still think there may be an element of, you know, how willing is Natural England to get on board with others’ agendas”. (Breakout group discussion)

Importantly, there was broad understanding that other collectives were engaging with nature and biodiversity on their own terms and that Natural England needs to recognise and incorporate wider public views, even where they are not in a position to initiate meaningful dialogue or engagement.

More broadly, the mapping analysis helped to generate further reflection on the many everyday or ‘mundane’ engagements that occur with nature on an ongoing basis. The mapping space also initiated a conversation about how different modes of engagement link together, relate to each other, and each support different aims. This suggests that transformations occurred for many participants where an appreciation of diverse forms of engagement began to challenge an organisational view of a single homogenous public engagement approach.

### **6.2.3 Learning and reflection about publics**

The mapping analysis helped participants reflect on how the organisation currently frames who ‘the public’ are and the possibilities for opening up to more plural imaginations of diverse and multiple publics. This broader framing encouraged participants to identify what types of publics Natural England recognises or ignores. Ultimately, this led to a more critical understanding of the ways in which they bring forward certain publics as acceptable, enable participation for some groups, and exclude others. Participants also demonstrated learning concerned with the multiple roles different publics can play simultaneously. Once diverse publics were recognised as contingent on the modes of engagement in which they are involved, workshop participants became more aware of the partiality of framing of the public and further considered the multiple roles citizens can take up.

Participants also recognised and reflected on the benefit of opening up beyond a usually narrow understanding of ‘the public’, as prompted by the mapping results (see Figure 3). Many of the participants recognised that, as an organisation, they have typically worked with certain groups for certain purposes – like established citizen science groups or longer-term partners and this mapping work has underscored this,

“I think it's good to be breaking out from the little insular circles that we've been working with.” (Breakout group discussion)

In some groups, there was an explicit recognition of the need to consider whether publics are involved in active or passive engagement. In some cases, this challenged organisational assumptions that people do actually want to be engaged or need to be engaged when they could already be multiply engaged with nature and biodiversity in multiple ways at any one time. This opened up further thinking into how the existing ‘baseline’ levels of engagement with the public through the People and Nature Survey is “woefully lacking” in relation to the diversity put forward the mapping exercise. There was some explicit mention of the direction the organisation might head after taking the mapping into consideration,

“Do we just continue to work with those that are already engaged, that we can trust and that we know we can work with to focus on very particular things that we will clearly benefit from? Or do we start to engage more people and even enable them to do what they want?” (Breakout group discussion)

Importantly, the mapping work helped to stimulate conversations about acknowledging the material realities of diverse and multiple publics who are engaged in diverse contexts for diverse reasons. This prompted more practical considerations from workshop participants about who and how they engage and whether the organisation is accepting of some of the publics – as one participant in the breakout groups noted, “I don't think it's our role to engage in [activism] directly”.

There remained a lingering commitment to the need for representation and there were questions about the extent to which the diverse publics identified in the mapping exercise are representative of a wider ‘general’ public. This illustrates one of the key productive capacities of the mapping approach, as it helps to frame that publics are multiple, emergent, and contingent – depending on the form of engagement they are participating in and the issues with which they are engaging. A general and representative public is difficult to achieve and the organisation needs to move beyond this expectation. The mapping approach offers a specific yet partial perspective of the wider landscape of public engagement with nature. Diverse forms of participation are always partial from the perspective of those doing the mapping as they are always emergent and constructed in relation to modes and issue spaces. As a result, a commitment to seeking representativeness of a ‘general public’ is not as fundamental to producing legitimate or robust outcomes.

#### **6.2.4 Learning and reflection about nature and biodiversity-related issues**

In addition to the ‘how’ and the ‘who’ the mapping results and prompted workshop participants to reflect on the ‘what’ of public engagement with nature. In this regard, a number of participants discussed how public engagement with nature is often framed in narrow institutionally defined ways,

“...if you were to just look at People and Nature survey for example, you get a very particular understanding of nature and what's important and who we're talking to.” (Breakout group discussion)



Some participants went further to explore how the mapping results could play a role challenging and opening up how problems of nature and biodiversity are framed within Natural England,

