# Connecting with nature in 2020: who did, who didn't, and why it matters.

## A review of recent evidence from the UK and insights from nature engagement practitioners in Cumbria.

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# Abstract

Psychological connection with nature is associated with mental wellbeing and taking nature conservation actions. Inequality of opportunity to develop nature connectedness across the UK population, worsened by coronavirus restrictions in 2020, is indicated in the literature. Local inequities in nature engagement, barriers experienced by individuals and strategies for inclusivity are less well evidenced. The University of Cumbria's Back on Our Map (BOOM) project is working to restore biodiversity through community participation. Inclusivity in community nature engagement is explored through interviews with 14 practitioners from BOOM project partner organisations. The methodology is informed by interpretive and transformative research paradigms. Data is interpreted via inductive thematic analysis and in light of personal reflections, recent nature connection research and the pandemic context. Findings include successes in, barriers to and changes to nature engagement in 2020; examples are presented. The importance of partnership working to facilitate bespoke nature connection opportunities addressing the needs and preferences of under-represented groups is clear. Place-responsiveness and social context are also found to be influential in inclusive nature engagement; examples are presented. The recommendations may be informative for the Back on Our Map project, its legacy initiatives and wider work of the project partners with local communities and visitors. Further research could include studies co-created with the population groups most underserved in nature connection opportunities.

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# Introduction

## Aims of the study

This study seeks to explore inequity in how UK residents engaged and connected with nature in 2020 and to identify opportunities for greater equity in future.

Key questions considered are:

- What are the inequities in nature connection in the UK in 2020? How have these changed, if at all, in the context of COVID-19 and associated restrictions?
- Why is nature connectedness important, and to whom? How do organisations in south Cumbria and the vicinity facilitate nature connection? How do they address inequity in nature engagement, and did their provision change in 2020?
- What are the key challenges and opportunities for inclusivity in nature engagement now? Are there conflicts or convergence in research, policy and practice?

## Rationale for enquiry

During 2020, alongside the COVID-19 pandemic, both mental health and the state of the natural world were pressing issues for UK society. There was evidence of strong public interest in climate change and nature protection (Ipsos Global Advisor, 2020; Natural England, 2020c, RSPB, 2020b). In England, 85% of respondents to Natural England's People and Nature Survey reported being concerned about damage to the natural environment (Natural England, 2020c). As the UK prepared to host the COP26 climate change summit, the Prime Minister proposed a "Green Industrial Revolution" (Johnson, 2020, para. 4) in the nation's recovery from coronavirus, focusing on reducing carbon dioxide emissions in electricity generation and transport, developing alternative technologies and increasing carbon sequestration.

Mental health problems are commonplace in the UK (Mental Health Foundation, 2016) and are likely to have been intensified by the pandemic: a model created by the NHS and Centre for Mental Health predicts that the coronavirus crisis could cause 10 million people in England to need new or further mental health support (O'Shea, 2020). There are indications that living with coronavirus restrictions has also increased the demand to protect and restore nature as a resource for human wellbeing. The RSPB (2020b) found strong agreement that "the outbreak has highlighted the need for more accessible, nature-rich green space near to people's households" (p.5) and that this would benefit health, wellbeing and happiness.

Nevertheless, public investment in nature, specifically biodiversity, via the "Green Recovery Challenge Fund" (Department for Environment, Food & Rural Affairs *et al.*, 2020a, para. 2) looks to be small in comparison to that for climate initiatives. This is despite the fact that the UK failed to meet most of its UN biodiversity targets set a decade ago (RSPB, 2020a; Weston, 2020). Recent analysis concludes that in the decade to 2019: "there has been no let-up in the net loss of nature in the UK" (National Biodiversity Network, 2019, p. 6). Furthermore, in economic recovery from the COVID-19 pandemic some of the UK's policies will likely negatively impact nature, specifically "deregulation of environmental standards" (Vivid Economics & Finance for Biodiversity Initiative, 2020, p. 61) around waste and agriculture. The OECD (2020) argues that protecting biodiversity should be given equal priority with climate change mitigation, and that the former has been comparatively neglected in governments' COVID-19 recovery plans, including the UK's. Evidently, there are significant current challenges for both mental wellbeing and nature conservation in the UK.

## Nature connection

The psychological phenomenon of nature connectedness is associated with mental wellbeing and with behaviours which benefit nature (Martin *et al.*, 2020; Natural England, 2020a). Nature connectedness, used interchangeably with nature connection in this study, names a feeling of affinity with nature. It describes a person's awareness of experiencing a close relationship with nature: an "experiential sense

of oneness with the natural world" (Mayer and Frantz, 2004, p. 504). Nature connectedness is a continuum rather than a dichotomy of connected vs disconnected and can differ with, for example, age, sex and socio-economic context (Natural England, 2020a). It has been shown that a lasting increase in nature connection can be gained through simple interventions or activities (Richardson and Sheffield, 2017; McEwan *et al.,* 2019).

A significant positive association between nature connectedness and various happiness and wellbeing indicators is evident in the research literature (Capaldi, Dopko and Zelenski, 2014; Nature Connectedness Research Group, 2020; Pritchard *et al.,* 2020). In a recent report, National Trust and University of Derby (2020) found that: "adults with a strong connection to nature are happier" (p. 33). Also, spending at least two hours weekly in nature is associated with wellbeing benefits (White *et al.,* 2019) and children's time in nature is associated with their cognitive development and wellbeing (McCormick, 2017). In terms of deliberate and structured interventions, being prompted to notice "good things in urban nature" (McEwan *et al.,* 2019, p. 9) and other simple daily nature engagement activities (Richardson, McEwan and Garip, 2018) are associated with wellbeing benefits. A Natural England commissioned report recommended increased use of nature-based social prescribing for mental health care, concluding that there is: "strong evidence of the efficacy of nature-based interventions." (Bragg and Leck, 2017, p. 3).

Two recent meta-analyses found a significant positive relationship between connection to nature and pro-environmental behaviours (Mackay and Schmitt, 2019; Whitburn, Linklater and Abrahamse, 2020). Alcock *et al.* (2020) found "strong support for the argument that people who have greater appreciation of the natural environment, and spend more recreational time in it, also report more pro-environmental behaviours" (p. 7). However, Richardson *et al.* (2020) found that nature connectedness and simple acts of engaging with nature were predictors of pro-nature conservation behaviours, whereas just spending time in nature was not. Instead, "it is how that time is spent that is a key influential factor in predicting pro-nature conservation behaviour" (p. 12). Pro-nature conservation

behaviours are particularly relevant to biodiversity, whereas pro-environmental behaviour indicators may relate to other environmental issues such a climate and waste.

## Equity in connecting with nature in 2020

Equity in nature connection here refers to fair opportunity for individuals to develop nature connectedness. Inequity is indicated by, for example, certain population groups being underserved in access to nature-rich places or under-represented among participants in nature engagement activities. Inequities in nature connection are also identified using specific measurement tools for nature connectedness such as the Nature Connectedness Index (NCI) developed by Natural England (2020a).

Given the evidence linking nature connection, and various forms of nature engagement, with wellbeing and pro-nature conservation actions, these are the focus of the current study rather than simply time spent in nature. However, in investigating inequity in nature connection, consideration must be given to access to nature. This is sometimes measured by visit frequency as well as by indicators of neighbourhood green space. For example, two-thirds of people surveyed by You Gov and Ramblers in August 2020 indicated that "local greenspaces were important places to connect with nature" (Ramblers, 2020, p. 9). The same study found that people from low-income households and minority ethnic groups were underserved in terms of proximity, variety and quality of neighbourhood green places. This is a strong indication that these groups are disadvantaged in terms of opportunities to engage and connect with nature.

Experiences during the coronavirus restrictions may have increased people's appreciation for nature (Lemmey, 2020; RSPB, 2020b) but inequities in access to nature were also highlighted (Natural England, 2020c; Ramblers, 2020). Features of connecting with nature during the initial lockdown phase included discovering neighbourhood nature and increased interest in nature-friendly gardening (Lemmey, 2020). Natural England (2020c) found that around 3 in 4 adults surveyed in England in the period April to June 2020 reported noticing and engaging with everyday nature more than they did before the pandemic. During this time, people in the most deprived areas, people with lower incomes and those with lower

levels of education were particularly affected by increased inequity of access to "natural spaces" (Natural England, 2020c, section 2, para. 13). This study found that a large majority of the adults in England who have gardens believe that "spending time in it is good for their mental health" (section 6.2, para. 2), but 25% do not have access to a private garden, rising to 39% of adults from ethnic minority groups, another indicator of inequality of opportunity to connect with nature.

During the initial lockdown, there was much reduced visitor access to National Park, Areas of Outstanding Natural Beauty (AONBs) and other countryside due to travel restrictions. This was followed by notable overcrowding and environmental damage, particularly litter and fires, in some countryside locations when restrictions eased (Morris, et al., 2020; National Trust, 2020; Pidd, 2021). There is some evidence that this may be linked to a change in who was accessing nature. For example, on spring bank holiday weekend 2020, a Lake District National Park (LDNP) visitor survey found 43% of visitors surveyed were visiting the LDNP for the first time ever or first time since childhood (Lake District National Park Authority, 2020). There was also a low level of awareness of the *The Countryside Code* (Natural England and Department for Environment, Food & Rural Affairs, 2020) among visitors: around 1 in 8 being aware they should follow it. This evidence illustrates both enthusiasm for visiting the countryside and inequity of experience and education around certain nature-friendly behaviours and provides context for this study given the location of the primary data collection in and near to "national landscapes" (Glover, 2019, p. 9).

In summary, this study begins with the assumptions that:

- connecting with nature is generally beneficial to individuals and desirable across the population as it contributes to both mental wellbeing and the sustainability of our shared ecosystem.
- there are indications of inequity in nature access and nature connectedness in the UK and these have been intensified by restrictions during the pandemic.
- there is widespread appetite for relaxation in green places both close to home and in national landscapes, and growing appreciation of nature experiences for wellbeing.

- there is a high level of concern for environmental issues among the UK population but not everyone interacts with wildlife habitats responsibly, and biodiversity restoration is underfunded.

## The Back on Our Map project

The Back on Our Map (BOOM) project is a biodiversity action project led by the University of Cumbria which specifically aims to involve the local community in south Cumbria in species restoration (University of Cumbria, 2020). The geographical area of the project comprises Barrow and South Lakeland districts, including a portion of the Lake District National Park. Some of the partner organisations operate around Morecambe Bay into Lancashire and some are national organisations with a base in this region. Species restoration includes scientific and local consultation, identifying and preparing suitable habitats and then reintroducing rare or locally extinct species of plants and animals which were historically more abundant in this area.

The BOOM project is working to engage under-represented groups with biodiversity action as part of the project strategy (University of Cumbria *et al*., 2019; *BBC News,* 2020). This involves collaborative working with nature conservation charities, community organisations, public sector institutions and land managers. Therefore, interviewing representatives of these BOOM project partners is an opportunity to understand current practices in inclusive community nature engagement in the region.

In combining the interview findings with the review of existing data and literature this study may provide new insight into inequities of nature connection and current practice which addresses any such inequities. Such analysis could be informative to education, nature restoration, public health, social justice and tourism. It is also intended to be constructive for the implementation of the Back on Our Map project across the remainder of its timespan and potentially could inform practice in facilitating community engagement with nature restoration beyond the BOOM project delivery phase.

# Literature Review

The terminology of nature connection and nature engagement are both used in this study. There is evidence that nature connectedness can be developed through simple acts of engaging with nature (Richardson and Sheffield, 2017; McEwan *et al.*, 2019). Therefore, nature engagement provision may be understood as activities or other provision which could facilitate connectedness with nature. Also, nature connectedness, being a psychological phenomenon, is perhaps not readily observed by a third party. Accordingly, nature engagement is often the most suitable terminology for discussing these topics from the facilitators' perspective, as in the interviews for this study.

