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RESEARCH ARTICLE

‘This funny place’: Uncovering the ambiguity of saltmarshes using a multimodal approach

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Abstract

1. Saltmarshes are increasingly recognised for the range of benefits they offer, including coastal protection, flood regulation and carbon sequestration. However, much less is known about how people perceive these environments and their importance for non-material aspects of human well-being.
2. As climate change and sea-level rise render these environments increasingly vulnerable, there is a need to better understand how saltmarshes are valued. This is because these values influence—and are influenced by—the ways in which people interact with places and therefore gain well-being benefits from them. These values also shape management decisions, which in turn affect the well-being of people and environment.
3. To address this need, we use a multimodal qualitative approach (mobile interviews, photo elicitations, mapping and word association) to explore the values held in connection to saltmarshes at two Welsh case study sites: the Taf Estuary in Carmarthenshire and the Mawddach Estuary in Gwynedd.
4. We find that saltmarshes are ambiguous places, not having one obvious meaning, and being open to more than one interpretation. They are both known and unknown; valued and (literally) overlooked. We suggest that this ambiguousness is related to both the physical characteristics of saltmarshes, which change and shift on short and long time-scales, as well as to the ways in which people (can) relate with them.
5. We discuss how ambiguity renders saltmarshes as places of exclusive, privileged human–nature relationships, and reflect on the implications of our findings for human well-being and the management of threatened environments. We also consider how multimodal, in-depth and place-based methods such as ours provide ways in which to explore the more intangible and changeable values associated with particular habitats.

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KEYWORDS
interviews, mobile methods, public perceptions, qualitative research, relational values, salt marshes, well-being

1 | INTRODUCTION

A saltmarsh is 'a miraculous, wild ecosystem—as biologically productive as tropical rainforest, as subtly coloured as medieval tapestry' (Macfarlane, 2019). These intertidal wetlands are formed by salt-tolerant plants in sheltered coastlines around the world, particularly in mid-latitudes. Covering more than 48,000 ha of Great Britain's coastline, they provide habitats for diverse flora and fauna including invertebrates, young fish, wading birds and plants (Barbier et al., 2011; MCCIP, 2018). They also provide wave attenuation, reduce flood risk, filter pollutants and are important carbon sinks due to high sedimentation rates, high soil carbon content and burial of organic matter (MCCIP, 2018). However, saltmarshes are at risk because their growth is often truncated as they are trapped between rising seas and sea defences (known as 'coastal squeeze'), and they face pressures from climate change by way of sea-level rise, increased storminess and changes in precipitation, river flow and temperature (Bertness et al., 2004; Millennium Ecosystem Assessment, 2005a; MCCIP, 2018).

While scientists increasingly recognise saltmarshes for the range of ecological benefits they offer (Millennium Ecosystem Assessment, 2005a), little is known about how publics perceive these habitats, their importance for non-material aspects of human well-being and the cultural values that stand to be affected by changes in them (Rodrigues et al., 2017). The few existing studies have tended to use a quantitative approach (Curado et al., 2014; McKinley et al., 2020) or focus on values that can be accounted for monetarily (Barbier et al., 2011; Burkhard et al., 2014; Himes-Cornell et al., 2018). A recent study with landowners and Māori environmental guardians provided important insights into values (including kinship, stewardship, attachment to place) associated with wetlands in New Zealand (Bataille et al., 2021), but research that has focused on wider publics has shown limited awareness of saltmarshes and their potential benefits (Curado et al., 2014; McKinley et al., 2020).

As saltmarshes change under climate change and human pressure, there is an increasing need to understand how these environments are valued and how changes in them may impact people. Understanding how saltmarshes are valued is important because these values influence—and are influenced by—the ways in which people interact with places and therefore gain well-being benefits (or not) from them (Fish et al., 2016; Pascual et al., 2017). Furthermore, these values shape management decisions, with the choice of coastal management interventions being influenced by 'the distinct values and vested interests of different stakeholders' (Chakraborty et al. 2020, p. 1), which also in turn affect the well-being of people (e.g. Chan et al., 2019) and the environment.

To our knowledge, ours is the first study to use an in-depth qualitative approach to explore the values that members of the public hold in association with saltmarshes. We used a multimodal methodology to explore the more intangible values associated with these places—that is, those values that are particularly difficult to articulate, classify, measure and trade-off against each other (e.g. Satterfield et al., 2013); and values that are often overlooked by decision-makers (e.g. Dieckmann et al., 2021). Within the CES community (Chan et al., 2018) and in policy platforms (Pascual et al., 2017), the concept of relational values has shaped recent discussions of these more intangible aspects of human–environment interactions. Relational values are about, or based on, meaning-saturated relationships (Chan et al., 2018) and represent preferences, principles and virtues associated with interpersonal relationships with 'nature' and with others, that make a good life (Chan et al., 2016). In places such as coasts, which are 'always in the process of becoming through heterogeneous interrelations' (Leyshon, 2018: 155), focusing on relationships between people and place is particularly important, and recent research has shown that relational values are useful in decision-making around wetland management in particular (Bataille et al., 2021; Kim et al., 2021).

