RESEARCH ARTICLE

The Multiple Values of Nature



Caring for Cinderella—Perceptions and experiences of peatland restoration in Scotland

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Abstract

- 1. In this paper, we look at people's engagement with peatlands and peatland restoration in Scotland through the lens of care. Care is an elementary aspect of how we relate to each other and the world around us.
- 2. Our results highlight the importance of personal experiences and relationships and embodied learning in fostering and defining care.
- 3. The results also point to difficult questions about what it means to care well and the factors influencing people's capacity to care. While focusing on care thus does not automatically resolve or overcome conflicts or barriers, it acknowledges that even those that have different views may care and it can help legitimize emotional and personal experiences and attachments.
- 4. Our study also showed that uncertainty and lack of knowledge can open up spaces of opportunity if they are openly acknowledged, for example, through appropriate structures (e.g. in the form of flexible funding schemes) which allow for the co-creation of knowledge and caring practices between experts, lay people and non-human others through experimental practices, experiences and reflection.
- 5. Given the accelerating and severe changes currently happening in the biosphere, a focus on care seems more important than ever before.

KEYWORDS

care, nature connections, nature perceptions, peatbogs

1 | INTRODUCTION

In recent years, care has received renewed focus as a fundamental practice and embodied experience through which we relate to the world, and which has the potential to open up other ways of being which have less detrimental impacts on the planet and ourselves (Nassauer, 2011). For those concerned with conservation, a sense of care is often at the heart of their motivation whether amongst professionals, land managers, volunteers or the wider public. Care can be understood both as emotional attachments and as sets of practices and values (Jax et al., 2018). Caring for nature as a practice can be expressed not only through conservation and restoration but also through other ways of participating (e.g. volunteering or recreational activities) as well as through forms of production and consumption (e.g. choosing environmentally friendly products; Jax et al., 2018).

When talking about care, whether in the context of conservation or more generally, it is important to be aware that care is not always benign but can also have problematic facets (Cox, 2010; Puig de la Bellacasa, 2017). Depending on how it is interpreted and enacted it can have negative impacts on the carer or the cared for

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(Cox, 2010; Puig de la Bellacasa, 2017), as in the case of some kinds of nature tourism which contribute to the degradation of the beloved species or habitat, or it may have unintended consequences for others. As other relational practices, care is also subject to the influence of power which affects who has the capacity to make decisions, and who can enact and receive care (Cox, 2010; Puig de la Bellacasa, 2017; Tronto, 1993). Care can both challenge and reproduce existing structures of inequality (Cox, 2010). In addition, there is the question of the basis and limits of our care. What and who do we care for and what are the criteria according to which care is enacted and distributed (Puig de la Bellacasa, 2017)? Care thus always contains subjective, normative, ethical and political elements (Puig de la Bellacasa, 2017; West et al., 2018). In the context of conservation, for example, research has shown that aesthetically pleasing landscapes are more likely to attract support than those considered less beautiful (Gobster, Nassauer, Daniel, & Fry, 2007). This can create problems in relation to less charismatic, but equally threatened species and ecosystems. Thus, while it may be relatively easy to appeal to feelings of care for charismatic species such as polar bears and aesthetically pleasing habitats or landscapes such as forests, the lack of public appeal of the small, dull or potentially troublesome such as flies and wetlands makes it more difficult to garner support for their conservation.

Here, we look at care in relation to one such 'problematic' habitat in the form of peatbogs in Scotland. Peatbogs cover a large share (approximately 20%) of Scotland's land surface and Scotland contains a major part of the world's blanket bogs (Bain et al., 2011). Accordingly, they are seen as 'typically Scottish' and part of what makes up the character and image of Scotland (Byg, Martin-Ortega, Glenk, & Novo, 2017). In addition, they have been used by humans as grazing grounds and fuel sources historically and up until the present, and still constitute a vital part in the production of peated whiskies. However, peatbogs are often portrayed as dreary and sometimes dangerous wastelands which create problems for humans, animals and machinery who can get lost and stuck (Byg et al., 2017). There have, therefore, been many attempts, especially since the enlightenment age, to 'improve' and transform peatbogs, making them useful often through drainage in combination with ploughing, fertilizing, re-seeding or tree planting (Smout, 1997).

While the conflicting perceptions of peatbogs still persist, they are nowadays also seen as refuges of specialist biodiversity, carbon sinks and archives of the past (in the form of pollen records as well as archaeological artefacts), and are the targets of focused restoration and conservation efforts (Byg et al., 2017; Glenk & Martin-Ortega, 2018). In Scotland, these efforts are driven by environmental NGOs as well as the government with the aim to safeguard biodiversity, reduce flood risks and meet climate change mitigation targets (Scottish Natural Heritage, 2015). Efforts to restore peatbogs often consist of blocking the very same drainage ditches that were previously installed with the aim of making peatbogs useful (Lindsay, Birnie, & Clough, 2016). This reversal of what is considered the right way to manage peatbogs together with the uncharismatic nature of peatbogs, characterized as unloved 'Cinderella habitat' by one of our interviewees, and the

existence of ambiguous meanings and associations of peatlands is often seen as problematic and a potential barrier to their restoration and conservation. In this study, we focus on people who are already involved in use, conservation and restoration of peatlands and look at what makes these people care about peatbogs as well as what barriers to care they experience. Furthermore, we also look at how care is interpreted in different ways and how these interpretations are linked to the past and present interactions with peatbogs as well as to different understandings of humans, nature and the relationship between them. We thereby hope to contribute to the literature on care in the context of nature conservation—particularly in the context of a 'problematic' habitat—and to explore the opportunities as well as limits to care as practical conservation tools.