Lumber, Richardson and Sheffield (2017) established five pathways to nature connectedness: through emotional engagement with nature; appreciating beauty in nature, making contact with nature using the senses; finding meaning in nature and enacting compassion for nature. Conversely, activities which merely use nature, take place in nature or amass knowledge of nature do not appear to provide a route to nature connection. Therefore, opportunities for connection with nature via one or more of the effective pathways, as well as equitable access to nature, are important considerations for inclusive nature engagement.

Straightforward ways to experience the effective pathways to nature connection include noticing good things in nature, photographing nature, and simple conservation activities (McEwan *et al.*, 2019; National Trust and University of Derby, 2020). Participation in The Wildlife Trusts' *30 Days Wild* campaign which is based on the five pathways has been evaluated, finding a significant, lasting impact on nature connectedness, happiness and nature conservation behaviours (Richardson, McEwan and Garip, 2018). Importantly, participation was shown to reduce inequalities as "those with lower nature connection, happiness and conservation behaviours at baseline showed the greatest benefit" (p. 98) i.e., the most improved scores in these three variables.

## A focus on equity

Equity in nature connection concerns fair opportunity for people to connect with nature. While inequality may be used to refer to a simple difference, particularly in quantitative data, it is the possibility of underlying inequity which is of particular interest in this study. Exploring inequities centres the research on how individuals experience disadvantage in connecting with nature, such as through discrimination, lack of access, lack of representation, financial or other reasons. Inclusion is also discussed when considering how organisations and practitioners facilitate nature engagement. Inclusion implies actions done to others: a position of power to include or exclude; and thus elevates the frame of reference of the facilitator. Fair opportunity might be most appropriately assessed by the community or individual participating in, or excluded from, a nature-related experience. Yet, the terminology of inclusivity is suitable when a service is provided, as in relation to the primary data in this study which draws from conversations with community nature engagement practitioners. The term diversity is generally avoided in this study because diverse engagement with nature is less useful than equitable or inclusive engagement with nature as a measure of who is missing out or who is provided for. That is: there may be diversity across specific parameters in a group while inequity exists for individuals. Under-represented groups are discussed in the sense of any group accessing provision in a lower proportion than they are represented in the local community, or UK population, as appropriate. Underrepresentation may indicate inequity. 'Underserved' is also used in relation to inequitable access to or provision of services.

## National picture of nature connectedness

To understand inequalities in nature connectedness prior to the COVID-19 pandemic, certain large-scale studies undertaken by public bodies provide a reliable knowledge base. In England, the Monitor of Engagement with the Natural Environment (MENE) survey explored nature connection from 2015 to 2018 (Natural England, 2020a). Nature connection was lower for adolescents and young adults than for other age groups, with 13- to 18-year-olds having the lowest nature connection of all (Natural England,

2020a). Men had lower nature connection on average than women, and "adults from lower socio-economic groups tended to have lower nature connectedness than adults from higher socio-economic groups" (Natural England, 2020a, p.12). The MENE study found no significant relationship between ethnicity and nature connectedness. The existence of a dip in nature connection during adolescence and lower male nature connection were previously identified by Hughes *et al.* (2019) in a separate study.

Scotland's People and Nature Survey (SPANS) highlights inequities in contact with nature (Stewart and Eccelston, 2020). Data from May 2019 to March 2020 showed that people with a disability or long-term illness were among the least likely to make visits to outdoor places such as parks and woodland, along with people in the least affluent socio-economic groups, council tenants and people living in deprived areas. The commonest reported barriers to outdoor visits were being too busy and being in poor health. On visiting outdoor places, two-thirds of respondents strongly agreed they felt closer to nature, indicating that the visits were associated with a sense of nature connectedness (Stewart and Eccelston, 2020).

The National Survey for Wales has not measured nature connectedness but illuminates some barriers to outdoor visits. Among those who have not made any recreational visits to the outdoors in a year, the barriers they reported included being too busy, having a disability, ill health and old age (Natural Resources Wales, 2018). Northern Ireland lacked a similar baseline study prior to the COVID-19 pandemic. Forthwith, this study focuses on the English context, this being most relevant to the new data collection. Studies from elsewhere in the UK and internationally are considered where the findings are especially pertinent and recent.

### Reasons for inequities in nature connection

Boyd *et al.* (2018) investigated reasons why certain groups of adults in England are under-represented in visiting natural environments for leisure, using MENE data. Although visit frequency is not necessarily correlated with level of nature connection, the reasons for least frequent visits are relevant to

understanding inequity of opportunity for nature connectedness. Boyd *et al.* (2018) found that having a long-term disability and being in the group of lowest socio-economic status were strong predictors of being an infrequent visitor to natural spaces, which suggests inequity of access to nature. Not having enough time due to work was the most commonly reported reason for infrequent visits to natural places, followed by poor health (Boyd *et al.*, 2018), similar to SPANS findings (Stewart and Eccelston, 2020). Other, less commonly reported, reasons for infrequent visits to nature included a perception that: "this isn't something for me/people like me" (Boyd *et al.*, 2018, p. 105); and safety concerns.

The association between all under-represented groups and their reasons for infrequently visiting green spaces was not fully explored. However, in reviewing previous relevant studies, Boyd *et al.* (2018) also identified a lack of awareness of how to access nature which appears to limit opportunities for some people in low income groups particularly. Boyd *et al.* (2018) also surmise that "visiting certain settings might not even occur to people if nature-based recreation is not part of their cultural background or where individuals have been subject to discrimination through their different norms of use in the past" (p. 103). This gives some indication of the complexity of barriers to nature connection.

Research in the city of Sheffield (IWUN, 2019) explored inequality of opportunity for contact with nature, finding that people from minority ethnic groups[1], migrants, and people of all ethnicities in deprived areas were underserved by high quality green space. A particular barrier experienced was the cost of travel to visit nature, as were social isolation and illness. Overall, ethnicity had a smaller impact than urban deprivation in the use of nature-rich places for wellbeing, in Sheffield. The association between inequitable access to local nature and both ethnicity and economic status is reinforced by a recent study across Britain (Ramblers, 2020). People of minority ethnicity and households in the lowest income group were less likely to have green space within a 5-minute walk and good walking routes in their neighbourhood, from which reduced opportunities for everyday contact with nature can be implied.

[1] Minority in the UK context.

## 2020 context

The People and Nature Survey for England (Natural England, 2020b) has run monthly since April 2020 to the time of writing and therefore provides information specific to the pandemic context. After fresh air and exercise, mental health and connecting with nature were the most frequent reasons for adults choosing to be outdoors in natural spaces (Natural England, 2020c). Also, a visit to these places in the last 7 days was linked with greater happiness. This signals the importance of nature visits to people's wellbeing during coronavirus restrictions.

Ramblers (2020) found that people had placed greater importance on access to nature and local greenspace since the pandemic began. Their survey, in August 2020, gave evidence that "greenspaces are important to almost everyone" (Ramblers, 2020, p.4), particularly for walking, relaxation and to improve wellbeing and physical health. A separate UK-wide study found that mental health benefits of greenspace had been particularly valued during the pandemic by women, people of minority ethnicity, people in higher socio-economic groups and young adults (Olsen and Mitchell, 2020).

Factors associated with being less likely than others to visit natural spaces in the period April to June 2020 included: living in an area of high deprivation; having a low income; having a lower level of education; having a long-term illness or condition; being aged 65 or over; being from an ethnic minority group; and living in a household without children (Natural England, 2020c). There is similarity with the under-represented groups in nature visits prior to the pandemic (Boyd *et al.*, 2018).

Considering inequities in how people connected with nature during the first lockdown, a survey of 704 adults in the UK found differences according to neighbourhood type, age and other factors (Lemmey, 2020). Rural living was associated with high participation in simple nature engagement activities such as: watching wildlife; listening to birdsong; smelling wildflowers and photographing nature; in comparison with urban neighbourhoods and especially with those lacking nearby green space. Younger adults had the lowest participation in noticing nature by age, except by taking photos or videos of nature. During lockdown, adults continuing to go out to work were less likely to notice nature than other groups too.

## Greater inequity in 2020

Natural England (2020c) found certain factors were associated with increased inequity in contact with nature since the start of the pandemic. Having a lower level of education, a lower income or living in the most deprived areas were linked to the biggest drop in visits to natural spaces compared to usual. Ramblers (2020) also found that "COVID-19 has exacerbated existing inequalities in our access to nature and green space" (p.12).

A common concern about visiting nature outside the home in 2020 was fear of spreading or catching coronavirus (Natural England, 2020c). This may have disproportionately affected people more vulnerable to COVID-19 and those whose local nature-rich places were crowded. Supporting this proposition, Olsen and Mitchell (2020) found that use of outdoor and greenspace became more frequent among younger adults but declined among older adults during the pandemic, which could be due to coronavirus concerns and stronger 'stay at home' advice for the older age group.

Considering adults in England with gardens, a large majority appear to have valued this greatly during the pandemic, found it beneficial to their mental wellbeing and: "felt closer to nature through spending time in it" (Natural England, 2020c, section 6.2). This points to inequitable access to these benefits for those who do not have gardens, which disproportionately includes people living in poverty and people from ethnic minority groups (Natural England, 2020c). An international study found that lack of accessible outdoor space at home and lack of views of nature from the home were predictors of higher levels of depression and anxiety during lockdowns (Pouso *et al*., 2020).

For children, the People and Nature Survey reveals how coronavirus restrictions have increased inequity of access to nature for those aged 8 to 15 years (Natural England, 2020d). When surveyed in August 2020, 60% of children reported spending less time outdoors since the start of the pandemic. The data is more reliable than conflicting findings from Lemmey (2020) as Natural England (Natural England, 2020d) questioned children directly and with a more robust sampling method. Children from the lowest income households, children from ethnic minority groups and older children, 12-15 years of age, were particularly likely to have spent less time outdoors (Natural England, 2020d).

Simultaneously, programmed outdoor education opportunities, especially residential experiences, have been severely affected by the pandemic: overnight school trips have not been allowed since March 2020 in England. A recent survey of outdoor education providers shows that the financial impacts of being unable to operate during 2020 are likely to also limit future provision, with many having already sold assets (UK Outdoors, 2020). This will likely have an ongoing equity impact, with journalists reporting that: "some of Britain's poorest pupils – including those from city communities – are among those who stand to lose most." (Bawden and Quinn, 2020).

### Future intentions and opportunities

There is evidence of changed attitudes to nature and increased interest in environmental issues during the pandemic (Lemmey, 2020; Long, Gordon and Townend, 2020; RSPB, 2020b). Regarding biodiversity specifically, a survey by the RSPB and YouGov found that 4 in 5 people agreed that the COVID-19 pandemic "has shown the importance of protecting and restoring nature" (RSPB, 2020b, p. 6). The study also found strong support for improving access to habitats rich in nature.

The Ramblers (2020) report indicated that the pandemic has altered people's relationship with nature in the UK leading to desire for more contact with nature, particularly from certain population groups. "Younger people (aged 18-44) and people in urban areas were more likely to say that better walking routes, better maintained green spaces, more nature, more green spaces and a greater variety of green space would improve their quality of life" (Ramblers, 2020, p.10). This indicates that the needs of these groups are not met at present.

The recent data on equity in nature connection by gender presents ambiguity. Men seem to experience lower nature connectedness than women on average (Natural England, 2020a), but there is evidence that women spend less time in nature (Boyd *et al.*, 2018) and are more likely than men to want to spend more time in nature in future (Lemmey, 2020; Olsen and Mitchell, 2020), which perhaps suggests inequity for women in this regard. No studies were encountered regarding the experiences of transgender people or those of non-binary gender identities in opportunities for nature connection.