“I'd rather use these results to question what some people within the organisation would call our 'remit'. I think we have a wider remit than is enacted actually and we need to be bolder.” (Plenary discussion)

While it was felt that the first three themes around objects of participation revealed through the mapping (see Figure 4) were addressed within the organisation, the fourth theme of 'wider natures' was seen to pose a more significant challenge. The categories of 'generalised nature', 'benefits and uses of nature' and 'improving nature' were all assumed to be things Natural England is already engaged in but as distinct categories for distinct audiences,

“(If we focus) on people having a nice time in nature, that's fine. If we want to have a Lesser Spotted Something or other saved, then that's different. We have to think about our audiences (and) target our efforts.” (Plenary discussion)

There was broad emphasis on widening the scope of what is being engaged with, one participant in a breakout group noting, “as an organisation though we often don't see things in this broad view do we? And maybe that's something we need to change”. But it was felt that responding to wider framings of nature identified in the mapping is challenging, especially within the current organisational ways of working,

“... we're always looking at things through a certain program or project that we're trying to deliver and ... some of these things ... become prioritised or deprioritised depending on that lens or focus that you're looking through. I think that's a challenge for us though, as an organisation to think about it more broadly than we can't really often do.” (Breakout group discussion)

The fourth category 'wider natures' sparked the most reflection and enquiry into how Natural England's dominant framings of nature currently exclude some of the wider alternative and more "radical" visions of desirable futures associated with climate and ecological change. As one participant mentioned noted,

“[It's] really utilitarian ... consuming everything, extracting ... the rest of the nonhuman world and you know I think we need to move to a place where we're having relationships that include much more than just fellow humans... We just need the political will to do it and that I don't think that's what's lacking in individuals and communities. I think as what's lacking at the at the top of the chain”. (Breakout group discussion)

In sum then, the mapping analysis encouraged reflection and learning about what publics are engaging in and how Natural England frames problems of nature, both in terms of the closures of current framings and possibilities to acknowledge more radical and alternative positions. Overall, the workshop demonstrated how the mapping space can be used to prompt reflections and transformations in how individuals, and possibly organisations as a whole, frame public engagements with nature and biodiversity – principally concerning how publics are engaging, who is engaging, and what they are engaging in.

### 6.3 Implications and contributions of mapping public engagement

In the final session, participants worked in full plenary to consider the wider implications of the mapping exercise for public engagement in Natural England and beyond, asking: *What are the implications of the mapping results for Natural England's approaches to public engagement?* and *Which areas of Natural England's work could this mapping participation method be piloted on and why?* The majority of participants were very positive about the different roles the mapping participation approach could play across the organisation. They identified a wide range of possible contributions of the approach, as summarised in Box 2, and also suggested 30 specific areas of work where it could usefully be applied.

#### Possible contributions of mapping public engagement

- Allows more strategic and systemic approaches to public engagement
- Broaden meanings of and approaches to public engagement
- Attending to pre-existing public engagements
- Recognising exclusions of people and natures
- Transform existing engagement approaches
- Monitoring and reviewing public engagement
- Inform decision-making
- Enhance accountability
- Improve communications
- Responsiveness to publics and society
- Questioning issue and problem framings

**Box 2.** Possible contributions of mapping public engagement in organisational settings.

At a wider level some participants suggested the mapping *allows more strategic and systemic approaches to public engagement*:

“[The mapping] demonstrates that this is quite a network of different people and actors and kind of our role within that maybe.” (Plenary discussion)

[It] provides an amazing opportunity to really try and bring this learning into [the organisation] and to have a clear vision on what shifts we want as an organisation (Plenary discussion)

In situating Natural England in relation to a wider system of public engagement it was suggested that the mapping allows for a more strategic approach to engagement that can “avoid duplication” of activities, “identify areas of growth”, identify “gaps or opportunities”, better link with external partners, and make connections to plan more effectively. Related to this, some felt that mapping approach can be used to *broaden meanings of and approaches to public engagement* and be “far more creative”:

“We need to broaden the types of engagements with nature we consider to count... to better reflect and citizen-led interests” (Written comment)

“The categories highlighted [by the mapping] could be used as a broad sense-check when we talk about 'engagement' to ensure we don't have too closed a focus” (Written comment)