Within such a relational framework, well-being can be thought of as emerging from situated interactions between personal, social, institutional and biophysical processes (see Atkinson, 2013; Conradson, 2005; West et al., 2018). These interactions—and therefore the well-being that stems from these—change over time. These changes occur as people become more or less capable to interact with and benefit from the environment, and by way of their physical abilities, skills and knowledge, rights, confidence and personal judgements (Fischer & Eastwood, 2016; Fish et al., 2016; Robeyns, 2017). A person's well-being associated with a particular place is therefore shaped by experiences (Conradson, 2005) and embedded in sociocultural practices (e.g., Rietveld & Kiverstein, 2014).

The significance of 'blue spaces' (rivers, lakes and coasts) for human well-being has been acknowledged for some time (Herzog, 1985; W. et al., 2010) and coasts are recognised to have strong symbolic and therapeutic value (e.g. Bell et al., 2015; Poe et al., 2016). However, not all blue spaces are the same, and saltmarshes may be valued quite differently from other environments. For example Elliott et al. (2018) found that visits to beaches were undertaken by a wider spectrum of demographics than other coastal environments. Indeed, research is increasingly showing that coasts do not provide the same well-being benefits to everyone. Importantly, Bell et al. (2019) discuss how some people are excluded from places that provide salutogenic effects for others, while Pitt (2018) highlights elements of 'wateriness' (submersion, slipperiness) that can be disenabling.

These literatures represent an emerging discussion around the ambiguity of blue spaces, which suggests that they generate 'different, even contradictory dispositions' (Pitt, 2018, p. 169). Ambiguity describes a state of being open to more than one interpretation and not having one obvious meaning (Oxford English Dictionary, 2005). Something is ambiguous when it can be understood in more than one way, which can lead to uncertainty and/or confusion (Cambridge Dictionary, 2021). To date, this nascent interest in 'ambiguous places' has focused on ambiguity associated with health and risk at coastlines. In this vein, Collins and Kearns (2007) coined the term 'ambiguous landscapes' to describe tensions between the health benefits of beachgoing and the risks of skin cancer in New Zealand, while Foley (2017: 49) described risk and joy as 'simultaneous outcomes' of sea swimming. These discussions have yet to explore ambiguity in the context of saltmarshes and the implications of this for well-being and management of these important ecosystems.

2 | METHODS

2.1 | Case sites

Saltmarshes can be found in all the major estuaries and inlets around the Welsh coast, totalling around 7–8,000 ha (Natural Resources Wales, 2019). Our case sites (the Taf Estuary in Carmarthenshire and the Mawddach Estuary in Gwynedd, Figure 1) were chosen as the focus of a wider consortium of researchers (CoastWEB, 2020) including coastal flood modellers and environmental economists. They were appropriate for a study of people's relationships with these places because they provided good access (for the public and data collection), a contrast between north and south Wales (with associated language and culture variances) and residential areas close by for participant recruitment. We would not expect the case sites to be representative of all saltmarsh environments, for example heavily grazed marshes or those on the south-east coast of England (e.g. Kent, Norfolk) where marshes tend to be larger and experience more erosion, and where relative sea levels are rising more quickly (Ladd, 2021).

The Taf Estuary is a small, funnel-shaped, macro-tidal estuary covering approximately 8.65 km^2 and being home to four areas of saltmarsh with a total area of 279 ha (Bennett et al., 2020). The River Taf rises in the Preseli Hills and flows 50 km into Carmarthen Bay near the town of Laugharne, where we focused our research. Laugharne is perhaps most famed for its connections with the Welsh poet Dylan Thomas, who lived in the town, but it is also a place of natural beauty and a strong cultural heritage. At one time the cockle industry was a cornerstone of the local economy, and while the industry has since dramatically declined, these edible marine bivalves still play a role in local traditions: when a new Portreeve (the highest ranking official in the town's medieval corporation) is sworn in, he is draped in a gold chain of cockles and carried around the town hall (Misstear, 2015).

The Mawddach Estuary in Gwynedd, north Wales is also macro-tidal and covers approximately 10 km^2 within the Snowdonia National Park (Robins, 2011). Around 219 ha of this is saltmarsh (Boorman, 2003). In addition to boasting a reputation for striking scenery, the Mawddach has a rich industrial history including gold mining, ship building and major operations in timber, slate, tanning and agriculture, which significantly impacted the surrounding landscape (e.g. Gwynedd Archaeological Trust, 2020). Today, very few visible traces of this heavily industrialised past can be found at the waterside, where tourism and agriculture now form the core of the local economy.