While the context of restricted travel in 2020 has emphasised the value of accessible neighbourhood nature (Ramblers, 2020), the case for equitable access to the national landscapes, such as National Parks and AONBs, is strongly stated in the independent *Landscapes Review* (Glover, 2019). Glover (2019) found that people from minority ethnic groups were particularly under-represented in National Parks, both as visitors and employees. The report noted inequality of opportunity to visit the national landscapes among children and indicated socio-economic barriers, also. The dominance of privileged population groups and their preferred ways to engage with the countryside can present National Park users as a closed group: "sometimes on our visits it has felt as if National Parks are an exclusive, mainly white, mainly middle-class club, with rules only members understand and much too little done to encourage first time visitors."(Glover, 2019, p. 15). Glover (2019) also advocated strategies for more inclusive use of the national landscapes for wellbeing. Regarding the Lake District National Park, which overlaps the geographical area of this study, the Chief Executive has expressed agreement with the need for action to better serve all of society. Leafe (quoted in Tubb, 2019, para. 18) stated an intention to broaden the appeal of the park to young people and people from ethnic minority groups and improve accessibility for people with mobility difficulties.

Glover (2019) also identified an urgent need for biodiversity restoration in the national landscapes. Glover also proposed expansion of volunteering and social prescribing in the national landscapes without specifically linking these activities to biodiversity restoration. A focus on nature connectedness could link the two. Likewise, Ramblers (2020) have commented on how the Government's Environment Bill includes strategies for biodiversity and environmental protections but is not focused on connecting people to nature or broadening access to nature thereby missing an opportunity highlighted by experiences during the pandemic. If policy and legislation do not particularly advocate for inclusive nature connectedness for ecological benefit, perhaps community nature engagement practice can go some way to filling this gap.

The ecological impact of developing opportunities for nature engagement across society could be considerable, given the research evidence that nature connection and "simple forms of engagement –

everyday acts of paying attention to nature" (National Trust and University of Derby, 2020, p. 29) are linked to nature conservation behaviours. Richardson *et al.* (2020) recommend: "For the transformational change required to address the biodiversity crisis, nature connectedness and simple engagement activities should be the lens for all other activities, from local initiatives to a policy level" (p.14).

There are signs of recognition of the mental health benefits of nature engagement in public policy in England, in launching government-funded pilots of "'green social prescribing'…to improve mental health and wellbeing in communities hardest hit by coronavirus" (Department for Environment, Food & Rural Affairs *et al*., 2020c, para. 1) and: "bring together opportunities for communities to get involved in their natural environment" (Department for Environment, Food & Rural Affairs *et al.*, 2020b, para. 4). Anna Jorgensen and Jake M. Robinson (2020) affirm the potential of this initiative but observe that people who could most benefit from green prescriptions may lack access to suitable neighbourhood nature environments and emphasise the need for a local approach to both needs and provision.

## Scope of the literature and opportunities for investigation

The literature review reveals inequities in nature access and nature connection nationally. Many of the studies have large sample sizes and some use demographically representative samples. Such studies provide a wealth of reliable, quantitative data and statistically significant findings. They are useful in tracking changes over time, such as through the monthly PANS datasets (Natural England, 2020b) and in broadly identifying some of the under-represented groups in nature connection across the UK. However, the specific barriers and opportunities for individuals and under-represented communities to connect with nature in the UK during 2020 are less clearly represented.

The reasons for a person experiencing disadvantage in engaging with nature may be highly individualised and location specific. For instance, experience of discrimination is an important consideration, as exemplified in the PANS finding that 1 in 20 adults was worried by "fear of encountering prejudice from other people" (Natural England, 2020c) when considering visiting natural

spaces. The problem is identified, but the addition of social, geographical and personal context, could better inform a solution.

Bias is introduced in selecting demographic groupings for research purposes: the identification of under-represented groups is limited by predetermined groupings inherent in the methodologies for large surveys. The intersection of multiple inequities is not always explored. An approach where individuals or communities identify their circumstances and barriers to nature engagement, without predetermined categories would be helpful and inclusive.

There is a lack of research into the effects of coronavirus restrictions on the closure or limitations of nature education, conservation volunteering, community growing projects and nature therapies with regards to possible exacerbation of inequity during this time and consequent wellbeing and ecosystem impacts. Furthermore, the impacts on local ecosystems of a legacy of inequitable engagement with nature are not apparent in the literature.

Altogether, this influences the choice of a local, qualitative, personalised approach to data collection for this study. Such a dataset could reveal narratives of inclusive community nature engagement, successes, barriers and current challenges and complement the existing literature.

# Methodology

## Approach

Qualitative data was identified as lacking in the recent literature, especially first-hand narratives of barriers and successes in addressing inequity in nature connection in specific place contexts, with a few exceptions (IWUN, 2019; Birch, Rishbeth and Payne, 2020). Qualitative research would allow rich data to be gathered within a small sample size. An initial idea of seeking participant stories through in-person fieldwork was curtailed due to coronavirus restrictions and replaced by planning a series of remote interviews with practitioners. The practitioners would present knowledge gained through their direct experience of facilitating nature engagement, and this evidence would be subject to their own frame of reference. So, an interpretivist stance was an appropriate starting point which would: "value people's subjective interpretation and understanding of their experiences and circumstances." (Leavy, 2017, p. 13).

As interaction with BOOM team progressed, the opportunity for a study with transformative elements emerged. A transformative paradigm has similarity with interpretivism in valuing the participant frame of reference. However, transformative research also prioritises inclusivity, a social justice purpose and co-development of the study by researcher, participants and other stakeholders (Leavy, 2017; Mertens, 2018). The social impacts of transformative research are sought by working collaboratively, empowering participants and valuing difference of experience. Transformative research is also characterised by the willingness of the researcher to be transformed during the study (Mertens, 2018).

This study has a central social justice motivation, in seeking to understand and address inequity in nature connection, and therefore the transformative axiology (Mertens, 2018) is fitting. The picture of nature connectedness is incomplete when viewed only or mainly through population-level statistics and remote surveys, and the experiences and different realities of local stakeholders in nature engagement are essential. In acknowledging this, the transformative ontological assumption "that there are multiple versions of what is believed to be real and that these beliefs are generated based on

multiple factors" (Mertens, 2018, p. 21) is accepted. However, in this study there is a clear focus on practitioner reflections and direct engagement with the underserved communities and individuals is largely absent. Therefore, a source of knowledge fundamental to transformative epistemology is neglected (Mertens, 2018). The legitimacy of the findings would be enhanced if first-hand experiences of underserved community members had been considered. Practitioners, as holders of some power and experience in nature engagement, give voice to their communities but have their own cultural lenses and assumptions. Acknowledging this limitation, attempts are made through the interview design to get closer to the realities of those experiencing inequity.

A specific method which influenced the research design is transformative evaluation (Cooper, 2014a; Cooper, 2014b). This is a "participatory evaluation methodology" (Cooper, 2014a, p. 147) developed for the context of youth work, which values young people's narratives of the most significant changes they have experienced as the central knowledge-base for evaluating practice. In this method, young people's stories are generated in conversation with youth workers, who analyse the stories and select their choice of the most significant ones to present to managers. In transformative evaluation there is a focus on stories of success (Cooper, 2014a, p. 149). Likewise, the current study sought to value the experience of practitioners embedded in the local community and to generate narratives of success in inclusivity; of significant places for nature connection and of how organisations have adapted to the circumstances of 2020.

Transformative evaluation provided inspiration rather than a completely transferable framework for this study. In transformative evaluation, the cycle of generating stories of significant change and reflecting on them is intended to be continuous, whereas the data in this study arises from a single conversation with each research participant. Also, this study does not consult the least powerful community members whereas transformative evaluation in youth work starts by listening to the young people. However, there is a parallel with the transformative evaluation process wherein "the process itself has the potential to enhance practice, improve outcomes "in the moment" and promotes organisational learning" (Cooper, 2014a, p. 146). Participation in this study provides opportunities for

facilitators of community nature engagement to reflect on their practice, identify successes and gaps in inclusivity and envision next steps.

## Procedure

Introductory conversations were held with members of the Back on Our Map project team regarding feasibility and impact of the research. Ethical approval was sought and gained from the University of Cumbria. BOOM Project Officers provided introductions to potential interviewees. The invitation to participate in the study included a participant information sheet (appendix 1), consent form (appendix 2) and a link to an introductory audio-video[2] about the study.

Interviews with 14 facilitators of community nature engagement were conducted by remote means over the period 30 November to 22 December 2020. Participants were provided with the main interview questions in advance. The interviews took place via Zoom, Microsoft Teams or telephone call according to participant preference. Interviews were recorded using the audio-video conferencing platform or a voice recorder application and recordings stored securely.

## Interview design

A semi-structured in-depth interview format was chosen (Leavy, 2017), with five main questions for all interviewees and various subsidiary questions selected from or adapted as appropriate within the interviews (appendix 4). The use of consistent main questions to lead the key topic areas for discussion allowed for comparison and integration of the data. The flexibility to select subsidiary questions during the interviews was appropriate to the differences in the organisations and their approaches, also enabling the researcher to respond to the interviewees in a conversational manner. The interview questions were largely open-ended, seeking to welcome participants' expertise and to limit researcher preconceptions from influencing their responses (Leavy, 2017).

[2] Available from the author on request

The question topics were devised and refined in four iterations (appendix 3) as follows:

(i) Questions drafted based on initial research questions.

(ii) Questions revised to elicit significant stories representing participant experience from the practitioner's viewpoint, inspired by transformative evaluation (Cooper, 2014b) and "object elicitation" (Willig, 2017, p. 211).

(iii) Questions edited to begin with more general questions and move to greater specificity (Roller and Lavrakas, 2015, cited in Leavy, 2017). Questions arranged as five main topics and sub-questions, to enable semi-structured interviews and conversational style.

(iv) BOOM project team members consulted on the relevance of the questions. Pilot interview conducted and final alterations made to the questions.

### Sampling

The BOOM project partner organisations, totalling approximately 30, were identified via BOOM internal documentation (University of Cumbria *et al.*, 2019). In consultation with BOOM project staff, 15 organisations were shortlisted to contact, using these criteria:

(i) Already, or soon to be, delivering BOOM project activities with the local community; and

(ii) having a significant role in facilitating community nature engagement in south Cumbria; and

(iii) geographical or participant remit not heavily duplicated by another organisation.

After seeking contact and consent to participate, a sample of 14 people representing 13 organisations took part in the study.[3]

[3] Two people from one organisation opted to take part to address the interview topics between them.

## Data analysis

The 14 interview recordings were labelled A to N for anonymity. Immersion in the data was achieved through active listening during the interviews and an initial review of all recordings. The recordings were then reviewed again and handwritten notes entered into pre-prepared tables, one for each of the five main interview questions, divided according to the associated sub-questions. Each table contained all 14 responses on a single sheet for ease of comparison. Each distinct relevant point of information identified in the recordings was noted, in abbreviated form but using interviewees' vocabulary as far as possible. Time points were noted for ease of retrieval of quotation and of information offered out of sequence with the questions.

Considering all 14 responses under a single sub-question heading as a 'data set', inductive thematic analysis was carried out by listing all themes identifiable in each data set (Tracy, 2013). Where any uncertainty was encountered in the notes, the recordings were accessed to check the original data. Similar themes were then grouped and relabelled to reduce the number of themes. The occurrence of the refined themes in each data set was frequency tallied to give an indication of the most common themes in each set of data.

The preliminary results of thematic analysis were shared with the BOOM project team, before combining with examples and quotations for presentation in the Results chapter.

## Further critique of the methods

With consideration to the transformative paradigm, members of the Back on Our Map project team were consulted at several stages in the research design. This first entailed familiarisation with the BOOM project aims and ways of working via BOOM project literature, online meetings and a field visit. This enabled development of a study with potential impact for BOOM and which respected the partnerships and communities upon which BOOM relies. Additional field visits to understand the work of BOOM and its partner organisations were desirable but became impossible due to coronavirus

restrictions. Opportunities to fully co-create the research with the BOOM project team were limited by this external factor. Further collaboration between the researcher and BOOM team members took place by email, telephone and online meetings concerning the scope of the research, the research design, interview sample and interview questions.

The direct involvement of people from under-represented communities in this research was desirable but was not feasible at the time of the data collection due to coronavirus restrictions. Advantages of the method of remote interviews with practitioners included capturing aspects of the experience of many more participants; reaching more organisations; and no travel impacts.