In addition, through broadening meanings of public engagement it was suggested that the mapping approach brings a focus on *attending to pre-existing public engagements* and being open to engagements initiated by others:

“I think this exercise is really helpful in showing that there's so much engagement that goes on without our input.” (Plenary discussion)

The mapping results thus help to place an emphasis on *recognising exclusions of people and natures* including:

“how we work with the missing demographic and cultures and heritage. We often label people and for research purposes, but people often wear multiple labels.” (Plenary discussion)

There were also discussions about how the mapping approach could support project-specific engagement work to “reflect citizen-led interests” that many had agreed were lacking in their current focus. This capacity to *transform existing engagement approaches* and ways of working was widely stated, although it is not without its difficulties:

“The most value is in sharing this mapping with people who don't think about public engagement in everyday work” (Written comment)

“Many institutions will remain nervous about the implications of this - we need to help them break down those walls.” (Written comment)

“[T]he whole piece about place based priorities... in area teams. That doesn't necessarily fit very well with this approach to public engagement. And so there's a bit of a gap there that I think in the organisation.” (Plenary discussion)

A key theme emerging from discussions included a number of suggestions about how the mapping can contribute to *monitoring and reviewing public engagement* to establish the organisation's position on public engagement, its range of approaches, and how these change over time:

“The mapping can help us map and audit our approaches to public engagement for specific interventions or areas of work in Natural England” (Written comment)

“I also think it's to use some of that mapping so that we can assess more clearly where we are on specific interventions, but also perhaps as an organisation” (Plenary discussion)

Many suggestions for applications of the mapping approach and as well as expected contributions centred on how it can *inform decision-making* in different areas of the organisation. One participant gave a specific example from their work on the role of burning in uplands and wildfire, indicating how having mapping public views and positions would help support decision-making:

“And where is the discussion on that going on, knowing where it is going on is interesting, but wouldn't really influence necessarily what you did. You'd need to know more than that.

You'd need to know well, what conversations are going on in each of those spaces. What are the opinions, etcetera? What is gonna [sic] cause change?" (Plenary discussion)

The mapping approach was thought by a range of participants to be able to provide instrumental benefits to improve the organisation's existing approaches. This emerged in many forms: as a tool to *enhance accountability* and "develop better accountability for nature recovery systems for specific interventions" (Written comment) and *improve communications* including through "new and simplified languages for communicating externally" (Online comment). Finally, there was a sense that the mapping approach could enhance *responsiveness to publics and society* which includes *questioning issue and problem framings*. In this way, some participants thought that mapping participation can and should push Natural England further into what would usually be considered 'radical' approaches put forward by some of the more citizen-led approaches. As this participant stated:

"I'd rather use these results to question what some people within the organisation would call our remit... Natural England needs to be a lot bolder, a lot braver... I think we're very conservative in our approach to nature conservation. So yeah, we're behind the curve I think, and this would help us." (Plenary discussion)

Beyond these broader areas of contribution workshop participants also identifies 30 different areas of the organisation where the mapping approach and its results could be further experimented with and applied. The workshop showed how the mapping results and new approach to public engagement were well received, with much optimism for how it might be put into practice in the organisation and beyond. Further evidence of this positivity was the large number of possible contributions and areas of application of the mapping approach identified by staff within Natural England. The mapping findings prompted reflections and reflexive learning about the who, what and how of public engagement as well as the position and role of Natural England in relation to the wider system of engagement. This prompted reflections on how Natural England can have quite narrow meanings of relevant publics, forms of participation, and framings of nature-related issues, and how this can become more open and responsive to society in the future.