While the Taf and the Mawddach rivers both flow through varied landscapes to form wide, sandy estuaries of similar size and shape (Roberts et al., 2021), they lie in distinct sediment cells and are thus subject to different Shoreline Management Plans (Ballinger & Dodds, 2020). Indeed, the approaches to coastal management—and local responses to these—have been quite different in the two locations. Notably, at Laugharne (Taf), where there is a policy of managed realignment, the local community rejected the construction of a surge barrier due to aesthetic concerns (Roberts et al., 2021; South Wales Coastal Group, 2012). At Fairbourne (Mawddach), the policy

FIGURE 1 The location of our case sites in Wales, UK. Adapted from Roberts et al. (2021), based on Wales_location_map.svg by NordNordWest, used under CC BY-SA 3.0 and Wales in Europe 2.svg by Llywelyn2000, used under CC BY-SA 4.0. The Gower Peninsula, referred to by some participants, is also shown

for after 2055 of 'no active intervention' has been met with local opposition and media coverage as villagers face the prospect of losing their homes to rising sea levels (Harries, 2020).

2.2 | Participants and methodology

We used purposive and snowball sampling to recruit 26 demographically diverse members of the public (12 on the Taf and 14 on the Mawddach), aiming to explore a variety of perspectives and draw on different kinds of experience and identities. Potential participants were identified through prior contacts, local gatekeepers and by researchers striking up conversations with people in the respective case sites (e.g. pubs, cafes and shops). Participants included individuals who lived or worked close to the case sites (including farmers, a litter picker, environmental volunteers, a student, boatman, historian, land manager, local councillors, outdoor education practitioners and members of walking groups) as well as those who were visiting from elsewhere (including a dog walker, jobseeker and engineer). Our participants ranged in age from 20s to 70s, and consisted of 13 men and 13 women. The project followed protocols approved by the School of Social Sciences Research Ethics Committee at Cardiff University (Ref. 2699), and informed consent to participate was obtained in writing from participants. Methods are summarised in Figure 2 (see also Roberts et al., 2021).

In the days and weeks prior to interviews, participants were asked to take photographs of anything that they felt was significant to them when using the coast/estuary in any way, to be used later in the interview process (Thomas et al., 2021). Participants were then invited to lead a walk around the case site with the researcher (MT or ER) via a route that was meaningful to them, to explore values relating to place (Task 2). They were also invited to suggest other modes of travel if they preferred, and four interviews were thus conducted via bicycle, tricycle, canoe and boat. Our mobile methods allowed us to place ourselves and our participants in the lived experience (through situated, direct, first-hand involvement), therefore facilitating an exploration of the relationship between the interviewee and the landscape in which we moved (see Bell et al., 2017; Carpiano, 2009; Evans & Jones, 2011; Hall et al., 2006; Kusenbach, 2003).

All modes were qualitatively designed to be open-ended, and to explore various values including unexpected ones (Gould et al., 2015; Ordóñez et al., 2017; Satterfield, 2001). Interviews were therefore semi-structured, with participants encouraged to lead the conversation while guided towards discussions of their thoughts and feelings about being beside/on the coast and saltmarsh. Many of our prompts were designed specifically to elicit narrative responses that use 'storied forms' rather than direct question-answer formats (e.g. 'could you tell me about a memorable time or experience at the coast?'). Such approaches encourage participants to come up with values themselves (Satterfield, 2001) and can help expose 'different and sometimes contradictory layers of meaning' (Squire et al., 2013: 2).

On completing mobile interviews, participants were invited to join the researcher for a sit-down interview, where they took part in three further tasks involving photo elicitation, mapping and word association. First, participants were presented with photographs they had taken prior to the interview. We also provided a 'photo stack' of researcher-generated images. Five participants who had not provided their own pictures were asked to comment on any from the researcher's stack that they wanted to; and we also used this stack as additional prompts—to follow-up on themes or raise new ones—with participants who *had* provided their own images. Participants were asked to talk us through photographs using a few basic prompts such as 'what does this photograph show?' and 'how does this photo make you feel?' (for more details and a reflexive account of this task, see Thomas et al., 2021).

Next, participants were provided with an Ordnance Survey map and asked to annotate it with whatever might be relevant to their interactions with the coast and the ways in which the coast might impact upon their well-being (positive or negative). Prompts included 'do you have any stories related to any of these places?' Finally, for the third sit-down task, we presented participants with 47 laminated word cards (summarised in Table S1). Participants were asked to comment on anything that came to mind, the rationale being to prompt any ideas that participants felt were significant but had not been mentioned during the earlier tasks. While most of the words were drawn from cultural ecosystem services and well-being literature (e.g. Bell et al., 2015; Hirons et al., 2016; Millennium Ecosystem Assessment, 2005b; Satterfield, 2001; Welsh Government, 2015), we added 14 'miscellaneous' words that had emerged during pilot interviews and discussions with colleagues. This task was placed at the end of the session to reduce bias towards these concepts, and we attended to the mode/activity and context when analysing each section of the transcripts, to ensure we were attuned to co-determination and potential biases (see Himes & Muraca, 2018).