Using remote interviews participants were likely to be distant, spatially and affectively, from the experiences discussed. So, participants were invited to select an object representing a significant place for nature engagement and bring this to the interview to discuss (appendix 4). The intention was to aid memory and elicit a richer narrative, using the object as a prompt. Willig (2017) suggests that: "object elicitation can encourage fresh engagement with lived experience; thus, it allows the research to witness active meaning-making on the part of the participant" (p. 215) particularly by aiding: "expression of prereflective, felt dimensions of experience" (p. 213). Seeking feedback from the interviewees on effectiveness of this method might have been helpful.

Transcription of the interviews was deemed unnecessary as the thematic analysis did not require detailed linguistic analysis nor production of qualitative data from transcripts, beyond identifying common and occasional themes. Transcription was also not desirable because the conversational, semi-structured interview style led to considerable excess talk being recorded beyond the scope of the enquiry. Notetaking instead captured the relevant data appropriately, particularly because highly structured pre-prepared tables enabled interview data to be processed systematically.

The sample included nearly all of the organisations that were actively engaged with BOOM project activities in the community at the time of the data collection. The sample spans a range of organisation types. Their involvement with BOOM is ongoing and their remits include education, rehabilitation, recreation, conservation, forestry and community development. Represented within the sample are

public bodies, charities, a state school, a prison and a community interest company. Some work primarily with defined local communities, others with visitors. Their areas of operation relevant to this study are in the council districts of Barrow, South Lakeland and Lancaster; they include urban and rural settings surrounding Morecambe Bay. As such, the sample suitably represents BOOM project partner organisations and a wide range of nature engagement initiatives in the region.

Factors which may have influenced the high participation rate were:

- participants were members of a group structured by Back on Our Map project involvement, so common goals and working relationships with BOOM officers were already established.
- the introductory video supplemented standard written information for research participants. This provided a personal introduction suited to coronavirus restrictions and provided familiarity with the video interview format and interviewer.

## Personal Reflections

I am aware of the power and responsibility of a researcher in bringing others into interviews and analysing their words. As such I have sought to make my study transparent and collaborative, for example, by sharing the interview questions ahead of the interviews and making a short video to introduce my work to the participants. These things helped me to imagine the interview experience from a participant viewpoint.

My interpretation of the literature and interview data is likely influenced by my professional background in outdoor education and my own connection with nature, plus personal experiences of some forms of inequity and lack of experience of others. These experiences have developed my emotional and cognitive connection with the subject matter and shaped my social and environmental values. I also live in the area where the study takes place and have interacted with several of the BOOM partner organisations in some way prior to the study, accessing elements of their nature engagement provision. This familiarity with the research context from various angles is advantageous in understanding the participants' narratives and extracting a breadth of information from the literature. However, it also presents challenges in sticking rigorously to the evidence from the interviews and literature and avoiding folding my own experiences into the data. To this end, I have tried to make my analyses with close reference to specific data and literature and where I have expressed my own philosophy and subjective interpretation I have sought to make this clear.

Having enjoyed the privilege of further connecting with nature in my locality during the first lockdown, my earlier research piece (Lemmey, 2020) was constructed out of curiosity as to the extent to which this was a shared experience throughout the UK. In creating the current study my focus has shifted to inequalities more than commonalities. I sought a collaborative research opportunity with immediate relevance to practice and potential impact for underserved groups. The study participants have allowed me certain access to their communities, developed my understanding of social and ecological issues in my locality and supported my development as a researcher. As such the implementation of my study

has been a transformational process for me as researcher, a feature of transformative research elucidated by Mertens (2018).

# Results

Results are presented in sections corresponding to the five main interview topics.

## Section 1: Activities which connect people with nature

### 1.1 Types of provision

Interviewees provided a summary of their organisation's activities or provision which they perceived to connect people with nature. The data was categorised as listed, with examples, in table 1.

*Table 1: Provision by BOOM project partner organisations which connects people with nature*

| Activity / Provision | Examples |
|---|---|
| Conservation volunteering | Habitat management and species restoration (BOOM and other projects). Beach cleans. |
| Courses etc. | Traditional woodland crafts with overnight camping in woodland. Land management apprenticeship. Beekeeping club at a primary school. |
| Access to habitats | Nature reserves. Forests. Community gardens. |
| Citizen science | Species monitoring surveys. School and university student projects. |
| Print or online materials to inform visitors | A smartphone app to guide people to a certain habitat and inform about the ecology and social history of the place. |
| Walking trails and information about these | Walking route and nature information at railway stations around Morecambe Bay. Sculpture trail in Grizedale Forest. 'Greenwood Trails' walking routes in Rusland Valley. |
| Expert led activities | Guided walks to learn about butterflies, moths and wider ecology on Whitbarrow Scar. Coastal wildlife ambassadors: informal engagement. |
| Special events | 'Apple Day': Annual community event. 'Barrow Extreme Views': series of journeys in the natural and cultural landscape, involving food, art, speeches. |
| Membership benefits | Nature talks, newsletters. |
| Community gardens | Allotments allocated to community groups. Inclusive shared growing space and event space in an urban area. Park within a prison. |

1.2 Strategies for nature connection

Commonly mentioned features of the nature engagement provision were:

(i) Enabled through partnerships with other organisations, including charity, business and/or public sector organisations.

Examples:

- liaising with the local county council, rivers trust and others to set up voluntary conservation work in the community for prisoners (participant K);
- working with third parties to host events such as night sky walks, nature-related art exhibitions, bushcraft courses (participant N);
- providing training for leaders in school and community groups in nature engagement and conservation (participant B).

(ii) Combined engagement with local cultural heritage and nature.

Examples:

- traditional woodland crafts courses providing informal opportunities to learn about biodiversity, conservation management and watch wildlife (participants A & G);
- local journeys incorporating art and social themes as well landscape and wildlife (participant J).

(iii) A mental wellbeing focus.

Examples:

- promoting forests for relaxation (participant M);
- seeking referrals from local addiction recovery centre for volunteers (participant C).

Other features mentioned by several interviewees were:

(iv) A food and/or farming aspect.

(v) Wildlife watching

Involvement with art and artists plus overnight camps were other significant features of the provision reported by a few interviewees.

## Section 2: A significant place for community nature connection

### 2.1 Places for nature connection

Interviewees described a local place they perceived to be significant for nature connection and reflected on the benefits to people and nature.

The significant places were most commonly:

- water features e.g., stream, tidal bore
- high points e.g., headland, limestone scar
- woodlands
- community growing spaces in urban residential areas

The only other place identified was a restored historic building providing habitats for wildlife within a nature reserve.

### 2.2 Benefits to people

Interviewees identified perceived benefits to people of connecting with nature in these places. The benefits were categorised as in table 2.

*Table 2: Benefits to people of connecting with nature at the significant place described.*

| Benefits to individuals | Example quotes |
|---|---|
| stress relief and relaxation | Participant A: "I think it takes them away from everyday life" (10:45) and "…the word 'wellness' is used nowadays, and I think that's a classic example of people just relieving themselves of a bit of stress and relaxing" (11:01).<br><br>"…especially during covid, when people are sort of locked up, and are maybe feeling a bit isolated, to just get out and about and forget about things" (participant C, 15:39). |
| curiosity and learning | Participant F: "[on the guided walks] I'm getting bombarded with questions, so there's a lot of engagement, you know, you can sense that people are getting into it"(12:58) and: "I try to do a little bit of all-round education about just getting out and enjoying the countryside…if folk go back home and feel enthused and want to come back, I feel I've done my job" (14:05).<br><br>"Alongside the fresh air and exercise they're learning a lot….so, they've started to notice the insects, they've started to look at the plants that keep growing back and |

| | |
|---|---|
| | 'do we need to remove these?'…so it is a learning opportunity….and it can be done linked to the national curriculum…but it's child initiated" (participant I, 09:00.)<br><br>Participant G: "a lot of [course participants] have an idea about what they want to make…and it's then also trying to weave in where that product has come from, how we manage the woodland…and it's that whole interconnected sort of thing" (07:22) and: "a [traditional skills] course like that is two or three days…you're camping in the woods and it's a way of just connecting back with nature that a lot of people don't get nowadays"(08:48). |
| awe and beauty | "One thing that Morecambe Bay is famous for… is the grandeur of the views, and the huge skies…the fact that tide goes out so far but then you've got the Lake District behind…it's hugely picturesque…it has these amazing sunsets but also you get these great vantage points where you can see, and that's hugely important to people" (participant D, 12:00)<br><br>"Sometimes when everyone's left…I've just sat on my own in this part of the garden…and just took it in…it felt good…just looking at the different plants that have flowered…I suppose it's a similar feeling to when I'm up a mountain in the Scottish Highlands and I look around at the view, it's that sort of feeling" (participant C, 20:25). |
| pride and sense of place | "There was a thing about legacy that came up many, many times. People said [to children] 'we're planting this tree…and you can come back and look at this when you're older and you'll know that you planted that and it's been important'" (participant J, 19:13).<br><br>Participant L: "I think [local residents] feel a sense of ownership towards it because they use it daily" (07:37), and regarding visitors: "it's one of those places that people have a real connection to and it means a lot, you know, they've been coming for generations" (09:27).<br><br>"That picture [of the river] represents the heart of the village, really, and people value that place more than any other in our parish for their connection with wildlife and nature" (participant M, 09:55) |

| | |
|---|---|
| | "You can make a presumption about why somebody likes to come, because they like the view or they like the wildlife, but some people just like it…and they don't really know why…it might be the feeling it evokes…or that sort of sense of place that they get" (participant E, 13:12). |

Fresh air and exercise were commonly mentioned. These may be benefits of the wider outdoor experience rather than benefits of connecting with nature specifically. Shared and social experiences were also common features of engaging with nature at the significant places discussed.

2.3 Benefits to nature

Interviewees reflected on the ecological benefits of people connecting with nature at the significant place.

The following themes were noted:

- Changed attitudes to nature, interest in the place, wanting to take care of nature.
- Recruitment of conservation volunteers, and people independently taking caring actions for nature, e.g. litter removal, creating and restoring habitats.
- Generating funds for conservation.

The descriptions often included more than one of these themes.

Examples included:

(i) A sculpture trail in a forest encourages people to linger and connect with nature. Connecting with nature leads to wanting to protect the forest and supporting the organisation's work financially (participant N).

(ii) A local stream is a significant place for a primary school group to connect with nature. The children have de-culverted the stream and created dams to enrich the water habitat, which they are keen to maintain. New species of birds have been observed there as a result (participant I).

(iii) A local lake shore was a significant place for locals to connect with nature during the first lockdown. After lockdown eased there were more visitors and litter, but local people have been actively removing the litter (participant B).

(iv) Prisoners have chosen to develop a disused field into parkland as a place to exercise and connect with nature. This has created a richer ecosystem. Back on Our Map has been involved with reintroducing aspen trees (participant K).

## Section 3: New experiences of connecting with nature

### 3.1 New inclusion

Interviewees were invited to describe a recent example of when their organisation's activities included people who have not had much opportunity to connect with nature before. Demographic characteristics of the new participants were reported as follows:

- Urban residents, particularly young people, children and families
- Young people/young adults
- Having reduced mobility
- Having a specific neurological condition
- Black, Asian or minority ethnicity
- Prisoners and ex-offenders
- Recovering from addiction
- Refugees
- Blind or partially sighted

### 3.2 Strategies for success

The ways in which nature connection was successfully facilitated for these groups included, predominantly:

- Involvement of partner organisations such as a local council service or a charity linked to a particular population group.
- Skills development including in gardening, conservation, cooking and photography.

Other features of successful inclusion in nature engagement included:

- Free of charge activities and sometimes financial support.
- Guided walks designed for the needs of the group.
- Involvement with artists and art.
- Improved physical access to a site.
- Outreach to urban communities, e.g. exchanges between rural and urban primary schools.
- Community events with a deliberate inclusion focus.