## 7. Conclusions and recommendations

- This report has shown that public engagement is crucial to addressing problems associated with nature and biodiversity but that existing engagement approaches, within Natural England and nature conservation more widely, are focused on communication to the public and discrete one-off engagement events. The collaborative research project presented in this report is one of the first attempts to explore a new third perspective on public engagement - that views publics and participation as being highly diverse, already existing and interrelating in wider systems – in the context of nature and biodiversity. Through translating a novel approach for mapping diverse forms of public engagement with nature in the UK in the form of comparative cases analysis we have **developed novel insights that have important implications for approaches to public engagement with nature** in Natural England, the Public Engagement Laboratory, and beyond.
- The mapping shows that public engagements with nature and biodiversity are highly diverse. While mainstream approaches to public engagement are often institution-led and invited, such as surveys and consultations, our mapping analysis has opened up to wider forms of engagement that are citizen-led, ranging from activism and community action through to ongoing engagements with nature in everyday life. This opens up and goes beyond the dominant existing framings of participation and the public found within Natural England. Our analysis has also shown how these varied forms of public engagement involve and construct different publics and produce different public views and actions on nature and biodiversity issues. **Attempts to engage the public around nature and biodiversity need to better recognise, account for, and respond to these plural publics and diverse forms of engagement.**
- Our analysis shows that what publics say and do about nature and biodiversity issues is shaped by the ways that they engage or are engaged. The cases of engagement in our dataset span across 16 different aspects of nature and biodiversity that publics are engaging with, ranging from generalised nature, improving nature, making use of nature, through to wider framings of nature linked to social and ecological change. Importantly, institution-led engagements tend to be more narrowly framed, whereas citizen-led engagements often bring forward wider more radical framings and alternative solutions. Institutions and **organisations should reflect on their own assumptions and remain open to alternative framings, needs and concerns of society on matters of nature and biodiversity and respond accordingly. Mapping public engagement can play a key role in this.**
- Our mappings show that public engagements with nature are never static or occur in isolation but are always ongoing and interrelate with each other in a wider ecology of participation. We see these interrelations where cases of activism and protest lead to wider social interest in deliberative processes like citizens' assemblies and the bottom-up emergence of local nature recovery action plans and citizen science monitoring. Furthermore, the mapping situates institutions - like Natural England – as part of a much wider system of public engagement with nature and biodiversity. **There is a need for more systemic approaches to public engagement that recognise already existing engagements, interrelations between disparate forms of participation, and how this relates to transformations in nature and biodiversity.**
- Based on our analysis we suggest that systemic mappings of public engagement with nature can provide more comprehensive evidence about public views, engagements, and actions; identify emerging forms of citizen action that can be harnessed and responded to; reveal possible synergies between otherwise separate forms of engagement; and recognise system-level exclusions and support strategic approaches to engagement. **This suggests a need to develop**

**infrastructures, initiatives and capacities for mapping public engagement with nature and biodiversity on an ongoing basis.**

- A workshop with Natural England staff demonstrated the potential of the mapping participation approach to transform learning, reflection and approaches to public engagement with nature. The mapping findings prompted reflections and reflexive learning about diverse publics (who), issues (what), and forms (how) of public engagement with nature. Workshop participants reflected on how Natural England frames these dimensions relatively narrowly, how it might open up to diversities shown by the mapping, and the position and role of the organisation in relation to the wider system of engagement. This has **demonstrated how approaches to mapping participation can enhance learning from and learning about public engagement with nature and biodiversity in Natural England and beyond.**
- Most workshop participants were positive about the possible roles the mapping participation approach could play across the Natural England and beyond. They identified a wide range of possible contributions ranging from supporting a more strategic and systemic approach to engagement, attending to pre-existing engagements and exclusions, enhancing the design of participatory processes, monitoring and evaluating engagement, and informing governance and decision-making. In addition, 30 specific areas of work across the organisation were suggested as possible sites to trial and experiment with this new approach. **Further experiments in mapping participation with nature should be developed within the organisation as part of the ongoing development of a Public Engagement Laboratory.**
- This research project has shown the value of remaking participation and approaches to mapping participation within Natural England and in public engagement with nature more broadly. It **opens up new ways of mapping, practicing, learning about and responding to diverse public engagements with nature and biodiversity within Natural England and beyond.**



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## Appendix 1. Comparative case mapping: search terms

WHO (participants & subjects of participation)	WHAT (issues, topics & overall framings)	HOW (models, forms & practices of participation)	WHERE
public*	nature	engage*	UK
citizen	biodiversity	survey	England
societ*	wildlife	opinion	
stakeholder	species	consultation	
interest group	ecosystem*	deliberation	
participant	natural environment	dialogue	
communit*	landscape	assembly	
activist	greenspace	citizen science	
protestor	conservation	media	
consumer	animal*	digital	
audience	plant*	communication	
visitor	garden	campaign	
naturalist	allotment	awareness	
conservationist	park	consumption	
volunteer*	Natural England	art	
users	habitat	performance	
schools	protected area	film	
customers	rewilding	zoo	
ethnic minorities	marine	tv	
disabled	coast	protest	
elderly	AONB	monitoring	
young people	SSSI	poetry	
divers		story	
NGOs/ charities		partnership*	
		Walk*	