Interviews were audio-recorded and then transcribed by professional transcribers. Welsh language interviews were transcribed in Welsh and then translated by a professional translator before being checked for consistency of meaning by the Welsh-speaking member of our research team who had carried out the Welsh interviews (ER). All transcripts were anonymised and checked against recordings to ensure accuracy. Names were changed to pseudonyms, following protocols approved by the School of Social Sciences Research Ethics Committee at Cardiff University—apart from one participant who requested that we use his real name.

Transcripts were thematically coded using a mixed grounded and structured approach, based on sensitising concepts (Bowen, 2006; Glaser & Strauss, 1967; Turner, 1981). This analytic approach draws upon insights into why it is important to utilise both emic (participant led) and etic (researcher led) categories and concepts when coding themes, to promote researcher reflexivity and sensitivity in data theorisation (Henwood & Pidgeon, 2003). In this paper we focus on themes that were identified relating to: the ways in which places were described as incidental or fundamental to participants' well-being; how individuals knew and engaged with saltmarshes; the stories they told us about their experiences there; notions of change; participants' descriptions of

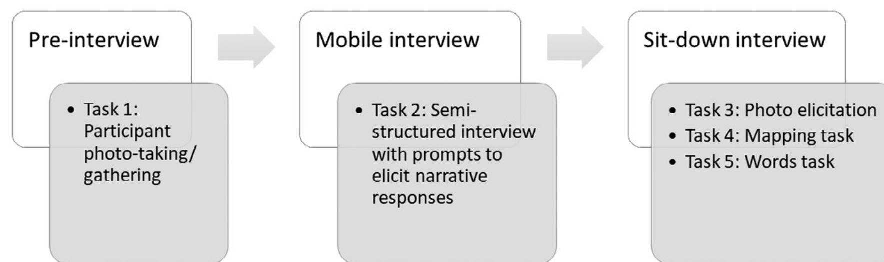

FIGURE 2 Multimodal methodology

well-being; and what they valued—adopting Kenter et al.'s definition of value simply as 'what matters' (Kenter et al., 2019: 1453). We 'flip-flopped' between theory and data to develop an understanding of how individuals relate to the two case sites (Henwood & Pidgeon, 2003: 135).

As is often the case with research such as this, middle-class participants with spare time were more likely to agree to interview (e.g. Fischer & Eastwood, 2016). We provided a £30 honorarium and were willing to fit around participants' schedules, but the research did require a significant time commitment with interviews (tasks 2–5) lasting up to 6 h (the mean interview length was 3 h, with the mobile interview element usually taking 1–2 h). We found that each task generated unique insights and facilitated triangulation between different modes (Flick, 2018); however, the sheer volume of data generated meant a larger sample was prohibitive with a small research team. Another potential limitation is that, although sedentary interviews were offered as an alternative, the concept of 'walking interviews' as set out in our recruitment letter may have deterred less-mobile participants, and none of our participants chose a completely sedentary interview.

3 | FINDINGS

3.1 | The meanings of saltmarshes

Figure 3 shows extracts from the five tasks, mapped onto the Laugharne study area. It shows that the various modes helped build a picture of how one participant, Charlotte, uses and relates with the saltmarshes here and gives a flavour of some of the meanings of this place for her. For example, she described the mud that makes walking on the marsh difficult, noted that she finds beaches more beautiful and voiced uncertainties over who owns the saltmarshes. She also described her spiritual associations with the place, the salience of women cocklers (discussed in more detail below) and the importance of alone time for connecting with nature.

Charlotte referred to her local saltmarsh as a 'funny place', and she was not alone in such a description. The ways in which participants described saltmarshes were threaded with ambiguity, with other participants referring to them as a 'not quite there', 'a bit neither here nor there' and 'a little bit in-between', as shown in the extracts below [emphasis added in italics].

[Charlotte, Taf]: Yeah. And I suppose *it is this funny place*, because in Welsh, it's "arfordir", the coast, which means…I might get this wrong, but it's 'arfor' is …the sea, and 'dir' is land. So, it's the sea land, so it's not quite the land, it's not quite the sea.

[Rachel, Taf]]: I don't know what else I can say about, it's kind of like, it's *a bit neither here nor there*. It's there but it's, like you can't really walk on it because it's boggy.

[David, Mawddach]: It's an interesting, you know, it's not as, like a coastal marine environment and it's not a freshwater environment, it's *a little bit in-between*.

[Ywain, Mawddach]: No, it doesn't really go anywhere, the saltmarsh … somewhere there. You go there and back to tell the truth, you know.

[Lilly, Mawddach]: It feels like a sort of in between, I guess. They're *not quite there*.