### 3.3 Benefits

The reported benefits for the new participants included:

- Mental wellbeing: this was the most frequently reported benefit.
- Skills developed.

- Knowledge and confidence to make return visits to nature.
- Enhanced social connection with community/family.
- Other aspects of healthy lifestyle including fitness, healthy diet.
- Discovery and changed attitude to ecosystem or species.
- Satisfaction of contributing.

Specific examples best illustrate successful inclusion and a selection are included in table 3.

*Table 3: Examples of inclusivity in nature connection: what worked?*

| Group | Activity / Provision | How it was achieved e.g., partnerships | Reported benefits of connecting with nature in this way |
|---|---|---|---|
| Young people not in employment, education or training. | A woodland industry course involving skills in coppicing, charcoal production, forging metal tools. | An individual in the local county council facilitated links with the young people. Course delivery involved local forest skills trainers (community interest company). | Skills development, reduced anxiety, removal of usual pressures. Appreciation of woodland species diversity: "The comment that will stick with me forever…is one of the youngsters, later on in the day, saying: "There are different sorts of trees, aren't there?"" (participant A, 15:57). |
| Ex-offenders and people in recovery from substance addictions. | Volunteering opportunities to grow plants and maintain community gardens. | Referrals by local police officers. Referrals by wellbeing coaches from local addiction recovery centre (community interest company). | Mental health and addiction recovery. Participant C: "It's great to see people sort of lit up, when they come down [to the growing space] and feel good" (23:25) and "I asked [a new volunteer] yesterday what she felt about her first day. She said: '…it was great, it got me out of my own head. It's not something I would normally do. I didn't think it would have this effect on me, but it has' " (24:00). |
| People who have dementia and their carers. | 'Dementia Friendly Walks for All': weekly group walks in AONB. | Volunteer walk leaders trained by a charity specialising in dementia-friendly outdoor pursuits. Another local charity provided funding. | Reconnecting to sense of place. Confidence. Respite in nature for carers. |

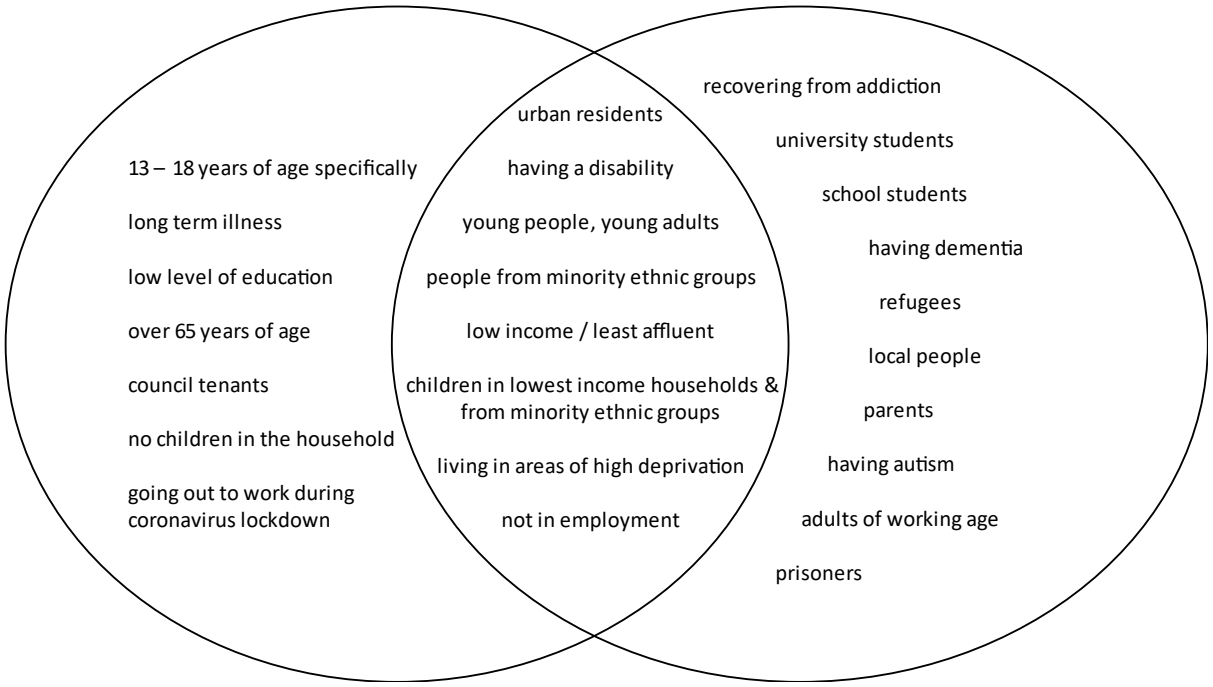
| Group | Activity / Provision | How it was achieved e.g. partnerships | Reported benefits of connecting with nature in this way |
|---|---|---|---|
| Families living in urban area of high deprivation. | 'Barra Night Life': inclusive community overnight event at a community growing space: nature, art, camping, food. | Free of charge and equipment provided e.g., camping kit. Welcoming, safe and special. Involving art installations, storytelling, wildlife walking, learning to harvest and cook wild and cultivated plants, sharing food. | Realising it was possible to engage with nature and that it need not be scary. Appreciating healthy, fresh and plant-based foods and how they are grown and prepared. Skills development. "Since then they've been back…the mum has become a vegetarian…she's brought a friend…they've got into it completely: they're people of nature now and the kids can run around and they're safe" (participant J, 24:58). |
| People with limited mobility. | Providing mobility scooter access via suitable path network linking a nature reserve and other areas. | 'Tramper' all-terrain mobility scooters funded by regional charity, which is another BOOM partner organisation. | Access to experience nature, confidence to journey further. |
| Children in urban areas, particularly from minority ethnic groups. | 'Wild Project' with primary schools: visits to nature followed up with engagement through art. | Outreach to schools in urban areas just beyond an AONB. Arranging educational visits to nearby nature. Funding artist visits to schools. | Enjoying a new experience, excitement and an introduction to countryside near home. "They were just awestruck, it makes you feel your work is worthwhile" (participant H, 20.05). "It is quite hard to encourage [new visitors from ethnic minority groups] to come, so hopefully by working with the schoolchildren they will go home and talk about it to their parents and bring them back" (participant H, 21:00). |

## Section 4: Current/next focus for inclusivity; barriers to engagement

### 4.1 Focus for inclusion

Interviewees commented on their organisation's current or future focus for inclusion, if any, and barriers to engagement they perceived. In figure 1, the populations of focus are compared with indicators of inequity highlighted in the literature review.

*Figure 1: Comparison of under-represented groups between literature review and interview data.*




*Left: Inequity identified in literature review* *Right: Focus of inclusion for BOOM partners*

In figure 1, the circle on the left lists the groups who are likely to be underserved in opportunities for nature connection, as indicated in recent research literature reviewed in this study. There is evidence of people in these groups either reporting lower nature connection or experiencing disadvantage in access to nature.

The circle on the right lists the population groups identified as a current or future focus for inclusion for the BOOM partner organisations.

In the centre, the under-represented groups according to the literature coincide with groups of focus for the BOOM partner organisations.

It should be noted that BOOM partner organisations in the sample may also reach population groups listed in the leftmost area of figure 1, albeit they were not mentioned specifically in the interviews.

4. 2 Barriers

Interviewees identified barriers to engagement of people from under-represented groups. These are presented in table 4. Their categorisation is a suggestion only, and some factors could sit within more than one category.

*Table 4: Barriers to engagement / challenges for inclusivity identified by interviewees*

| Societal factors | Personal factors | Geographical & infrastructure factors | Financial factors | Organisational factors |
|---|---|---|---|---|
| Needing a link person within the focus community | Maintaining engagement for people with significant personal challenges | Engaging urban residents when the organisation's sites are located rurally | Transport costs for participants | Representation of local community among organisation staff |
| Making links to young people who are not in a structure of education or work | Not everyone can commit to formal, regular volunteering | Inaccessible gates and stiles | Funding e.g. for outreach, for community growing space | Staff bias / assumptions |
| School visits have decreased | Mobility | Infrastructure such as toilets and refreshments | Staff time for outreach | |
| Coronavirus restrictions | Young people don't have the independence and resources to make return visits | | Access to suitable (waterproof) clothing for participants | |

## Section 5: Reflecting on community nature engagement in 2020.

### 5.1 Changes

Interviewees identified changes in who engaged with nature in 2020. The following changes were most frequently noted:

- More new visitors to nature.
- Greater appreciation of nature.
- Organisations' sites or the countryside in general were busy when lockdown eased (locals and tourists).

Greater connection with nature due to more repeat visits was also indicated.

Some organisations found their sites were underused, but this was a minority within the sample.

In contrast, reduced nature engagement through organised group activities was noted in many instances. This was largely due to legal restrictions and operational decisions related to the pandemic, but also some organisations found that volunteers particularly older adults, were less keen to participate due to coronavirus concerns.

### 5.2 Challenges in 2020

The most frequently expressed challenges regarding community nature engagement in 2020 were:

- Coronavirus restrictions and concerns.
- Reduced/cancelled practical volunteering.
- Issues with effectiveness of online engagement.
- Reduced/cancelled guided walks, outreach talks, courses and community events.

Other challenges included:

- Less funding available during the pandemic.
- Reduced partnership working opportunities.
- Visitor behaviour, specifically: problem parking, dog control, fires, litter and fly camping.
- Uncertainty due to the pandemic.
- Pressure on staff and emergency services due to accidents including those involving people new to outdoor adventure activities.

### 5.3 Approach to changes in 2020

Above all, the approaches taken were:

- Improved online provision.
- Adapted and continued practical nature engagement as far as possible within coronavirus restrictions and guidance. The interpretation of this with regards to permissibility of group activities e.g., conservation volunteering, varied across the sample.

Some interviewees also mentioned that they:

- Used time during lockdowns for developing future nature engagement provision.
- Improved infrastructure at their organisation's sites to serve increased visitor numbers.
- Introduced COVID-19 related therapeutic provision at their sites.

### 5.4 Sustaining nature connection in 2021 and beyond

The common themes were:

- Intention to increase or continue involvement with BOOM.
- How to welcome and inform new visitors, prompted by experiences of summer 2020.
- Extending partnership working, especially with regards to mental health support through nature engagement.
- Maintaining and developing aspects of new digital provision established in 2020.

Additional themes were:

- Developing provision for young people.
- Developing provision for people with disabilities.
- Opportunities in light of new government policies.
- Developing an outdoor classroom and simple residential facility.
- Doing more with schools.
- Introducing micro-volunteering opportunities.
- The ability of some organisations to sustain the legacy of BOOM beyond the project period, particularly through skilled, engaged volunteers.

# Discussion

## Facilitating nature connection

Interviewees first discussed their organisations' nature engagement provision generally. The data in table 1 provides evidence of a wide range of activities across the BOOM project partners. Some are highly structured, expert-led activities such as guided walks and courses. In contrast, other provision facilitates self-led experiences such as nature walks prompted by a smartphone app or simply access to nature-rich areas. In some cases, there was long term engagement such as through membership or regular group activities to develop a park, allotment or wilder habitat. In contrast, some activities were single or annual events. Each type of engagement might appeal to different people.

Most interviewees mentioned some form of voluntary practical conservation activity such as beach cleaning, species monitoring, growing plants for BOOM and habitat management, indicating the direct ecological benefits of certain nature engagement provision.

The provision and themes within it (section 1[4]), largely do evoke ways of interacting with nature which match one or more of the pathways to nature connection: "senses", "emotion", "beauty", "meaning" and "compassion" described by the Nature Connectedness Research Group (2020, p. 4) and previously identified by Lumber, Richardson and Sheffield (2017). The pathways are also apparent in most of the examples of new connection with nature in the data (section 3).