1.1 | Different approaches and conceptualizations of care

While the concept of care is mostly applied in relation to human subjects, it is a concept of equal relevance in relation to the environment where ethics of care are a fundamental part of many indigenous peoples' relationship to the environment (Bawaka Country, Suchet-Pearson, Wright, Lloyd, & Burarrwanga, 2013; Rose, 2013). In the context of conservation, there is overlap in the use of terms such as care and others such as stewardship. For example, Enqvist et al. (2018) see care as one dimension of stewardship which denotes the 'feelings of attachment and responsibility that underpin stewardship' (p. 24) and which includes values, norms, identity and emotions (Enqvist et al., 2018). Building on Enqvist et al. (2018), West et al. (2018) propose relational understandings of care within stewardship by focusing on sense of place, dwelling and biocultural diversity to articulate them. For others, the difference is one of scale with care applying to the local scale and stewardship to the global, while others again see care as the motivation for stewardship (Bennett et al., 2018; Nassauer, 2011). For some, however, care and stewardship refer to phenomena with different characteristics, with the latter entailing a hierarchical relationship more akin to management than care, and care, in contrast, as inherently relational and reciprocal (De Groot, Drenthen, & De Groot, 2011; Jax et al., 2018; Muradian & Pascual, 2018). Those who use the term care to denote more than the emotional component of stewardship emphasize that it also includes practices and attitudes and can be part of people's identity (Chan et al., 2016; Jax et al., 2018; Puig de la Bellacasa, 2017). It is in this latter sense that we employ the term here though we also draw on relevant literature on stewardship. Importantly, care is always subjective as well as normative and has ethical as well as political implications (Cox, 2010; Jax et al., 2018; Puig de la Bellacasa, 2017; Tronto, 1993). This is the case not just in relation to selecting whom or what to care for but also in terms of assumptions about what it means to care and what is good for the target of care (Puig de la Bellacasa, 2017; Tronto, 1993; West et al., 2018). Using the language of care in relation to the environment can be a way of legitimizing the emotional, subjective and

normative as well as other forms of knowledge and experience than those traditionally emphasized in technico-scientific realms (Jax et al., 2018; Puig de la Bellacasa, 2017). However, it is important to note that emotional, subjective and normative aspects are not limited to a separate sphere entitled 'care' but that these aspects are also already present in technico-scientific approaches, though they are usually not acknowledged or afforded legitimacy within this realm (Noss, 2007; Ravetz, 2004; Van Houtan, 2006). As care has traditionally been regarded as a low status activity belonging to the domestic sphere and carried out by women and others of low status, framing something as care can also denote it and help to reproduce existing inequalities (Cox, 2010). Care therefore needs to be understood as situated and emergent from social–ecological relations as well as an embodied phenomena (Singh, 2018; West et al., 2018).

While predictability of social–ecological changes may influence the capacity to care (Bennett et al., 2018), the unknowns and uncertainties surrounding the functioning of habitats, such as peatbogs, can also open up the space for involving different knowledges (Francis & Goodman, 2010; Ravetz, 2004) and, as we shall argue, practices of care.

2 | METHODS

The research was approved by the James Hutton Institute's ethics committee (#59/2016) prior to the beginning of the research and written prior informed consent was obtained from research participants.

For this study, we employed a mixed methods approach comprising of a mix of semi-structured interviews, participant observations and workshops taking place between 2016 and 2018. The interviews, participant observations and workshops helped to bring into focus different aspects of people's experiences, perceptions and interactions with peatbogs and how different understandings and enactments of care come into place, as well as its barriers and limits. In total, we conducted 28 interviews with people living near peatbogs or who were privately or professionally involved in peatbog restoration from all over Scotland. This included people working for public and non-governmental organizations concerned with peatbog restoration as well as people involved in community groups in their spare time. Three people who took part in workshops were also interviewed while four people were encountered during participant observations and were also interviewed. The interviews took place face to face or over the phone and were audio recorded and subsequently transcribed. Interviews took between 30 min and 2 hr. All interviews apart from two were individual interviews. The remaining two were with two and four people respectively. The interviews focused on people's use, experiences and perceptions of peatbogs and peatbog restoration. Participant observation consisted of participation in volunteering events and public events in peatbogs as well as participating in meetings of the management committee of one peatbog area in Central Scotland on altogether seven occasions. Participant observation was documented through