## Appendix 2. Cases of public engagement with nature and biodiversity

Case Number	Case Study Name	Source
1	National Biodiversity Network Atlas	<a href="https://nbnatlas.org">https://nbnatlas.org</a>
2	Monitor of Engagement with Natural Environment (MENE)	<a href="https://www.gov.uk/government/collections/monitor-of-engagement-with-the-natural-environment-survey-purpose-and-results">https://www.gov.uk/government/collections/monitor-of-engagement-with-the-natural-environment-survey-purpose-and-results</a>
3	People and Nature Survey for England	<a href="https://www.gov.uk/government/collections/people-and-nature-survey-for-england">https://www.gov.uk/government/collections/people-and-nature-survey-for-england</a>
4	Perceptions on Beaver Reintroduction	<a href="http://dx.doi.org/10.1111/area.12576">http://dx.doi.org/10.1111/area.12576</a>
5	Internet traffic analysis for Wildfowl and Wetlands Trust	<a href="http://dx.doi.org/10.1016/j.biocon.2016.11.031">http://dx.doi.org/10.1016/j.biocon.2016.11.031</a>
6	Reduce Speed Now!	<a href="https://www.somersetshouse.org.uk/whats-on/earth-day-season-2019/reduce-speed-now-justin-brice-guariglia">https://www.somersetshouse.org.uk/whats-on/earth-day-season-2019/reduce-speed-now-justin-brice-guariglia</a>
7	Green Prosperity - community gardening in Hull	<a href="http://dx.doi.org/10.1080/13549839.2021.1886067">http://dx.doi.org/10.1080/13549839.2021.1886067</a>
8	Festival of Nature	<a href="https://www.bnhc.org.uk/festival-of-nature/festival-of-nature-2022-what-happened/">https://www.bnhc.org.uk/festival-of-nature/festival-of-nature-2022-what-happened/</a>
9	Super National Nature Reserve - Purbeck	<a href="https://www.dorsetaonb.org.uk/project/wild-purbeck/">https://www.dorsetaonb.org.uk/project/wild-purbeck/</a>
10	Right to Roam campaign	<a href="https://www.righttoroam.org.uk/">https://www.righttoroam.org.uk/</a>
11	Sensing Nature	<a href="https://www.tandfonline.com/doi/full/10.1080/17450101.2020.1817685">https://www.tandfonline.com/doi/full/10.1080/17450101.2020.1817685</a>
12	Everyday Park Life	<a href="https://www.tandfonline.com/doi/full/10.1080/09548963.2017.1274358">https://www.tandfonline.com/doi/full/10.1080/09548963.2017.1274358</a>
13	Perceptions on role of public/private green space during COVID 19	<a href="https://www.sciencedirect.com/science/article/pii/S0169204621000554">https://www.sciencedirect.com/science/article/pii/S0169204621000554</a>
14	Science learning at Kew Gardens	<a href="https://www.tandfonline.com/doi/abs/10.1080/13504622.2018.1469116?journalCode=ceer20">https://www.tandfonline.com/doi/abs/10.1080/13504622.2018.1469116?journalCode=ceer20</a>
15	iSpot	<a href="https://www.ispotnature.org/">https://www.ispotnature.org/</a>
16	People's Plan for Nature	<a href="https://peoplesplanfornature.org/peoples-assembly-nature">https://peoplesplanfornature.org/peoples-assembly-nature</a>
17	Wild4Life	<a href="https://www.southglos.gov.uk/documents/Wild4Life-End-of-Project-Evaluation-Report.pdf">https://www.southglos.gov.uk/documents/Wild4Life-End-of-Project-Evaluation-Report.pdf</a>
18	#WildMorningswithChris - Springwatch	<a href="https://www.frontiersin.org/articles/10.3389/fpsyg.2021.701769/full">https://www.frontiersin.org/articles/10.3389/fpsyg.2021.701769/full</a>
19	Wild in the City	<a href="https://wildinthecity.org.uk/commission-us/">https://wildinthecity.org.uk/commission-us/</a>
20	Rewilding Britain	<a href="https://www.rewildingbritain.org.uk/">https://www.rewildingbritain.org.uk/</a>
21	Hope Allotment	<a href="https://hopeallotment.org.uk/">https://hopeallotment.org.uk/</a>
22	Monitoring public engagement with nature using Google Trends	<a href="https://besjournals.onlinelibrary.wiley.com/doi/full/10.1002/pan3.10381">https://besjournals.onlinelibrary.wiley.com/doi/full/10.1002/pan3.10381</a>
23	Using crowdsourced images to determine	<a href="https://www.ecologyandsociety.org/vol21/iss3/art6/">https://www.ecologyandsociety.org/vol21/iss3/art6/</a>