Social interaction and shared experiences were commonly linked to connecting with nature, such as when discussing new engagement with nature (section 3.3) and significant places for nature connection (section 2.2). Participant B explained as follows: "When I was walking over there the other day, I saw a green woodpecker…so I talked about that when I got back…I think sharing that, it helps you remember it, as a special thing… I think also, when you are there and there's other people around and you're enjoying the outdoors, I think when you're talking to people then and swapping what you've seen, then, yeah, I would suspect that that increases the connection [with nature]" (participant B, 08:54).

[4] Data presented in the results chapter is referred to by section number throughout the discussion.

Furthermore, the social context of nature experiences may be linked to enhanced conservation action, as Richardson *et al.* (2020) noted: "…talking with friends and family about nature emerged in our study as a significant predictor of pro-nature conservation behaviour" (p. 12). In the interviews, social experiences were also often presented as a wellbeing benefit of the inclusive nature engagement activities, such as through opportunities to be around people in an informal setting, inter-generational bonding in families and developing community spirit.

Some types of provision are aimed at the local community, such as in community growing spaces and weekly conservation work parties. However, many of the BOOM organisations operate in places such as the Lake District National Park and an AONB which also attract many visitors, such as leisure visitors and educational groups. Balancing provision to assist both locals and visitors to engage with nature and to address unequal opportunities within each group is a complex task. It is apparent in the data that BOOM partner organisations have differing remits and resources to contribute to this.

### Identification of equity issues in nature connection

The literature indicates many groups of people who are more likely than others to experience inequity in nature connection. Several of these groups were also identified by the research participants as groups of focus for inclusion in their nature engagement provision (section 4.1). These are: urban residents; people with disabilities; young people; people experiencing mental health problems; people from minority ethnic groups; residents of areas of high deprivation and people in the lowest income households. However, some other under-represented groups in nature engagement inferred from the literature were never or rarely mentioned as such in the interviews. These include people over 65 years of age, people in their teenage years and adults with a low level of education. This could indicate gaps in inclusive provision across the locality or that these groups are perceived to be already well served.

The data exhibits BOOM partner organisations' expertise in facilitating inclusion in nature engagement for a range of under-represented groups (section 3.1). BOOM partner organisations tend to target more

specific groups than the broader underserved groups identified in the literature. Examples include people with dementia, families in a specific urban area of high deprivation, people with visual impairments, refugees and people in recovery from addiction. In the interviews, the rationale for supporting any given group was not fully explored but seemed to vary between strategic and circumstantial. Sometimes there was a personal link, an approach from another organisation or a funding opportunity. In other cases, there was a clearly identified need in the local or visitor community. For example: "We are very much about those that would be socially excluded…those people with least money, least opportunities. There are a lot of people like that in [this urban area]" (participant J, 19:01).

When considering who may experience inequity in nature connection, neither the prior research evidence nor the new data is comprehensive: certain population groups who have experienced inequity in other aspects of UK society did not feature in the interviews nor were they identified in the literature review within the population-level studies of nature connection. Lesbian, gay and bisexual people's experiences of nature connection are obvious omissions. There are many other minority groups who also do not specifically appear in the literature reviewed, nor the interview data, though they may fall into the broad categorisations often found in the larger studies. In nature engagement inclusivity work and further research, it would be reasonable to consider that any minority, marginalised or historically disadvantaged group might be underserved.

Any study of inequity should consider intersectionality. This evolving theory considers the combination of multiple injustices and the power structures which create them (Carbado *et al.*, 2013). It can be useful to consider the characteristics of the most privileged group to discern the multiple inequities experienced by others. For example, using the findings of Glover (2019), where the privileged group in engaging with the national landscapes is "mainly white, mainly middle-class" (p. 15) then people who are neither 'middle-class' nor white are especially disadvantaged. Plus, older, white, men are overrepresented in the power structure of National Park management (Glover, 2019) indicating further disadvantage for young women of minority ethnicity.

Concerning inequity in nature connection, urban residency intersects with minority ethnicity, as both are associated with disadvantage in opportunities for nature connection. Furthermore, people from ethnic minority groups are more likely than white British people to be urban residents (Office for National Statistics, 2013). The data presented (section 4.1) could help identify other possible intersections of inequity. Multiple inequities were acknowledged by certain interviewees, particularly those for whom social justice and/or working with marginalised communities is central to their work. In other instances, the differences of opportunity within a given population group were not discussed, so there is the possibility of unconscious exclusion. For example, over-65s were perceived to be well represented in conservation volunteering but the extent of inclusivity with regards to socio-economic status, ethnicity or gender within this group was not clear.

Age is a highly significant factor in nature connection, with the lowest nature connection by age coinciding with adolescence (Natural England, 2020a). Young people specifically in their teenage years and young adulthood were identified as a focus for engagement by just a few of the interview participants, whereas younger children and families were often mentioned. Hohnen, Gilmour and Murphy (2020) explain that during the psychological restructuring of adolescence, the human brain is "orientated towards five priorities: peers, self-identity, independence, emotionally driven learning and novel experiences" (p.28); this differs from other stages of life. Therefore, activities which suit younger children and older adults may be unappealing to teenagers and young adults. Considering the provision summarised in table 1, some activities are probably too guided or prescribed to best appeal to the adolescent group, whereas others have more potential for young people to take a lead, take risks and connect with each other alongside connecting with nature. Despite the apparent regain in nature connection later in adulthood (Natural England, 2020a) it is justifiable to address the lower nature connection associated with adolescent years, considering the current youth mental health crisis (Centre for Mental Health, 2021) and the urgency of pro-conservation actions requiring the fullest participation of society, as outlined in the introduction. Restrictions during the COVID-19 pandemic have had serious

psychological impacts on young people especially (Princes Trust, 2021). There is evidence that nature experiences can be therapeutic for this age group (Birch, Rishbeth and Payne, 2020) and so, perhaps, nature engagement opportunities can be part of the mental health recovery from the pandemic for young people. With regards to age, although nature connection appears to be much higher throughout older adulthood, it should be noted that inequality of opportunity to engage with nature for over-65s is also indicated in the literature yet was rarely mentioned in the interviews (section 4.1).

### Barriers to nature connection

Whilst many barriers to nature engagement were identified in the existing literature, such as lack of walking routes near home (Ramblers, 2020) and poor health (Boyd *et al.*, 2018), the new data served to highlight additional issues perceived by the interviewees from their experiences as facilitators of nature engagement (section 4.1). For example, the difficulties in linking urban young adults not in education, employment or training with rural experiences and the reduction in funding for inclusion initiatives in the uncertain context of 2020. All interviewees readily identified groups they would like to reach in future, for example: "there are large areas of our catchment we want to do more with for example, [a certain site] is less than ten minutes away from one of the five most deprived wards in Cumbria but that's not necessarily reflected in the makeup of our visitors" (participant M, 23:17). The list of barriers in table 4, may be of use to organisations in considering barriers to nature connection for the communities they aim to serve, but is not comprehensive.

Organisational factors which could influence inequity were acknowledged in only two of the interviews, with one participant describing tackling cultural bias in the design of a nature engagement initiative and another explaining that: "we want to improve our inclusion and diversity more widely, across our business, to make better decisions to serve the community we operate in. So, this could be across recruitment, for example. Our operational roles are quite male dominated…we have got [an engagement programme] which is seeking to make practical changes to increase opportunities for women" (participant M, 23:54).

Institutional or systemic sources of inequity such as severe lack of diversity in management teams are discussed by Glover (2019) regarding the national landscapes but are likely transferable to other organisations involved in facilitating nature engagement, as indicated in the charity sector (Lingayah, *et al.*, 2020), for example. Mya-Rose Craig (2019) points to unconscious institutionalised racism in nature conservation, nature media and environmental organisations and explains how underrepresentation of "Visible Minority Ethnic" (para. 1) people in nature media influences nature engagement in the UK. In the UK there is great underrepresentation of people from minority ethnic groups in nature conservation jobs, conservation role model positions and on higher education courses (Hoare, no date). All of these factors present barriers to engagement with nature for people of minority ethnicities in the UK.

Youth and socio-economic status intersect as indicators of inequity in nature connection (section 4.1). Hoare (no date) discusses how selection processes for employment in the conservation sector have long excluded young people from low-income backgrounds, for example: due to the extensive unpaid work experience typically required; and details the steps some nature-related organisations have taken in recent years to address equitable recruitment. Several interviewees indicated that they would like to include more young people in volunteering with BOOM and other nature conservation work. Yet, with greater youth unemployment caused by the pandemic (Francis-Devine, 2021) along with the urgency of nature restoration, there is also a clear need for more paid work for young adults in conservation. The Green Recovery Challenge Fund presented one avenue to generate some of this employment but it is a limited commitment to biodiversity restoration.

### Strategies for inclusive nature connection

In most cases, one approach appears to underpin the success of the inclusion initiatives. This is the creation of new nature engagement offerings starting from the needs of the action group, as opposed to assuming people in under-represented groups want, are able, or feel welcome to access existing provision. As participant E described it: "…being more inclusive is, first of all, I think, making links with

organisations who already work with those communities…speak to people who are already working with those communities and then use that as an opportunity to say, 'what do you want? This is a resource, potentially. How would you want to use this resource?'" (30:30). Therefore, overall, identifying the needs of a particular under-represented community by communicating with its members or representatives is a key part of addressing equity issues in nature connection. In most cases in this study the way this was achieved was via partnership working: often a locally specific strategy enabling relationships with underserved communities and individuals. However, the national picture is important for those organisations who cater partially or mainly to visitors from beyond the local community. The population-level data from the literature helps identify broadly which groups are underserved (section 4.1) and could be a reference point for organisations to audit who may be missing out on their services and to make new partnerships.

Themes in successful inclusion initiatives are identified in section 3.2. Besides partnership working, another dominant theme was skills development, not necessarily through formal courses. Often learning a related skill provided a reason to engage more closely with nature. Interviewees indicated that courses and informal learning opportunities developed confidence for repeat visits, a sense of belonging in nature and opportunities for wider experiential learning about the nature. Discussing this type of provision, some relevant quotes were: "we do get people who… get 'switched on' to it…they want to go back again" (participant B, 17:27); "I feel sometimes that people who don't know about nature feel that they shouldn't be out in it…which is completely wrong…so I think it's really nice to have activities like that the people can take part in whether they know anything about nature or not" (participant L, 13:08).

Another theme in successful inclusion examples was connecting urban communities with nature. To reach urban populations the organisations were often either based in urban residential areas or took outreach to the urban areas. Participant F described: "we work with local authorities to persuade them…to have a community group who adopt a brownfield site and turn it into a really nice community facility, in terms of wildlife" (26:38). Alternatively, they found ways to enable participants to travel to

a nature-rich place, often in the nearest national landscape to the particular urban area. “Clearly, [these young people] had never experienced being out of [the city] at all, from what they were saying” (participant B, 16:23).

The examples of inclusion tended to be highly tailored to the group of focus and place in which to connect with nature, illustrating what can be achieved with local knowledge of both nature and community. Mostly they required considerable staff time in the setting up and operating of the initiatives. Difficulties in funding for inclusivity particularly during the pandemic (section 5.2), and also time allocation for outreach work within some organisations (section 4.2), were identified. It can be surmised that achieving equity in nature connection regionally and nationally will require greater local resourcing.

### Place-specific nature engagement

The literature on nature connection indicates that connectedness can be developed through certain types of interactions with nature (Lumber, Richardson and Sheffield, 2017; Nature Connectedness Research Group, 2020). Nature engagement initiatives such as *30 Days Wild* have successfully promoted transferable activities for connecting with nature, generic enough to take part in across many locations (Richardson, McEwan and Garip, 2018; McEwan *et al.*, 2019; National Trust and University of Derby, 2020). However, less evidence is available on what sorts of habitats and places are most conducive to nature connection and for whom.