field notes. To supplement the interviews and participant observations, we conducted two workshops with nine participants in each, one in a peri-urban area with only small pockets of lowland peatbogs nearby and one in a rural area characterized by large areas of upland blanket peatbog. The workshops were advertised publicly using social media and local news outlets as well as through pre-existing contacts. Similar to the interviews and conversations during participant observations, workshops focused on people's personal experiences with peatbogs and their perceptions of peatbogs. In addition, the workshops were used to more explicitly elicit the participants' perceptions of benefits and disbenefits derived from peatbogs, and finally what state the participants thought that local peatbogs were in and the reasons for this. Compared to interviews and participant observation data, the workshops enabled group discussions and deliberation on their individual and community experiences with peatlands. During discussions, one researcher was always taking notes, and at the same time, the discussions were also audio-recorded. All the data were imported into the qualitative data analysis software Nvivo11 and were coded using open coding where an initial set of nodes representing prominent topics or issues were constructed beginning during the fieldwork and after an initial reading through of transcripts (Bryman, 2012; Cresswell & Poth, 2017). A first round of coding was conducted with these nodes after which revisions were undertaken, creating new, additional nodes as well as merging or subdividing existing nodes. A full list of the final nodes is provided in Appendix S1. Passages from transcripts were often coded at several nodes simultaneously and combinations of nodes were used to further specify the content and to help establish relationships between nodes (e.g. coding the same passage for 'ownership' and 'barriers' indicating that a passage referred to ownership as a barrier).

3 | RESULTS

3.1 | Pathways to caring

In the following, we portray some of the different ways in which the people we spoke to had come to care for peatbogs. These different ways are not exclusive and often worked together to foster a sense of care. The division into different pathways is thus mostly a way of focusing on different aspects of a process which is rarely well defined or simple.

Maybe not surprisingly, personal experiences with peatbogs played an important role for many of the participants in defining their relationship with them and fostering a sense of care. For some, these experiences were closely linked to childhood experiences. This was especially the case in peat-rich rural areas, where peat cutting (the extraction of peat to use as fuel to heat people's homes) used to be a traditional part of rural life, as illustrated in the following story provided by one of the participants in one of our workshops:

Pauline¹ said that peat reminds her of the hot food her mum cooked when they were children. The cooking

stove was heated with peat, so if there was no peat, there was no hot food. It made her appreciate peat. Peatlands were also a playground when they were children. Her brother would throw her in the bog. During peat cutting, there were lots of families on the hill, it was a social occasion. She thinks about peatlands with affection, it has a connectivity meaning. When they were children, they used to follow birds, watch wildlife. She enjoyed being a child on the hill and is fond of the hill. When the heather blooms, it is an amazing landscape looking purple. If you look closely, there are so many different colours! She said that even though it might look all the same, by looking closely you can see many different colours.

Rural workshop notes

While rural people's appreciations of uses as well as more recreational or aesthetic aspects were often intermingled as in the above story, for those who lived close to urban areas, their main interactions with peatbogs were predominantly in the form of recreational uses such as walking, either alone or with children or dogs, and their focus was mostly on the aesthetic and regenerative aspects as well as on encounters with nature, often in the form of wildlife. Peatbogs are not unique in providing these kinds of benefits, and for some, they were equated with nature more generally and were mostly appreciated as the type of nature that was there, accessible in their vicinity. For others, though, there was still something unique and special about peatbogs (often referred to with the generic Scottish term 'Moss' by our respondents) that could not be replaced by other ecosystems.

Interviewer: 'So what is it that's special about it? Why do you like it?'

Anthony: 'Just because there are so many unique—well, maybe not unique, but so many special species. If you know where to look here you find the sundew, which, they are so small that people generally wouldn't notice them. As I say, the orchids, they are spectacular for about two weeks of the year. The bog acid, all these really interesting—when you get really close to them you see all the tiny detail. There's deer [which] I've been quite lucky to see on the Moss as well'.

Interview 14

Similarly, while the recreational activities that take place on peatbogs such as walking are not restricted to peatbogs, they acted as ways of discovering and knowing peatbogs. Walking would bring encounters with wildlife or would lead to new discoveries, taking photographs would bring attention to details and the 'hidden beauty' of the species making up the peatbog, visiting the same peatbog again and again would make seasonal patterns become apparent and create a sense of the life of the bog. For many, this learning process was an important aspect of their ongoing relationship with peatbogs. The learning took place both through their own interactions with peatbogs as well as through interactions with other people. In peri-urban settings, part of the uniqueness and values of peatbogs were also that they were often seen as the last remnants of wilderness or nature surviving in the local area. Interacting with them was thus a way of interacting with nature in a larger sense, and also resulted in a sense of connection to place and history.