While these descriptions render saltmarshes with more than one interpretation, with multiple and even contradictory meanings (e.g. land and sea), we found that ambiguity also emerged more subtly in the stories that people told, the ways in which they interacted with and perceived these places. We found that at the same time, saltmarshes are known and unknown, valued and (literally) overlooked. For some participants, the saltmarsh itself did not play an integral role in the meanings and relationships people forged at the coastline, whereas for others the saltmarsh itself was fundamental to it.[1] For example, several participants spoke about how, at certain times in their lives, saltmarshes provided a space for recreation that could not be found elsewhere. They talked about the playful, imaginative ways that they (or their children) engaged directly with saltmarshes during their youth—jumping over gullies pretending to read the weather, sliding down muddy banks or smashing ice on marsh pools:

[Lilly, Mawddach]: And how, back in the day, they used to have like the weather forecast, […] they used to like be on some sort of a pond with a piece of like fake grass that was shaped like the UK. […] So we used to pretend we were doing that because we'd find different pieces of saltmarsh that were in different shapes, like different countries and stuff, and then pretend we were pointing out the weather in different places.

[Alan, Taf]: [most young people] *don't realise that they can actually use [the saltmarsh] as it is*. Because my son, right, 'round the corner

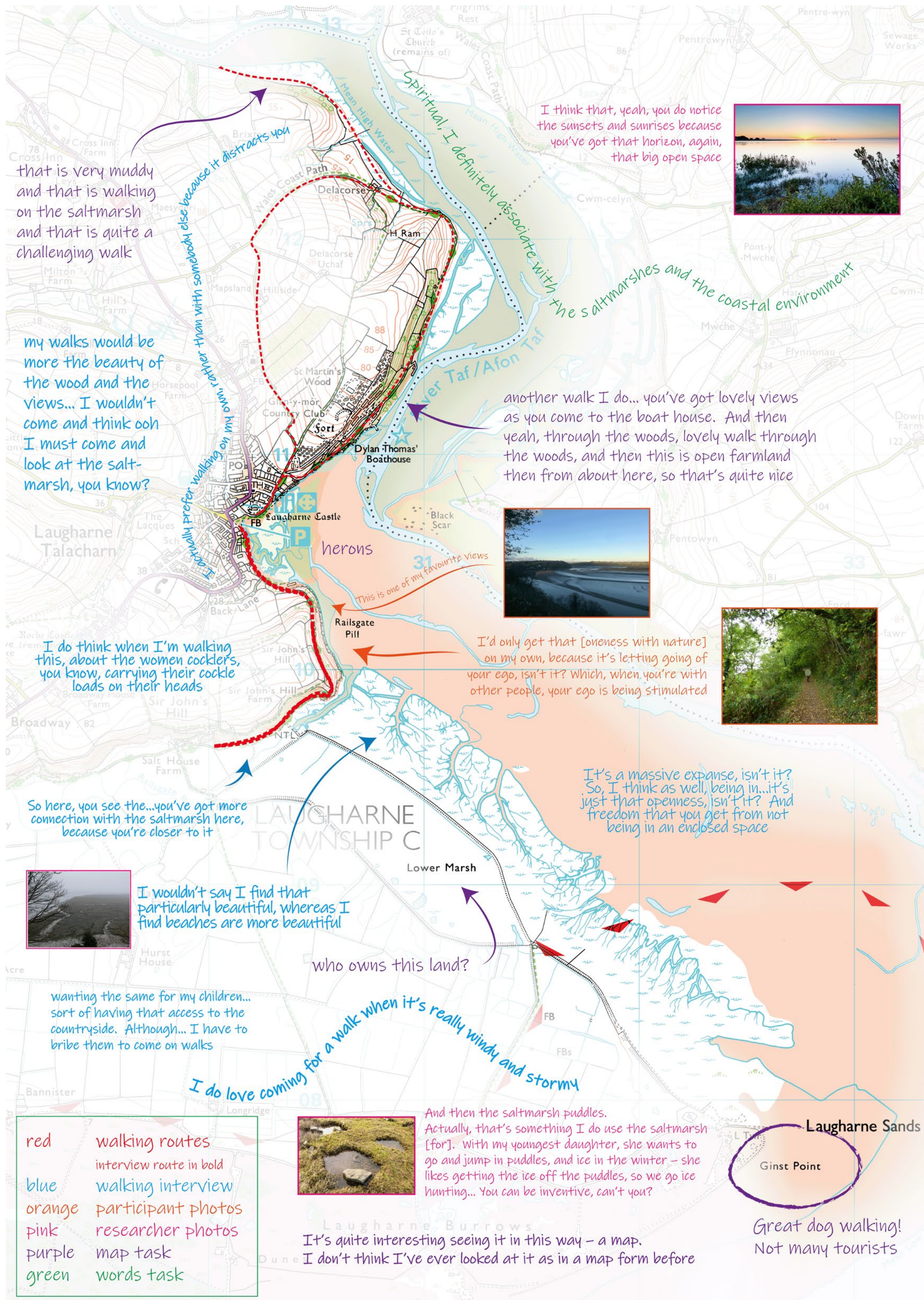

FIGURE 3 Map showing extracts from Charlotte's interview [base map credit: Ordnance Survey]

there back two summers ago, see the banks there, he was like a fool. He made a mudslide [...] and was sliding down the mud into the water [...] He's 25 [years old].