	engagement with nature spaces	
24	Save Greater Manchester's Greenbelt	<a href="http://savegmgreenbelt.org.uk/about-us/">http://savegmgreenbelt.org.uk/about-us/</a>
25	Therapeutic Community Gardening - Growing Together	<a href="https://www.mdpi.com/1660-4601/19/20/13612">https://www.mdpi.com/1660-4601/19/20/13612</a>
26	Refugees, Asylum seekers and green spaces	<a href="https://www.sciencedirect.com/science/article/pii/S0016718519302246?via%3Dihub">https://www.sciencedirect.com/science/article/pii/S0016718519302246?via%3Dihub</a>
27	Walking for Health - group walks in Nature	<a href="https://www.sciencedirect.com/science/article/pii/S0272494416300275?via=ihub#appsec1">https://www.sciencedirect.com/science/article/pii/S0272494416300275?via=ihub#appsec1</a>
28	Rewilding Education	<a href="https://www.tandfonline.com/doi/abs/10.1080/14733285.2019.1673880?journalCode=cchg20">https://www.tandfonline.com/doi/abs/10.1080/14733285.2019.1673880?journalCode=cchg20</a>
29	Survey on aesthetics, restorative effects and biodiversity	<a href="https://www.sciencedirect.com/science/article/pii/S0169204617300701?via%3Dihub">https://www.sciencedirect.com/science/article/pii/S0169204617300701?via%3Dihub</a>
30	Wildlife cams: The Digital Peregrine	<a href="https://rgs-ibg.onlinelibrary.wiley.com/doi/10.1111/tran.12566">https://rgs-ibg.onlinelibrary.wiley.com/doi/10.1111/tran.12566</a>
31	Perceptions of angler's on beaver reintroduction	<a href="https://www.tandfonline.com/doi/full/10.1080/09640568.2020.1816933">https://www.tandfonline.com/doi/full/10.1080/09640568.2020.1816933</a>
32	Green Writing - students	<a href="https://www.tandfonline.com/doi/abs/10.1080/0305764X.2017.1337720?journalCode=ccje20">https://www.tandfonline.com/doi/abs/10.1080/0305764X.2017.1337720?journalCode=ccje20</a>
33	Connecting young people to urban nature	<a href="https://www.sciencedirect.com/science/article/pii/S161886672100368X?via%3Dihub#sec0020">https://www.sciencedirect.com/science/article/pii/S161886672100368X?via%3Dihub#sec0020</a>
34	Botanic gardens and environmental attitudes	<a href="https://link.springer.com/article/10.1007/s10531-015-0879-7">https://link.springer.com/article/10.1007/s10531-015-0879-7</a>
35	Urban nature and transnational lives	<a href="https://onlinelibrary.wiley.com/doi/10.1002/psp.2416">https://onlinelibrary.wiley.com/doi/10.1002/psp.2416</a>
36	Survey on (non)recreation in greenspaces	<a href="https://www.sciencedirect.com/science/article/pii/S0169204618300914?via%3Dihub">https://www.sciencedirect.com/science/article/pii/S0169204618300914?via%3Dihub</a>
37	WildEast - land restoration	<a href="https://www.wildeast.co.uk/">https://www.wildeast.co.uk/</a>
38	Cambridge Cyrenians	<a href="https://cambridgecyrenians.org.uk/our-allotment-community/">https://cambridgecyrenians.org.uk/our-allotment-community/</a>
39	Hounslow community garden initiative	<a href="https://www.hounslow.gov.uk/news/article/2765/hounslow-launches-uk-s-first-policy-to-transform-unused-land-to-grow-food-and-educate-urban-children-on-healthy-living-amid-cost-of-living-crisis">https://www.hounslow.gov.uk/news/article/2765/hounslow-launches-uk-s-first-policy-to-transform-unused-land-to-grow-food-and-educate-urban-children-on-healthy-living-amid-cost-of-living-crisis</a>
40	Extinction Rebellion	<a href="https://extinctionrebellion.uk/">https://extinctionrebellion.uk/</a>
41	Nature documentaries (Our Planet)	<a href="https://besjournals.onlinelibrary.wiley.com/doi/epdf/10.1002/pan3.10052">https://besjournals.onlinelibrary.wiley.com/doi/epdf/10.1002/pan3.10052</a>
42	Connecting to nature	<a href="https://www.teignbridge.gov.uk/sports-and-leisure/parks-and-open-areas/connecting-to-nature-consultation/overview-of-connecting-to-nature/">https://www.teignbridge.gov.uk/sports-and-leisure/parks-and-open-areas/connecting-to-nature-consultation/overview-of-connecting-to-nature/</a>
43	Biodiversity Action Plan	<a href="https://consultations.brighton-hove.gov.uk/planning/draft-bnc-spd-consultation/">https://consultations.brighton-hove.gov.uk/planning/draft-bnc-spd-consultation/</a>
44	Landworker's Alliance - Guiding the agricultural transition	<a href="https://landworkersalliance.org.uk/campaigns-advocacy/guiding-the-agricultural-transition-in-the-uk/#england">https://landworkersalliance.org.uk/campaigns-advocacy/guiding-the-agricultural-transition-in-the-uk/#england</a>