'I think, I mean really it is quite a magical place. The first time you go there, you can't believe it because you see this area and you don't think anything of it, but once you're in and into the main, you know, the real wet part of the Moss, it is slightly lower than the rest of the Moss... And once you're surrounded, you don't hear the dual carriageway, you can't see the houses, you see a deer and you think "I could be anywhere!" and people say that "I can't believe this is still here!" and that's exactly what got me and everybody else – can't believe this has survived, it's like an oasis, you know, it is in between the [dual carriageway] and the housing estate [...] and this has survived, this special place'.

Interview 2

A recurrent story in both rural and urban areas was that care for peatbogs was linked to perceptions of loss and threat. This was the case both for caring in an emotional sense and for care as active practice in the form of, for example, restoration projects or campaigns to achieve protected status for 'their' bog.

'So there's so much there, and we've been so concerned. You know, there are the pressures, the house building- a lot of the Moss has disappeared. I think that's the main reason that [...] the Moss group was formed, so there could be no further building. I mean, what a shame if we were to lose that area'.

Interview 14

For others, though, the fact of using a site, being outdoors and receiving enjoyment was in itself enough of an impetus to engage in restoration or conservation activities. This was often described in terms of moral obligations and reciprocity.

'On a regular basis, we go for a walk. There's like a circular walk in there. I don't know. Yes, for that alone, yes, it's worth a lot. It's an asset, I think. Well, that was one line of thought, you know, "Oh gosh, I'm using this place. I will need to volunteer. I need to give something back".

Interview 6

Other respondents similarly used the language of receiving things (whether tangible materials or experiences) or benefiting from peatbogs and therefore feeling that they had to or wanted to somehow give something back to the bog. Such feelings of reciprocity and obligation could also come from non-recreational uses. This was especially the case in rural areas for people who owned land containing peatbog and who were still using it for grazing or peat cutting. Feelings of obligation could be both in relation to nature as well as in relation to the public or future generations. For some owners of peatbogs, practices of care were also initiated not so much through feelings of care as through the recognition of potential benefits now or in the future (e.g. in the form of carbon credit payments or improved fishing or grouse shooting conditions). Similarly, for some of those engaging in practical volunteering tasks, other, more self-interested motivations came into play as well such as enjoying physical activity out of doors with other people or hoping to add to one's CV by engaging in volunteering.

3.2 | Practices of care

While practices of care in a narrow sense could be understood to encompass only those that are aimed at having a direct, beneficial impact on the peatbog, the participants included a much wider range of activities in their practices of care. These practices ranged from ecological restoration practices such as tree felling and ditch blocking to data collection in the form of species surveys and water measurements to making peatbogs more accessible to the general public through path maintenance, guided walks and information boards.

Data gathering was often seen as an important part of learning about peatbogs and finding out whether other practices of care such as ditch blocking had the desired effect. At the same time, it was linked to perceptions of the variable and essentially unknown nature of peatbogs. Data gathering was thus a way of getting to know the other and thereby becoming better able to care. While the aim of care for peatbogs was usually to maintain these in a 'good state', this usually involved trying to maintain or find a balance. In some cases, this was a search for a balance between different ecological and/or hydrological processes.

Marianne pointed out that it was a balance sometimes, as Derek had said that some particular spots now had just the right cover for particular bird species, whereas other areas had to be thinned but only to a certain degree so there would still be some cover but neither too much nor too little. Robert said that in his opinion, the northern part of the Moss should not be re-wetted, because it was an important site for butterflies which would suffer if it became any wetter.

Notes from participant observation

Just as the search for balance sometimes led to the need to make difficult decisions and trade-offs between different species, such as those requiring more or less water, it was also sometimes a question of trying to find a balance between on the one hand engaging people by making peatbogs accessible and allowing for some kinds of uses, and on the other hand keeping them inaccessible to protect them from negative impacts of human uses. How this balance played out or was perceived differed from case to case and from person to person. However, most of the participants recognized the need to allow some kinds of active use as a prerequisite for engendering care and engagement in others.

'We've been able to fund community groups to restore their own bogs which are on their doorstep, to create footpaths and different things like that. So they become engaged with the bog, so when someone comes to them and says "oh by the way £10 of your tax every year is going to go to bogs up in Caithness" or whatever, they actually understand why...that we would want to be spending that money on those bogs there because they've been involved with it or people they know have been involved with it'.

Interview 11

On a larger scale, the question of balance also applied to where efforts at restoring peatbogs should be focused.

'I think probably if you're going for impact upon peatland and on carbon storage and on conserving those peatland sites for habitat... from a habitat point of view or from a wildlife point of view, then you're probably better off focussing on the uplands because you've got such big areas and probably that funding is gonna go further up there, and potentially you've got sites that are less damaged than those that are in the Central Belt or lower down in Scotland where you've had more industrial...sort of...stuff going on on them. But if you're looking at it from like a... yeah, from a social point of view, then...yeah, you... it's like... a site like [here has] fairly deprived communities and they're... you know, you've got people who... and families that already probably don't get out into the countryside that much; if you were to take that site away from them then...you're greatly reducing their opportunities to see and experience those kind of sites ... But... [little sigh] So yeah it's a really tricky one to answer'.