For others, the saltmarsh was more incidental to the meaning imbued in the place. While the saltmarshes provided value, they were not valued for being a saltmarsh:

[David, Mawddach]: You know, I would be thinking, I'll go to so and so, and *that happens to be a saltmarsh*. So, it might be that I might be paddling, I might be walking, and where I'm going is, yes, it's a saltmarsh.

[Rachel, Taf]: It's probably, it's somewhere that I would go because I'm going there and *it happens to be there*, rather than going to a marsh.

Experiences of aesthetic benefit demonstrate a similar ambiguity. Several participants enjoyed looking *at saltmarshes*, with the saltmarsh itself providing aesthetic benefits:

[Alan, Taf]: It's something about the shape of the marsh, like a lung, as I explained, right? If it was just a field you wouldn't pay attention to it. You'd go on... you wouldn't look at it. It's because of the shapes, intricate shapes of the channels, right, it makes you focus on it. So, if it wasn't there, you'd miss it.

[Facilitator]: This is a view, isn't it?

[Bill, Taf]: Yeah, this is just priceless and this is where I would say it's therapeutic. I'm sure I'm not alone in that.

[Facilitator]: [...] And the marsh being there, is that incidental to that, or is that an essential part?

[Bill]: No, it's *absolutely fundamental* to the thing, yeah, I would say because, again, it's just fascinating to look at the way these little pills [creeks] work as well.

For others, participants appreciated the views *provided by* saltmarshes rather than the view *of the* saltmarshes themselves. Their flatness afforded a vista of the landscape beyond, a big horizon for viewing sunsets or variation in the landscape. In this way, saltmarshes provide access to what is valued (the scene) rather than being valued in and of themselves:

[Charlotte, Taf]: I *look beyond the saltmarsh*, you look at...because the vista's so wide, you're not actually...I rarely look at the actual saltmarsh, you know [...] it's more interesting to see, isn't it, what's beyond it...and I suppose you don't often see such a wide-open space, do you? So, you are enjoying this open view which you do not often get, do you? [...] And it's flat, isn't it? [...] So, it doesn't look particularly aesthetically pleasing to me, but then it gives you access to [...] you do notice the sunsets and sunrises because you have got that horizon, again, that big open space.

[Phoebe, Mawddach]: if you've got a stunning sunset, you get that great expanse of sky or blue – if it's sunny like it was yesterday - that you don't get in this kind of woodland environment. So, from that point of view, that's lovely. It's one of the things I loved about Norfolk was these huge skies, and you get that on an exposed area like the saltmarsh.

[Rachel, Taf]: I do quite like, you know like in Three Cliffs [Gower, south Wales] and you've got like that sort of flat marsh, it's like quite a nice mix, because you've got cliffs and then you've got like all the grassland, and you've got the castle. So like there's a lot to look at.

3.2 | Ambiguity arising from place and person

Our findings suggest that these ambiguous meanings stem in part from the physical characteristics of saltmarshes, and in part from the ways in which people relate with them. The changeability of these highly dynamic environments means their meanings also change, over long and short time-scales. In the space of 8 h, they transform from a terrestrial landscape to 'another ecosystem; a marine ecosystem' (Fred, Mawddach). Saltmarshes change colour with the seasons, becoming beautiful as flowers bloom in summer and as berries emerge in autumn, to be replaced by the rusty hues of winter and spring (Susan, below). Over longer time-scales, they shrink, grow, 'move and shift from side to side' over years (Jennifer, Taf).

[Susan, Mawddach]: saltmarshes at the moment are quite sort of dead reedy, buffy colour, like that basket over there, and then they will become alive with the sea lavender and sea buckthorn is beautiful. I mean, late autumn, all the sea buckthorn berries just glow...

In turn, this changeability influences the ways in which people (can) use saltmarshes and therefore relate with and value them. A saltmarsh becomes accessible or inaccessible, safe or unsafe, dependent on factors such as the tidal state and weather/season. Such swift changes have spelled disaster for people at both case sites, and participants spoke of near-misses and tragedies where people had been caught out by rising tides or treacherous conditions, leading several participants to describe saltmarshes as risky. Over longer time-scales, the changes in saltmarshes also bring about changes in the ways in which they can be used. For example, in Laugharne, morphological changes that have occurred over the past 150 years have meant the once-busy harbour has gradually silted up to become a saltmarsh, meaning fewer boat moorings and less scope for boating, described by Alfie in his interview.

Human–nature relationships are not only shaped by the characteristics of the environment, but also by the characteristics of the individual; and our data show that individual capabilities shaped the ways in which people related with, valued and gained well-being from these places. A number of our participants reported feeling confident in using saltmarshes when they possessed certain knowledge, abilities and experiences; capabilities that were in turn embedded in the sociocultural practices that they engaged in, such as playing, boating, foraging and fishing. Several participants clearly articulated how such practices on or beside saltmarshes related with their own personal well-being, as shown in the following extracts.