45	Ecological dialogues: Sustainable communities and the question of nature	<a href="https://www.londonmet.ac.uk/news/articles/ecological-dialogues-sustainable-communities-and-the-question-of-nature-/">https://www.londonmet.ac.uk/news/articles/ecological-dialogues-sustainable-communities-and-the-question-of-nature-/</a>
46	Nature Connects: Forest School in Cornwall	<a href="https://www.natureconnects.org/">https://www.natureconnects.org/</a>
47	30 Days Wild - The Wildlife Trust	<a href="https://www.wildlifetrusts.org/news/30-days-wild-peoples-favourite-random-acts-wildness">https://www.wildlifetrusts.org/news/30-days-wild-peoples-favourite-random-acts-wildness</a>
48	Monthly Wetland Bird Survey for the BTO	<a href="https://www.bto.org/our-science/projects/wetland-bird-survey">https://www.bto.org/our-science/projects/wetland-bird-survey</a>
49	Skell Valley Project	<a href="https://www.nationaltrust.org.uk/visit/yorkshire/fountains-abbey-and-studley-royal-water-garden/skell-valley-project-at-fountains-abbey-and-studley-royal">https://www.nationaltrust.org.uk/visit/yorkshire/fountains-abbey-and-studley-royal-water-garden/skell-valley-project-at-fountains-abbey-and-studley-royal</a>
50	Eco-church scheme	<a href="https://ecochurch.arocha.org.uk">https://ecochurch.arocha.org.uk</a>
51	Woodland Expansion in Upland National Parks	<a href="https://www.mdpi.com/2073-445X/10/3/270">https://www.mdpi.com/2073-445X/10/3/270</a>
52	Monitoring hedgehogs in Kingswood, Hull	<a href="https://www.publish.csiro.au/wr/WR14184">https://www.publish.csiro.au/wr/WR14184</a>
53	Community perspectives on the reintroduction of Eurasian Lynx	<a href="https://onlinelibrary.wiley.com/doi/10.1111/rec.13243">https://onlinelibrary.wiley.com/doi/10.1111/rec.13243</a>
54	Greenspace and Well-being	<a href="http://dx.doi.org/10.1007/s11252-020-00929">http://dx.doi.org/10.1007/s11252-020-00929</a>
55	Urban nature and youth mental health	<a href="http://dx.doi.org/10.1016/j.healthplace.2020.102296">http://dx.doi.org/10.1016/j.healthplace.2020.102296</a>
56	Survey on nature exposure and appreciation	<a href="http://dx.doi.org/10.1016/j.envint.2019.105441">http://dx.doi.org/10.1016/j.envint.2019.105441</a>
57	Engaging with and shaping nature	<a href="http://dx.doi.org/10.3390/ijerph15102214">http://dx.doi.org/10.3390/ijerph15102214</a>
58	Nature in urban populations	<a href="http://dx.doi.org/10.1016/j.landurbplan.2016.12.006">http://dx.doi.org/10.1016/j.landurbplan.2016.12.006</a>
59	Trash Free Trails	<a href="https://www.trashfreetrails.org">https://www.trashfreetrails.org</a>
60	Thames Explorer - educharity for Rivers	<a href="https://www.thames-explorer.org.uk">https://www.thames-explorer.org.uk</a>
61	Visits to New Hall Farm	<a href="https://www.newhallfarmardsley.co.uk">https://www.newhallfarmardsley.co.uk</a>
62	Clean River Kent - campaign	<a href="http://www.sustainablestaveley.org.uk/clean-up-the-kent/">http://www.sustainablestaveley.org.uk/clean-up-the-kent/</a>
63	Benson Nature Group	<a href="https://www.bensonnaturegroup.com/home">https://www.bensonnaturegroup.com/home</a>
64	Action for Conservation: WildED Workshop Programme	<a href="https://www.actionforconservation.org/schools">https://www.actionforconservation.org/schools</a>
65	Action for Conservation: Summer Camps	<a href="https://www.actionforconservation.org/camp">https://www.actionforconservation.org/camp</a>
66	Action for Conservation: The Penpont Project	<a href="https://www.actionforconservation.org/penpont">https://www.actionforconservation.org/penpont</a>
67	Wildlife Tourism	<a href="https://doi.org/10.1080/10871209.2014.921957">https://doi.org/10.1080/10871209.2014.921957</a>
68	Birdwatching	Anecdotal
69	Private Gardening	<a href="https://www.tandfonline.com/doi/abs/10.1080/1464936032000049333">https://www.tandfonline.com/doi/abs/10.1080/1464936032000049333</a>