Interview 1

In addition to having to find a balance between different interests and different processes, different people also sometimes held very different interpretations of what care meant. What could be seen as care

from one person's perspective could thus be seen as lack of care and damaging practice from another's. Examples included traditional uses such as peat cutting and livestock grazing as well as practices carried out in the name of restoration such as ditch blocking and cutting down and removing trees.

'Um...well there were Scots pine trees on the bogs that had been identified by [the environmental organisation] as a problem, so it was agreed that we would cut some of these Scots pine trees away. And...[the owner] was very unhappy about that, she felt the trees were beautiful and that we shouldn't be cutting down trees, which a lot of people obviously have that view. We should be planting trees not removing them'.

3.3 | Barriers to care

While all of the people we spoke to as part of the research could be said to care for peatbogs in one way or another, not all had turned their feelings of care into practices of care. Those who had not would mention barriers such as lack of time and other commitments as constraints that prevented them. Those who did enact their care often reflected on why others might not care or act on their care as well as reflecting on the barriers they had to overcome in their own practices of care.

The uncharismatic 'Cinderella status' of peatbogs was often mentioned as one reason why others did not care for peatbogs.

'If you start talking to people about rare sphagnums, with most people, you're going to lose them pretty quickly. Even with sundew, where you can generate a bit of interest because it's carnivorous and all this kind of stuff, with the majority of the population, you're going to lose them on that level of detail. So, in trying to engage them and saying, "Look, these areas are really important for biodiversity," they look at it all and all they see is this greeny, browny, boggy mess with pools that they might lose their Wellie boot in if they go too far. It is difficult. It's challenging to engage them with that'.

Interview 17

For some, there was also a lack of knowledge or awareness as something that could both explain a lack of emotional attachment or motivation for care and that other people would engage in uncaring practices. This was in some cases paired with views of what it is considered to be the 'normal' landscape and how that becomes the baseline.

'I think there's a very genuine love of their landscape, but what they maybe don't realise is that that landscape has been degrading for a while. They could equally love it if it looked a bit greener. (Laughter) You know what I mean? I think it's always been, what is it, five sheep to a person or something [here]? Maybe it's what you grow up with is normal, even although it may not be what it could be at its optimum of normal'.

Interview 18

This was the case not only in relation to the current status of peatbogs, how they should look like and what were the consequences of particular uses or management, but also in relation to what was required to restore peatbogs and what would be the impacts and outcomes of restoration interventions such as blocking ditches.

'I mean I think a lot of landowners and land managers have a misconception that by restoring peatland you're just going to create a complete boggy marshy habitat with lots of standing water. But it's very localised, its...and I think that was something that came out of this is that it has changed people's views and mindsets when it comes to these things because they can appreciate, they've seen things on the ground themselves and they know that by blocking a drain it's only going to have localised effects. It's not going to be a widespread rewetting project you know?'

Interview 8

The lack of visible outcomes of care and the slow processes of restoration could also present barriers that prevented people's engagement. People's relationship with peatbogs was not seen as something static, but something that changed in relation to other changes such as changes in ways of living and interacting with nature more generally. These more general changes were not always unequivocally positive or negative, but were often a mix some of which were promoting care while others were pulling in the opposite direction.

Wendy: 'We used to worry quite a bit. Well, not really worry, but for a while, there was this feeling that places like [the] Moss were dangerous places. They had this notice up, what does it say? "Bogs are dangerous. Keep to the main path" and all that.

But, for you [...], your generation, what everybody did was, you would take your children onto the Moss and show them where the dangerous bits were. And then you would just send them out to play and you knew that they should know'.

Thomas: 'But that was a different- when I was younger, you were out the door in the morning and you just came back when it got dark. You were out with your friends, exploring and playing, but kids don't do that now'.

Interview 13

In addition to these barriers that prevented people from developing caring feelings for peatlands, those who did actively care for peatlands, also encountered practical barriers which they had to overcome or which could limit their practices of care. One of these barriers was ownership. This was especially the case for community and environmental groups who did not own the sites that they cared for and who were therefore dependent on the goodwill and cooperation of the land owners. Likewise, lack of resources in the form of money and time and the structures of existing funding schemes were often felt to be serious constraints in relation to practices of care.

4 | DISCUSSION

In this paper, we look at people's engagement with peatbogs in Scotland through the lens of care. Our results show that care for peatbogs was very much linked to personal experiences and relationships whether through material or recreational uses. For many, it was also linked to feelings of reciprocity and obligation to the non-human others. Part of coming to care and to care well-involved learning about the special nature of peatbogs as well as about the past extent and current threatened or degraded status of peatbogs. This learning took place through personal interactions with peatbogs as well as with other people. Caring practices encompassed a diversity of different forms, not all of which were directly aimed at restoring peatbogs. In many cases to care meant having to navigate and try to balance different needs between different species as well as between humans and peatbogs. Again, learning was an important element of the process of carrying out care as many restoration practices are still relatively new in a Scottish context. Caring thus also meant living with dilemmas and uncertainties. While there are different pathways to caring and different ways of enacting care, our study showed that there are also many barriers to care both in the form of perceptions and in the form of practical obstacles such as lack of resources or access.