The data in this study (section 2.2) exemplifies the importance of locally-valued, nature-rich places, for contact with nature but also in creating meaning, compassion, emotion and aesthetic appreciation, as per the pathways to nature connection (Lumber, Richardson and Sheffield, 2017). For example, interviewees expressed that local culture and sense of place are ways people attach emotion and meaning to specific natural places (section 2). The places that interviewees identified as significant for community nature connection were generally those iconic to the local landscape, such as the limestone scars, water features and woodlands of south Cumbria and the peninsulas around Morecambe Bay, but

also the community gardens and growing spaces which people care for, and a building of cultural significance which is also a wildlife habitat.

Place-responsiveness values holistic learning through experiences arising from a specific landscape, developing a sense of place through repeat visits, stories and artistic interpretation of experiences (Brown and Wattchow, 2016). Something similar in the data could be the example of a pilot nature engagement initiative for a group of refugees, working with a local arts charity to use film and digital media to explore a specific woodland, through a series of visits, and generate personal stories of this place (participant N). Another example may be the series of curated journeys described by participant J, with meals and storytelling inspired by nature, culture and landscape, at points along each journey.

Narratives of inclusivity initiatives in the interviews also tended to include strong elements of place (section 3). Regarding new nature engagement with nature participant B reflected: "this is speculation really but I would say if [participants in a nature engagement programme] can do something where they are, if they can walk to a local wood or a local park and learn more about that and connect with that place more, then they're more likely to continue going out" (20:59). This highlights the importance of locally knowledgeable organisations in connecting underserved communities with nature.

Opportunities for inclusivity in nature connection are place-specific because the inequity issues in the community, the types of landscape and habitats, the restoration needs of nature and the facilitating organisations are also unique to each locality. Even serving under-represented visitor groups could involve encouraging repeat visits, promoting artistic interpretations and offering opportunities to participate in nature conservation and restoration. This could provide belonging and a sense of place, leading to compassion for nature in a specific area. One example of a place-responsive nature engagement programme structure with conservation outcomes and the possibility to address inequities in nature connection is the *John Muir Award* (John Muir Trust, 2019).

## 2020 context

The coronavirus pandemic was the driver of substantial changes in nature engagement as seen in the literature (Lemmey, 2020; Ramblers, 2020; RSPB, 2020b). Overall, interviewees reported increased informal nature engagement and nature appreciation from locals and visitors and in some cases unprecedented visitor numbers to the organisations' sites in south Cumbria during summer 2020. The data shows awareness of the challenge and need for communication with new informal visitors to the countryside, to provide appropriate information and facilitate engagement with nature and conservation issues.

Most interviewees indicated (section 5.2) that organised group engagement such as conservation volunteering, guided walks and outreach was significantly reduced or stopped altogether during 2020 due to social distancing concerns and other practicalities, even when legally permitted. Considering that the examples of inclusion (table 3) were largely in-person facilitated group activities, the types of initiatives designed to address inequities in nature engagement were generally those reduced during the pandemic. The pandemic context also led to reduced partnership working opportunities, and a reduced availability of funding, according to the interview data (section 5.2). Both of these will very likely have impacted inclusivity work.

The situation prompted innovations, particularly in online engagement, among the BOOM partner organisations (section 5.3). In some cases, there was evidence of significantly greater online engagement. For example, increased website visits (participant H) and reaching much larger audiences by giving talks and presentations online (participant G). Interviewees noted that they had not yet determined whether these provisions also reached a greater diversity of people. Most interviewees who had expanded digital provision intended to maintain aspects of this in future, to reach more people, to reduce staff travel time and to inform visitors ahead of independent visits to nature. These developments present opportunities to communicate nature connection opportunities to new users

and different audiences and to actively address inequities, although digital exclusion also presents challenges in that respect.

Among the sample, there was interest in supporting mental health through nature engagement in future (section 5.4). The most frequently reported perceived benefit to people newly engaged with nature was mental wellbeing (section 3) and stress relief and relaxation were major perceived benefits of connecting with nature generally (section 2). Such benefits are extensively supported in the literature (White *et al.,* 2019; Jones, 2020; Martin *et al.,* 2020). Of particular relevance to the Back on Our Map project, there is substantial evidence of psychological benefits of nature conservation and community horticulture programmes, for people both with and without mental illness diagnoses (Bragg and Atkins, 2016). In *The BMJ Opinion* blog recently, Selena Gray and Alan Kellas (2020) advocated for "nature based interventions…as part of the therapeutic offering for rehabilitation, post-traumatic stress, and burnout" in society's recovery from the COVID-19 pandemic recovery. They specifically mentioned conservation volunteering as a suitable therapeutic opportunity and indicated the health of nature and people as linked concerns which could be both addressed through nature restoration. This highlights an opportunity for the BOOM project and partners.

Most interviewees stated either that their organisation was already delivering Back on Our Map project activities or expressed keenness to increase involvement with BOOM and species restoration, with some describing their organisation's ability to sustain the legacy of BOOM beyond the project timeframe. The anticipated lifting of coronavirus restrictions in the UK during 2021 seems like an opportunity to harness enthusiasm for nature and address the urgent biodiversity crisis through greater inclusion in nature restoration activities.

### Why inclusivity in nature connection matters

The pandemic context has highlighted how people value and connect with local and urban nature, as well as popularity of the national landscapes. The research paradigm takes an ethical stance which promotes equality and elevates the needs of marginalised communities, in this case towards equality of opportunity to connect with nature.

Both in the literature and interview data, the ecological benefits of nature connection are less prominent than the human wellbeing benefits. Yet, the biodiversity crisis is urgent in the UK and the literature indicates that nature connection is associated with pro-nature conservation behaviours (Richardson *et al.*, 2020). The results of this study identify changed attitudes to nature, increased volunteer recruitment, conservation funding and independent actions to care for nature (section 2.3) as ecological benefits of people's nature connectedness, particularly through place-specific nature engagement. This situates nature connection as an important phenomenon to inform the work of nature engagement facilitators such as the Back on Our Map project partners. Place-responsive programming and the social context of nature engagement discussed in this study may complement the pathways to nature connection identified by Lumber, Richardson and Sheffield (2017) as features of nature engagement which foster psychological nature connection. These present opportunities to further promote nature connectedness in nature engagement practice, acknowledging its association with both human and ecological wellbeing.

Ultimately, the biodiversity crisis and other environmental problems are so urgent, large, and dependent on humanity to address, that society can ill afford for nature connection to be the privilege of certain groups in society. Overall, it is notable that many of the groups under-represented in opportunities to connect with nature also experience inequities in health, employment, housing and more, and that prior research indicates those with lower wellbeing may benefit most from nature connection (McEwan *et al.*, 2019). In the interests of social justice and ecological restoration, the opportunities and benefits of engaging with nature should be available comprehensively across society.

### Evaluation of the study findings

The credibility of the study findings is supported by the systematic but collaborative approach to data collection and thoroughness in the analytical methods, transparently presented in this document[5]. Some degree of validation (Leavy, 2017) of results and methods has been provided by BOOM project

[5] See Methodology section

team members at various stages and by some participants who communicated that the structured reflection on practise had been useful or had prompted thought about next steps in the organisation's inclusion strategy. Ultimately, validity will be determined by the BOOM team and partner organisations and in how they may choose to implement the recommendations.

The research and therefore the findings are heavily place-linked. Some characteristics of nature engagement provision and participation revealed by this study are linked to the Morecambe Bay landscape, local ecosystems and communities and so any generalisation of findings to represent the regional or national picture should consider this.

The methodology failed to capture personal experiences of barriers to connecting with nature as it did not directly engage members of under-represented communities, other than by chance that any research participants discussed personal experiences of inequity.

# Conclusions

## Findings

*How the BOOM partner organisations facilitate nature connection:*

The BOOM partner organisations in the sample provide a wide range of nature engagement opportunities, most of which are likely to develop nature connectedness via the pathways identified in the literature (Lumber, Richardson and Sheffield, 2017). The interview data indicates that social context may also be important for nature connection, such as in opportunities to share and discuss nature experiences; cultural significance of local nature-rich places; sharing food which is grown locally; creative and artistic interpretations of nature. Furthermore, the data suggest that place-specific characteristics are important in planning nature engagement provision to develop nature connectedness, supported by the literature (Brown & Wattchow, 2016).

*Ecological and wellbeing implications of this provision:*

Certain nature engagement has direct ecological benefits, such as involvement of new volunteers in BOOM activites, plus other examples in the data. Furthermore, provision which develops nature connectedness may have ecological benefits via changed attitudes and pro-nature conservation behaviours (Richardson *et al.*, 2020).

Results confirm widespread recognition of mental wellbeing benefits associated with nature engagement among the BOOM partner organisations and there is experience in facilitating informal therapeutic provision and significant interest in developing this beyond the pandemic.

*Who is disadvantaged and perceptions of the barriers experienced:*

According to both the study data and recent literature: urban residents; people with disabilities; young people; people from minority ethnic groups; residents of areas of high deprivation and people in the lowest income households are under-represented groups in terms of nature connection, nature

engagement or access to nature. Further groups are indicated in the literature and some more specific groups were identified by BOOM partners.

Interviewees identified a range of barriers to engagement with nature due to societal, personal, financial and geographical/infrastructure factors. Organisational or systemic barriers to inclusivity were rarely identified in the interviews, but recent literature suggests prevalence of such in the national landscapes (Glover, 2019) and in the charity sector (Lingayah, *et al*., 2020). Evidence of identifying and addressing intersections of disadvantage in engaging with nature, not based on a single demographic characteristic, varied across the sample. Some organisations routinely tackle the inequities of multiple deprivations in their nature engagement work, these tended to be those which serve a particular local community.

*Strategies for inclusivity in nature engagement:*

The BOOM partner organisations in the sample collectively have expertise in reaching many of the nationally underserved groups in nature engagement and some have a key role in social justice in nature engagement within their local communities.

Partnership working to enable bespoke provision for underserved groups is a central component of inclusive nature engagement, with skills development another common feature, and urban outreach; free of charge activities; creative arts; physical access and inclusive community events being other themes in nature engagement provision designed to address inequities.

Development of virtual engagement offerings during 2020 has enabled organisations to communicate nature connection opportunities to new users and larger audiences.

*Changes to nature engagement during 2020:*

The data indicates that conservation volunteering and group nature engagement programmes have been severely limited during the coronavirus pandemic. This situation in 2020 seems to have particularly impacted inclusivity initiatives in the nature engagement sector via reduced partnership

working; reduced availability of funding; and reduced in-person facilitation of group experiences. Thereby, inequities in nature connection have likely been exacerbated by the pandemic, as also indicated in national data (Natural England, 2020c).

Generally, there was an indication of high visitor numbers, particularly new visitors, to nature sites in the study region during the easing of coronavirus restrictions in summer 2020 (section 5.1). This is supported to some extent by Lake District National Park data (2020). The data clearly indicated awareness of the challenge and need for communication with new independent visitors to the countryside, to provide appropriate information and facilitate engagement with nature and conservation issues (section 5.4).

### Recommendations

These recommendations draw together examples of good practice, opportunities and possible gaps in addressing inequities in nature connection. They largely arise directly from participants' knowledge, captured in the primary data, along with existent literature, but do also include the researcher's subjective interpretation. The recommendations may be useful to BOOM partner organisations and other organisations with a role in facilitating community nature engagement or to the BOOM project team.

- The anticipated lifting of coronavirus restrictions in the UK during 2021 presents an opportunity to harness enthusiasm for nature and address the urgent biodiversity crisis through greater inclusion in practical nature restoration activities such as the Back on Our Map project.
- Organisations could also mobilise their collective expertise in nature engagement for wellbeing to address mental health inequities as the UK emerges from coronavirus restrictions, seeking further partnerships for green social prescribing in the region.