70	Nature soundscapes	<a href="https://www.nature.com/articles/d41586-022-00023-8">https://www.nature.com/articles/d41586-022-00023-8</a>
71	SeaSearch	<a href="https://www.seasearch.org.uk">https://www.seasearch.org.uk</a>
72	Marine Conservation - Norfolk Acton Group	<a href="https://marineconservationfornorfolkactiongroup.wordpress.com">https://marineconservationfornorfolkactiongroup.wordpress.com</a>
73	Consultation on highly protected marine areas	<a href="https://consult.defra.gov.uk/hpma/consultation-on-highly-protected-marine-areas/">https://consult.defra.gov.uk/hpma/consultation-on-highly-protected-marine-areas/</a>
74	Recreational boat users and marine protection zones	<a href="https://doi.org/10.1016/j.marpol.2013.11.009">https://doi.org/10.1016/j.marpol.2013.11.009</a>
75	Marine space and wellbeing	<a href="https://www.sciencedirect.com/science/article/pii/S2212041616301978?via%3Dihub">https://www.sciencedirect.com/science/article/pii/S2212041616301978?via%3Dihub</a>
76	Public awareness of marine challenges	<a href="https://doi.org/10.1016/j.marpol.2017.10.030">https://doi.org/10.1016/j.marpol.2017.10.030</a>

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# About the Public Engagement Laboratory

The Public Engagement Laboratory for Nature and Society has been developed through a partnership between researchers in the Science, Society and Sustainability (3S) Research Group at the University of East Anglia and staff at Natural England. The Laboratory experiments with new ways of mapping, practicing, learning about, and responding to diverse public engagements with nature and biodiversity, within Natural England and its networks in the UK and internationally. Through doing this the Laboratory seeks to transform the organisation's approaches to public engagement and its responsiveness to society.

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