Using the lens of care to look at peatbog restoration can help bring to the fore the emotional and personal aspects as well as elements of reciprocity involved in conservation and restoration. Many of the stories of our respondents interwove personal and childhood memories, local and natural history and a sense of wonder and awe as well as loss. All of these came together in creating caring relationships with peatbogs. Care is an elementary aspect of how we relate to each other and the world around us. Everyone is not just giving care, but also receiving care and to care is part of what it means to be in the world (Bawaka Country et al., 2013; Cox, 2010). Consequently, care is inherently meaningful and part of what it means to lead a fulfilling human life (Knippenberg, De Groot, Van Den Born, Knights, & Muraca, 2018; Singh, 2018). Caring for and practicing care through restoration practices was seen in some cases as a response to perceptions of loss and threat to peatbogs by other human demands. Connecting to these last traces of wilderness enabled people to connect to nature in a broader sense. In western dominated cultures, care is often thought of as pertaining to the human realm

only (Bawaka Country et al., 2013). This has been linked to influences such as Platonic philosophy, Judeo-Christian thought and the age of enlightenment in which mind and body, humans and nature were seen as separate with humans as superior to the rest of nature and therefore entitled to control and exploit the environment (De Groot et al., 2011; Plumwood, 1993). This perception of our place in the world as separate from nature has also been identified as one of the root causes of current environmental problem (Jackson & Palmer, 2015; Plumwood, 1993). Accordingly, to solve our environmental problems, it is necessary to reframe our relationship with nature and to foster reconnection (Raymond et al., 2013; Rose, 2013). Our results showed not only that peatbogs were important to people as providers of 'services' in the form of peat for burning, wildlife encounters or a setting for family outings, but that even in the context of contemporary, western culture personal, caring, reciprocal and emotionally charged relationships arose out of personal interactions with particular places and habitats.

Although reciprocity currently does not feature prominently in public discourse in western-dominated cultures, our study shows that feelings of reciprocity with the non-human world can be strong motivating factors for conservation and engagement for some. Previous studies have likewise highlighted the potential of embodied practices of care in relation to non-human others such as animals, plants, places and ecosystems and the experiences this brings with it to foster connections and cultivating a different relationship with nature (Rose, 2013; Zylstra, Knight, Esler, & Le Grange, 2014). Care emphasizes dependency, reciprocity and relational aspects (Jax et al., 2018). As such it can help to challenge existing ideologies of individualism and competition, and to acknowledge our dependence on others and the earth (Cox, 2010).

The importance of personal interactions and experiences with peatbogs in fostering feelings of care and the wish to give something back was evident for many participants in our study. While we often think that care begins with emotional attachment, practicing care can also be the source of emotional attachment (Singh, 2018). This underlines the importance and threat posed by what has been called 'the extinction of experience' which is happening alongside the extinction of species and habitats, and is due both to increasing urban populations' decreasing access as well as decreasing attention to the natural world (Soga & Gaston, 2016). Enabling personal interactions with peatlands also emphasizes the importance of finding the right balance between use and protection which many of the participants spoke about. This has been expressed as the simultaneous need to decrease people's distance from nature in terms of their emotional attachment, while at the same time increasing their distance in terms of impacts of productive and consumptive activities (Seppelt & Cumming, 2016). However, how to do this in practical terms remains an open question, and something that may need constant renegotiation. The sense of dilemmas and of the effort to find a balance between competing needs and wants (for humans as well as other beings) thus often came up for our respondents when they had to make decisions about where and how much to raise water levels, fell trees or improve access for people through paths and lighting.

It also came up in the form of questions about how and what is preserved or restored where, and how conservation is defined. Small isolated relicts of habitats such as lowland peatbogs near urban centres may thus not be seen as very important or worthy of conservation from an ecological point of view, but as emphasized by many of our participants, they may play a significant role in allowing people to experience, learn about and connect to non-human nature thereby influencing their emotional attachment as well as willingness to support conservation and restoration initiatives more generally. In its current form, Scottish peatland restoration funding has been more flexible than many comparable schemes both in relation to where restoration has taken place and what has been funded (Byg & Novo, 2017). Funding has thus not only included active restoration measures such as ditch blocking but also data collection sometimes in the form of citizen science and installation of, for example, board walks that make peatbogs more accessible to people and further enables people's interactions with peatbogs. In the light of the findings from our study, such a flexible and broad understanding of what restoration means seems to offer many advantages in terms of engaging with different participants.