Charlotte's quote illustrates how through her knowledge of cockling and the embodied practice of moving through and dwelling in the landscape she has developed deep-rooted connections to place that fuel a sense of belonging and personal well-being. For others, the relationship between their practices on/around saltmarshes and their well-being emerged more subtly in the stories that they told. For Jennifer, her knowledge gained through studying saltmarshes provided a privileged relationship that others did not have the opportunity to access.

[Alan, Taf]: we managed to catch some mackerel, and we stopped there, and we cooked it on an open fire. That's a lovely memory there… wellbeing.

[Alfie, Taf]: Well, I'd miss [the coast] if I wasn't here. Yeah, it's been a way of life. I can't say I'm unhappy if I'm not here but I'm always happier in Laugharne, I think, *doing what I normally do and what I know I can do*.

[Facilitator]: so what makes you … feel your … wellbeing is complete?

[Ywain, Mawddach]:: Um just the fact that I get to work here. You know, I'm- … It's like [pause] a privilege to get to come here to do my work, isn't it?

[Charlotte, Taf]: the cockling and the cockle gatherers and the coastal sailing ships. And that history of Laugharne and the saltmarsh, again, it adds to your sense of identity and your connection with your environment and sense of wellbeing […] I do think when I'm walking this, about the women cocklers, you know, carrying their cockle loads on their heads

[Jennifer, Taf]: I guess I feel more of a connection because I'm actually catching [insects on the marsh] as well. So you are really interacting […] So it's quite, *definitely feels like a privilege*. And yes, going out in that area that you would never go out, so you feel like it's, like, you know, has anyone, does anyone go out there ever? It's really, I have to like really climb through lots of creeks that's really hard to access. So probably, like I can't imagine anyone else going out there, so no one knows about that area, that's really cool…

Conversely, several participants described how a *lack* of the right capabilities prevented them from engaging with saltmarshes, imbuing these places with different meanings than for those who felt they could use them. Among the perceived barriers was physical access, with participants speaking of uncertainty about who owned saltmarshes and whether the public were permitted to access them. A recurring theme was the importance of knowledge for engaging meaningfully with these environments. For example, Eve did not feel she could have an opinion about saltmarshes because she did not know about them, and Alan and Alfie (both proficient boatmen) suggested that you 'have to know the tides' (Alan) to use saltmarshes.

[Eve, Mawddach]: I don't understand these things [laughs]. How have they formed? What's the point of these? I don't understand, I can't have an opinion.

[Louise, Mawddach]: Most people stay away from it. The fishermen go down there, they know what they're doing somehow.

[Alfie, Taf]: When in Laugharne the tide is out, people don't like going into the river in Laugharne much. I think it's got a bit of a reputation but you've got to know what you are doing, obviously. People do get caught occasionally. Not so much these days but it does happen occasionally.

[Alfie, Taf]: I bet you the greater majority of people in Laugharne have never been on the marsh. Never.

[Facilitator]: And why is that?

[Alfie]: They've no need to.

As alluded to by Alfie (above), activities that fostered such knowledge are declining on saltmarshes, for various reasons including lower rates of boat ownership, moratoria on cockling and a reduced need to visit (e.g. for food). Indeed, personal capabilities, and thus the relationships people build with saltmarshes, are not static. They may change over short time-scales (whether I am wearing appropriate footwear, whether I am in the mood for walking on a saltmarsh, etc.), as well as over generational time-scales. Participants indicated that their relationships with saltmarshes evolved as children grew up, moved away and returned, imbuing marshes with different meanings over time. This changeability through time adds another layer to the ambiguity of saltmarshes, whose meanings shift with time of day, season and as they become interpreted differently by those who interact with them.

[Kathleen, Mawddach]: I think perhaps, I really liked [saltmarshes] when I was a child and then I kind of lost interest in them for a while when I grew up. […] I think it was that thing that, oh it wasn't exciting enough, I wanted more drama. And then, I think, again, having children, coming back to it and seeing it again, and taking my children there. And they did the same thing, they went off to uni' and they lost interest. And now they bring their children and they remember what they used to do.

[Alan, Taf]: it's changed now, because the children have moved on, but I mean we don't do so much [on the marsh…] Now and again we will but it's not the same without them.

4 | DISCUSSION AND CONCLUSIONS

As saltmarshes change under the pressures of climate change and human development, it is imperative to know what these important ecosystems mean for people. Our research has helped to bring wetlands out of the 'periphery' of discussions of healthy blue and green spaces (Parsons, 2019: 221) and facilitated a better understanding of how they are valued. We have shown that saltmarshes do not have one obvious meaning—they are ambiguous, open to more than one interpretation and sometimes contradictory. They

are at the same time known and unknown, valued and overlooked. For some participants, the saltmarsh itself is fundamental to the meaning of these places, whereas for others it is incidental. We suggest that these ambiguities stem not only from the physical characteristics of the place (e.g. constantly changing over long and short time-scales) but also from the ways in which people relate with them, depending on their personal capabilities. Recognising this ambiguousness has important implications for both well-being and management.