- As the data indicates that group nature engagement programmes have been greatly limited by the pandemic, and this tends to include much of the provision with an inclusivity focus, reinstatement of such should be prioritised as soon as safely possible.
- The BOOM project and its partners could further develop provision which addresses inequities in nature connection and has explicit wellbeing aims at the same time as having direct ecological benefits such as species restoration.
- For organisations operating in popular landscapes for visitors, there is a likely need to plan to welcome more new visitors with limited prior engagement with nature and facilitate their connection with nature as coronavirus restrictions ease during 2021.
- There is scope to develop further collaboration among organisations with a role in facilitating nature engagement in the south Cumbria and Morecambe Bay area, towards an explicit goal of addressing inequities in nature connection, for example in sharing of practice and identification of gaps in provision. The population level data from the literature helps identify broadly which groups are underserved by nature engagement opportunities nationally and could be a reference point for organisations to audit who may be missing out on their services and to make new partnerships.
- To engage people from the underserved communities not yet reached, organisations should continue to develop partnerships which seek the perspectives of the underserved persons and address their specific preferences and access needs for engaging with nature. There are many examples of successful practice in the data.
- There are possibilities to establish greater dialogue with under-represented groups through digital communications, building on innovations during the pandemic. Digital media could be used to highlight information and frame experiences to suit the preferences of under-represented groups and the needs of people newly engaged with nature. However, digital exclusion is an equity concern and care should be taken to maintain alternative sources of information and communication in addition to digital.

- Further consideration of multiple barriers to engagement and intersectionality in consultation with underserved groups and individuals, in the local community or among visitors as appropriate to the organisation, may be helpful. Seeking external perspectives on systemic/organisational factors in inequity may be appropriate.
- Young people aged 13-18 experience the lowest level of nature connection by age (Natural England, 2020a) and there is scope for more nature engagement provision appropriate to their developmental priorities and motivations (Hohnen, Gilmour and Murphy, 2020). Pursuing funding for employment opportunities for young people from disadvantaged backgrounds in nature restoration roles could assist BOOM partners to contribute to sustaining the impact of the project and addressing elements of inequity in nature engagement.
- Place-responsive nature engagement opportunities which encourage repeat visits from underserved groups within and beyond the local community could facilitate belonging, a sense of place and compassion for nature in a specific area. These could involve creative arts, engagement with cultural heritage and further opportunities to participate in nature restoration in locally significant, accessible places such as coasts, post-industrial landscapes and urban wilding projects.
- There is willingness and capacity within the sample of partner organisations to implement and sustain BOOM activities: opportunities should be taken to embed inclusivity in the project legacy.

### Suggestions for further research

There is scope for further research into gender inequity in nature connection. In future research into nature connection it would be helpful to consider a greater range and specificity of underprivileged groups. A personalised approach to identifying barriers to nature engagement which better acknowledges intersectionality could be taken in further qualitative studies. Further research in the transformative paradigm could elevate the perspectives of the underserved groups on what works in terms of nature connection and nature engagement and on systemic barriers to nature engagement.

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Appendix 1: Participant Information


# Participant Information

**Title of Study:** Connecting with nature in 2020: who did, who didn't, and why it matters.

A review of recent evidence, policy and practice in the UK, with insights from Back on Our Map project partners in Cumbria.

## About the study

The research, seeks to explore inequality in UK residents' connection with nature in 2020, in the context of the COVID-19 pandemic, and to identify opportunities for greater equity of access to and connection with nature.

The study includes a review of recent research and relevant policy, focusing on England and south Cumbria particularly. Practitioner experiences from Back on Our Map project partners will be valuable in exploring current practice, challenges and opportunities in engaging people from underrepresented groups with nature.

Overall, the research goal is to contribute to addressing any inequities of nature connectedness in the UK by offering insight into the *status quo* at the close of 2020.

### Some questions you may have about the research project:

**Why have you asked me to take part and what will I be required to do?**
You are invited to take part in an interview with the researcher via online video call (or audio-only if you prefer). You will be invited to share your knowledge of connecting people with nature through your work with a partner organisation of the Back On Our Map project. You will be asked about your experience of successes and challenges in engaging people from underrepresented groups and changes in engagement in 2020.

The interview will be structured with a few planned questions which you will be provided with in advance of the interview. These may be followed by a short discussion to follow up on any points of interest and you will have the opportunity to add other information or ask your own questions. The interview need not take longer than 20 minutes unless you wish to speak in further detail.

**What if I do not wish to take part or change my mind during the study?**
Your participation in the study is entirely voluntary. You may decline to be interviewed or withdraw from the study without giving a reason. You may withdraw from the study until 31 December 2020 by contacting the researcher by email and receiving a reply confirming this.

**What happens to the research data?**
An audio or video recording of my interview will be made using the video call platform. A backup audio recording may be made on a separate device. All recordings will be transferred onto the researcher's laptop for storage, which is password protected and locked away when not in use. These will be deleted within one month after the award of the degree (or within one month of the researcher withdrawing from the programme of study). Recordings will only be accessed by the researcher and, if requested, by her supervisor(s) and assessor(s) for academic purposes strictly limited to the current study.

Any contact details you provide for the purpose of conducting the interview will be stored in the researchers email account (password protected) and personal smartphone (fingerprint protected). These contact details will only be used to carry out this study and will be deleted within one month after the award of the degree (or within one month of the researcher withdrawing from the programme of study).

Information from the interview will be analysed for the purposes of the study and included in the dissertation. You, as a research participant, will not be named in the dissertation and neither will your organisation. Short quotations from the interview may be included in the dissertation and will be anonymised as far as possible. Total anonymity cannot be guaranteed because organisations and their personnel may be linked to the BOOM project via publicly available information. However, care will be taken to protect identities in the dissertation e.g., in the selection of quotes.

**How will the research be reported?**
The research will be reported in a dissertation towards the MA Outdoor and Experiential Learning which may be made publicly available after the award of the degree. The researcher will endeavour to contact you and your organisation and send you an electronic copy of the dissertation. This is anticipated to be during 2021. Further sharing of the research findings may occur, for example through a conference presentation, journal article, media article or discussion.

**How can I find out more information?**
Please contact the research team directly by email:

Researcher: Tania Lemmey, Postgraduate Student
s1909083@uni.cumbria.ac.uk

Research supervisor: Dr Chris Loynes, Reader in Human Nature Relations
chris.loynes@cumbria.ac.uk
Institute of Science, Natural Resources and Outdoor Studies, University of Cumbria, Ambleside, Cumbria, LA22 9BB, UK

**What if I want to complain about the research**
Initially you should contact the researcher directly. However, if you are not satisfied or wish to make a more formal complaint you should contact Diane Cox, Director of Research Office, University of Cumbria, Bowerham Road, Lancaster, LA1 3JD. diane.cox@cumbria.ac.uk

Appendix 2: Participant Consent Form


# Participant Consent Form

**Title of Investigation:**

Connecting with nature in 2020: who did, who didn't, and why it matters.

A review of recent evidence, policy and practice in the UK, with insights from Back on Our Map project partners in Cumbria.

**Please read the following statement and then select your response.**

'I have read and understood the information provided about this study and the interview process. I am satisfied that I have sufficient information about the interview and study.

I give permission for a recording of my interview to be made and stored for the purposes and duration of this study.

I give permission for information from my interview to be analysed for the purposes of the study and included in the dissertation.

I give permission quotes from my interview to be included in the dissertation. These will be anonymised as far as possible.

I may decline to be interviewed or withdraw from the study without giving a reason. I may withdraw from the study or alter my quotation permissions up until 31 December 2020 by contacting the researcher by email and receiving a reply confirming this.

I understand I will be invited to discuss my work and I am responsible for securing any permission required by my employer to discuss my and their activities in relation to the research topic.'

I agree ☐

I do not agree ☐

Name:

Signature (electronic is acceptable):

Date:

# Appendix 3: Interview Question Development

## Research questions *(from proposal)*

- What are the inequalities in nature connection in the UK in 2020? How have these changed, if at all, in the context of COVID-19 and the associated restrictions?
- Why is nature connectedness important? Who is it important to? How has the pandemic altered engagement with nature via community groups, environmental charities and other organisations in south Cumbria?
- What are the key challenges and opportunities for nature connection now? How are these being addressed in policy and practice? Are there conflicts or convergence in evidence, policy and practice?

## Interview Questions *(first iteration)*

*Here the sub-questions for an interview were developed from the main research questions above.*

1. a. Broadly, what types of activities does your organisation do which connect people with nature?

   b. How do you reach people from groups who are underrepresented or disadvantaged in their opportunities to connect with nature?

2. a. In your work, what do you see are the main benefits of connecting people with nature, especially this year, in the pandemic?

   b. In your work this year, have you seen any changes in who participates in your activities and do you feel you have you reached any new groups or had less engagement with others?

3. a. What challenges do you encounter in trying to connect with all sections of the local community in your activities?

   b. What do you think inclusive community nature engagement should look like in 2021?

Interview Questions *(second iteration)*

*In this iteration the transformative evaluation method informs the questions. They were developed to elicit representative stories which consider the participant experience from the interviewee's viewpoint.*

1. a. Would you tell me about a situation this year where you felt participants were really connecting with nature? Something quite typical of what you do in your organisation.

   b. Can you think of a time recently where your activities have included people who haven't had much opportunity to connect with nature before. Can you explain how you did that?

2. a. (Object). I invited you to bring an object which reminds you of the benefits of inclusive community engagement with nature. Would you tell me about it?

   b. As a result of the pandemic, has that changed who participates in your activities and do you feel you have you reached any new groups or had less engagement with others? How about the Back on Our Map project, has your involvement with that so far changed who you engage with in the community?

3. a. Who do you feel is missing from your activities? (This year, or generally).

   b. What do you think inclusive community nature engagement should look like in 2021? What opportunities do you see for your organisation working with the BOOM project to work towards that?

Interview Questions (*third iteration)*

*Applying the 'funnel' design, structural main questions and probable sub-questions (semi-structured).*

1. Broadly, what types of activities does your organisation do which connect people with nature?

2. I invited you to show me an object or place which is memorable for you in terms of connecting the local community with nature. Would you tell me about the object or place and why it's significant?

What do you feel are the benefits or impacts of this (nature connection across the local community)?

3. Can you tell me about a time recently where your activities have included people who haven't had much opportunity to connect with nature before? Can you explain how you did that (how you involved those people)? What do you feel were the benefits of nature connection for these people in particular? Do you or your organisation have a specific goal to include a diverse range of people or vulnerable or underrepresented groups? What sort of barriers do you find in reaching different groups of people?

4. In your experience, how has community engagement with nature changed this year? Have you reached any new groups or had less engagement with others? Has your involvement with Back on Our Map changed who participates in your activities, or do you expect it will? How has the pandemic changed community engagement with nature, in your view? How would you like to sustain or develop engagement with nature across the communities you work with?

Interview Questions *(fourth iteration)*

*Here the BOOM project team were consulted on question relevance. A pilot interview was conducted to test question clarity and time.*

These were almost identical to the final choice of interview questions, which are presented in appendix 4.

## Appendix 4: Interview Questions

1. **Broadly, what types of activities does your organisation do, or what opportunities do you provide, which connect people with nature?** To what extent has your organisation been involved with engaging the local community with the Back on Our Map project this year?

2. **I invited you to show me an object which represents an important place for you in terms of connecting the local community with nature. Would you tell me about the object and the place and why it's significant?** How do people benefit from being involved with that? How does nature benefit? (Is that place linked with the Back On Our Map project? In what way?)

3. **Can you tell me about a time recently where your activities have included people who haven't had much opportunity to connect with nature before?** (Alternatively, an example of when you engaged a diverse group of people with nature). Can you explain how you did that (how you involved those people)? What do you feel were the benefits of nature connection for these people in particular?

4. **Do you or your organisation have a focus on reaching any particular groups of people in the community, such as underrepresented groups?** What sort of barriers do you find in reaching different groups of people? Have you found any specific barriers to engaging people with the Back on Our Map project?

5. **In your experience, how has community engagement with nature changed this year?** Have you reached any new groups or had less engagement with others? Has your involvement with Back on Our Map changed who participates in your activities, or do you expect it will? How has the pandemic changed community engagement with nature, in your view? How would you like to sustain or develop engagement with nature across the communities you work with? (What potential do you think there is in the community you work with to volunteer with BOOM and other environmental volunteering when restrictions ease?)