Our study also points to potential challenges with conservation approaches such as some forms of rewilding, which actively seek to reduce or completely remove human involvement in the management of ecosystems. While care can take the form of lack of intervention (Jax et al., 2018) and rewilding projects may lead to valuable ecological outcomes, some forms of rewilding may at the same time inadvertently undermine people's attachment to areas by severing opportunities for care and the enactment of reciprocity, and deny the dynamic nature of landscapes as coproduced places of dwelling where people are seen as part of the biosphere rather than as separate (Cooke, West, & Boonstra, 2016; Stenseke, 2018). At the same time, human impacts on fragile ecosystems such as peatbogs remain an issue that needs to be worked with and finding the balance between human access and involvement and the needs of the more-than-human thus remain a challenge as seen in our results. Our respondents experienced this both in relation to recreational uses as well as uses for agriculture. In many rural areas of Scotland, there is a long history of human use of peatbogs for grazing and extraction of peat for heating and cooking which to varying degrees continues till the present day. While experiences of extracting peat and depending on the peatbog to provide nourishment for one's animals was a powerful motivation for peatbog restoration for some it did also raise questions of what were seen as acceptable ways of relating to peatbogs, what it means to care well and whose perceptions count. Professionals and lay people thus often differed in their assessment of the state of peatbogs and the impacts of different uses creating tensions in relation to defining what it means not just to care but to care well for peatbogs.

Traditionally, many governmental as well as non-governmental bodies have focused on information provision to raise awareness of environmental impacts, and engage and motivate people to support conservation efforts. However, this 'information deficit' approach has been criticized for being largely ineffective at changing attitudes

let alone behaviours (Nisbet & Scheufele, 2009). Others have likewise highlighted that care and stewardship arise from experience rather than from the mind (Cooke et al., 2016). Nevertheless, our study showed that learning can be an important part of people's engagement with a habitat and a motivation for care. For some, learning and knowledge about the nature and history of peatbogs and place was the pathway that helped create a personal bond. In addition, learning was also important in shaping practices of care. Learning sometimes took the form of acquisition of information from experts. This was not the only form of learning, though, and there were also examples of more embodied and experiential forms such as applying different restoration practices and seeing what happens as a result. Collecting data about water levels was, for example, a way of practicing care as well as learning about peatbogs. In this way, learning can in itself be seen as a way of relating and getting to know the other when understood as a process rather than as content (Muir, Rose, & Sullivan, 2010). At the same time, this type of learning constitutes a form of 'enskillment' which arises from interactions and involves the acquisition of bodily skills in doing as well as in perceiving (Cooke et al., 2016).

In this context, peatbogs may be a special case, as they were often seen as essentially 'unknown' and mysterious. Restoration of upland peatbogs under the conditions prevailing in the Scottish Highlands is thus a relatively new activity. Accordingly, experimentation has been accepted as part of what it means to care for peatbogs, and this has been endorsed through funding models that have so far been open to trying out unusual methods with uncertain outcomes. In this context, gathering data could also become an expression of care for peatbogs. Learning and gathering data thus helped redefine people's relationship with peatbogs both in terms of appreciation as well as in terms of what it means not only to care but also to care well. While the meaning of 'caring well' will always be open to different interpretations to care well always requires attentiveness to the varying and different needs of the other as well as to the implications of different ways of meeting care needs (Krzywoszynska, 2019; Tronto, 1993). This also relates to the way in which habitats such as peatbogs influence how care can be exercised. Often, care in relation to the environment is described as unidirectional: from the human towards 'the other'. However, this ignores the active part that other beings play in shaping the opportunities for care (West et al., 2018). In this context, agency is better understood not as something pertaining to individuals, but as emergent from relationships and interactions between humans and non-humans (Singh, 2018). The 'Cinderella status' and dynamic and little known nature of peatbogs thus at times made it difficult for people not just to care but to exercise what they thought of as good care.

Relatedly, the invisibility of some of the outcomes of peatbog conservation (e.g. carbon storage) could act as impediments to care. Care usually happens in response to something noticeable and the visibility of processes is therefore an important aspect in triggering care (Gobster et al., 2007; Nassauer, 2011). Likewise, visible signs that others are caring can help to trigger feelings of care in people (Nassauer, 2011). However, these 'cues to care' may not

always accurately reflect what is beneficial for the subject of care (Nassauer, 2011). This also came up in some of the participants' stories about failed restoration attempts or the opposition that attempts at care had sparked. Again, this was portrayed as mainly an issue of (lack of) knowledge and that it is necessary to learn how to care for peatbogs. This was in many cases achieved through the active involvement of people in restoration activities and monitoring as well as through visits to peatbog restoration projects as something that needed to be experienced.