One implication is for the future study of ambiguous places. Saltmarshes are not unique in their ambiguousness, and research suggests that other such environments include islands, which can provide both a positive (calming) and challenging (isolating) experience at the same time (Coleman & Kearns, 2015) and snow/ice, which can 'simultaneously heal and harm' (Finlay, 2018: 77). Like saltmarshes, islands and the cryosphere are among those environments particularly vulnerable to the effects of climate change (IPCC, 2014) and there will be others as climate change intensifies. Our approach, by attending to 'to a variety of modes that surround us (visual, verbal, audio, spatial)' (Henwood et al., 2017: 601) helped us to gather a range of insights from different angles, allowed our participants to express themselves in different ways and thus facilitated a deeper understanding of the multiple (and sometimes contradictory) ways in which they value saltmarshes (see Satterfield, 2001). We suggest that methods like ours would therefore be useful in exploring the values people hold with other such ambiguous places.

Another implication regards distributive (environmental) justice. While coasts and beaches have been described as socially levelling and places of equality (Meethan, 2012: 70; Waddell, 2003; Hunt, 2019), we support others in asserting that coasts are not always as such (Bell et al., 2019; Parsons, 2019). The saltmarshes in our case studies are places of multiple meanings, where some individuals gain considerable value while others do not. They are places of exclusive, privileged human–nature relationships, that are used only by those who perceive they have the capabilities to do so; and on saltmarshes, individual capabilities do not come easily (cf. Ernstson, 2013; Fischer & Eastwood, 2016; Leyshon, 2018; Preston-Whyte, 2004; Read, 2020).

How may managers seek to address this inequity? To enable greater (physical and psychological) access to saltmarshes, future management could adopt what Fischer and Eastwood (2016: 49) describe as 'targeted measures to increase capabilities'. For example, access rights could be made clearer, and outreach activities could aim to increase knowledge about saltmarshes, endowing more individuals with the understanding to benefit from them. At the same time, any management interventions must consider the potential repercussions of 'increasing the prominence' or accessibility of saltmarshes (Lennon et al., 2017: 787). If people begin to interact with saltmarshes more, will their very presence damage the habitat valued by current users? The 'parks versus people' debate represents a concern that encouraging too much engagement risks damaging the very environments that we seek to protect (MacBride-Stewart, 2019) and needs to be weighed against potential human well-being benefits.

Our research also raises questions about how ambiguous places are managed. As saltmarshes continue to play an important role in coastal management (e.g. through managed realignment, habitat creation schemes and regulated tidal exchange; Ladd, 2021), this management should be attentive to the multiple and ambiguous meanings associated with these places. One way is to explore these values in depth with those who stand to be affected (see above), and another is for management to be adaptative (see also Raymond et al., 2018). Our research has highlighted that change is not only inherent in the physical nature of saltmarshes (e.g. climate change, sea-level rise), but also in peoples' relationships with them, and the ways in which they are valued. Because relationships with saltmarshes are changeable, values may gain or lose prominence as the saltmarshes themselves change under the pressures of climate change and sea-level rise, as well as while societies change around them. It might be that a continuing decline in marsh-related activities leads to a corresponding loss of tacit knowledge, rendering marshes increasingly a place for a privileged few. Or it might be that as sea levels rise, marshes become more valued for affording visually acceptable coastal protection (Möller et al., 2014). In this ambiguous environment, everything is changeable. Today's 'funny place' might be tomorrow's aesthetic delight.

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CONFLICT OF INTEREST

Merryn Thomas is an Associate Editor for *People and Nature* but was not involved in the peer review and decision-making process.

AUTHORS' CONTRIBUTIONS

K.H. and N.P. conceived of the CoastWEB work package reported here; M.T. and E.R. collected the data and performed the analyses, and M.T. led on writing the paper. All authors contributed critically throughout the research and writing process and approved the submitted manuscript.DATA AVAILABILITY STATEMENT

The data used in this study include recorded and transcribed interviews, photographs and annotated maps, which will be retained at Cardiff University, per the institution's archiving rules and practices. These files cannot be made publicly available due to participant

confidentiality. However, we will consider requests to share anonymised transcripts for research purposes on a case-by-case basis after an embargo of 2 years, during which time our own analyses continue. Any other data are available from the corresponding author upon reasonable request.

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ENDNOTE

[1] A useful way of 'capturing the ambiguity' of these different values is the distinction between de dicto and de re values, as illustrated by Fish and McKelvey (2021) and described in more detail by O'Neill (2017: 6). Briefly, a de dicto valuation would see saltmarshes as *vehicles* for services, while a de re valuation would value a specific saltmarsh place. It is a nuanced distinction however: it is not only possible to value a specific saltmarsh (e.g. for a particular memory made there), but also saltmarshes in general (e.g. foraging for saltmarsh-specific plants), and finally the aspects of the landscape that saltmarshes afford but could be afforded by another habitat altogether (e.g. a flat expanse over which to view the landscape beyond).

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

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