The act of engaging in practices of care for peatbogs itself thus further shaped the emotional bonds and understandings of what it means to care for peatbogs. Notions and practices of care are thus constantly reshaped as a result of the ongoing interactions with peatbogs and with others. At the same time, though, it is important to keep in mind that there is nothing automatic in people's relationship and interactions with places and habitats such as peatbogs. The participants in our study were people who were already engaged with peatbogs. While they emphasized the importance of access, many of them also reflected on the fact that others living in the same places and with the same kind of access did not care as they did, even if they also used the peatbog for recreational or productive activities. Access in itself is thus not enough to ensure engagement and care (Soga & Gaston, 2016). In addition, practices of care are neither always shared nor unproblematic. Not only different strength of attachment to a place but also different interactions and understandings of place can lead to different perceptions and practices of stewardship and care (Enqvist, Campbell, Stedman, & Svendsen, 2019). In the case of peatbogs, this was, for example, seen in relation to perceptions of water levels and tree cover. Some caring practices such as blocking ditches and felling trees together with the need to bring in heavy machinery were thus seen as problematic as they went against many people's perceptions of what it means to care for the land. The social-ecological context thus determines which actions are seen as socially, culturally and politically appropriate and effective, and which are therefore feasible (Bennett et al., 2018; De Groot, Bonaiuto, Dedeurwaerdere, & Knippenberg, 2015). This has been described as constituting a 'grid' of cultural, political, economic and institutional preferences in society that can enable or hinder conservation actions (De Groot et al., 2015).

Care is thus never politically neutral but involves questions of values as well as ethics (Jax et al., 2018; Puig de la Bellacasa, 2017). What is seen as acceptable to some groups may be seen as unacceptable to others (Jax et al., 2018). This leads to the question of how the needs of the cared for are identified and according to which criteria (Jax et al., 2018). In relation to peatbog restoration, as with many other conservation and restoration initiatives, there was a strong reliance on experts and data to determine what is good and right. At the same time, though, the little known and dynamic nature of peatbogs also meant that experimentation and learning through doing seemed to be more accepted compared to many other restoration and conservation projects and involved scientists working together with lay people. While the speed, scale, complexity, severity and predictability of social–ecological

changes influence people's capacity to care (Bennett et al., 2018), our study showed that these factors may also influence who is involved in practices of care and decision-making about care. Uncertainty may thus, if it is acknowledged, open spaces for involvement which are unavailable in areas that have been more clearly defined by expert knowledge (Francis & Goodman, 2010; Ravetz, 2004).

At the same time, people's capacity to exercise care is influenced by the resources available to them as well as by existing power structures. This not only influences whether or not care can take place, but also whether practices of care reproduce or challenge existing structures and inequalities (Cox, 2010). In our study, this was, for example, seen in some cases where existing ownership structures constituted barriers to care, which those who wanted to exercise care were unable to overcome.

5 | CONCLUSION

In this study, we looked at peatbog restoration in Scotland through the lens of care in order to gain a better understanding of what makes people engage in restoration of an ecosystem which has been described as dull and dreary wasteland. With its emphasis on reciprocity and relational interactions, care can complement more utilitarian and instrumental approaches to nature, which only capture some aspects of people's engagement with nature (Chan et al., 2016). Our results highlight the importance of personal experiences and relationships and embodied learning in fostering care, and how notions of a place or non-human other and good care are constantly reshaped through the past and current interactions and experiences with human and non-human others. The results therefore also point to difficult questions about finding the right balance between human use and engagement on the one hand and protection from adverse impacts on the other, and what it means to care well.

The work also raises questions about factors influencing people's capacity to care. This holds true on an individual level, where access is a necessary but not always sufficient condition for fostering care, and where emotional attachment does not always translate into practices of care. It also holds true on the level of society, where existing structures such as ownership, school curricula and established values and norms about what a well-cared for or well-used landscape should look like may help or hinder caring practices such as restoration.

Focusing on care does thus not automatically resolve or overcome conflicts or barriers. Care can take on many meanings depending on people's perceptions, values and interests, and these different notions of what good care means, what is worthy of care and who is capable and responsible for doing the care, all need to be brought out and mediated. While this may not sound very different from what conservationists have had to contend with anyway, focusing on care acknowledges that even those that have different views may care. Furthermore, it can help legitimize emotional and

personal experiences and attachments not just of land owners, volunteers and the general public but of scientists and experts, too, and acknowledging their importance in shaping practices.

Our study also showed how lack of established expert knowledge can open up spaces of opportunity that may not be available otherwise. While lack of knowledge can constitute a barrier to good care, acknowledging uncertainty and lack of knowledge can allow for the inclusion of other kinds of knowledges and the co-creation of knowledge and caring practices between experts, lay people and non-human others through experimental practices, experiences and reflection. For this to happen, appropriate structures (e.g. in the form of flexible funding schemes) as well as open and inclusive attitudes need to be in place. This also includes acknowledging the dynamic and ever ongoing co-creation taking place between humans and the more-than-human. Given the accelerating and severe changes currently happening in the biosphere, finding inclusive ways of living with the more-than-human world in caring ways seems more important than ever before.

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CONFLICT OF INTEREST

The authors have no conflict of interest to declare.

AUTHORS' CONTRIBUTIONS

A.B., C.K. and P.N. developed and implemented the data collection; A.B. and P.N. analysed and wrote up the results.

DATA AVAILABILITY STATEMENT

The data on which this research is based are archived on secure servers at the authors' institutions. In order to preserve confidentiality and research participants' anonymity, the data are not made publicly available.

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ENDNOTE

¹ All names have been altered.

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.

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