Tales from the riverside: What community stories can tell us about sustainable water resources management practices.

The integrity of renewable freshwater resources is critical for ensuring sustainable futures for human and more –than-human human life. Developing strategies to mediate and encourage symbiosis between the dominant discourses of sustainable water resources management, the realm of the 'expert', and indigenous knowledges and practices, is essential. This paper argues that informal, biographical storytelling plays a central role in the way that people comprehend and articulate their 'lifeworld': the people, values and actions that make sense to them. Understanding the importance of storytelling is therefore fundamental to connecting sustainability messaging with people's lived experiences. Conversely, indigenous practices can refine and finesse 'expert' methodologies. The author presents the results of empirical fieldwork, undertaken through a series of conversations with residents within three inter-connected riparian communities, which captures performances of storytelling regarding water resources. Cataloguing these community stories reveals the nuanced ways experiential learning and community action form and shape highly individual responses with respect to local water resources management. The community stories detailed here suggest that affirmative action at the catchment level, through investments of time, expertise and funding, help create a sense of communal responsibility, and agency, over local water resources. Policies and processes that fail to intimately connect with these local perspectives are deemed remote, irrelevant and are dismissed. Yet the 'story' of sustainability is still only partial at the riverside; more needs to be done to communicate the urgency and scale of transformative change needed to move towards sustainable futures. The paper suggests that paying closer attention to community stories could enable those operating within the dominant discourses realms – academics, practitioners, technicians, politicians – to not only critically engage with indigenous knowledges and practices, but may also provide opportunities to find ways to seed these stories with the wider 'big history' perspective so essential to supporting sustainable

futures, and water resource integrity, over the long term.

Introduction

The integrity of freshwater resources is a crucial component of sustaining planetary life and enabling communities, societies, economies to thrive (Falkenmark and Rockstrom 2004, Gleick 1996, Seckler et al 1999). Ensuring freshwater security and equity of access for a range of water stakeholders is a central tenet of sustainability practice (Pahl-Wostl 2002, Wheeler and Beatley 2014). Within the diverse spectrum of literature inhabiting the many different disciplines which all connect with sustainable futures research, freshwater integrity retains a pivotal role in irrevocably connecting humans within the 'web of life' of the natural world (Moore 2015). What unites sustainable futures envisioning is a plurality and openness with respect to developing approaches, methods, strategies to overcome the myriad economic, environmental, social and political challenges which threaten human and more-than-human life on the planet (Holling 2000). Sustainability thinking, whatever pathway promoted, involves complex thinking across multiple timelines and at multiple geographic scales (Johnston et al 2011).

One challenge is the difficulty of communicating these 'big ideas' concerning sustainable futures, which requires people to re-evaluate how they live their lives. Within sustainability research temporality is crucial. 'Big history', genealogical time, the time of crises, their causes and effects, must be mediated by understandings of lived or everyday time – the time of now and the ever impending future which is just slightly out of reach ahead of us. For theorists such as Christian et al (2013) and Spier (2015) it is precisely the enormity of 'big history' that renders humans unable to comprehend the scale and speed of changes currently underway – we have lost our place in the

'big history' chain of events. Spier argues we have yet to reconfigure our cognitive capacities and understandings to meaningfully engage with sustainability issues that currently feel too big, remote and 'out there' to have a resonance with our daily lives and actions. E.O. Wilson describes this as being in between stories (2014); Campbell and Moyers (2011), amongst others, suggest that we need to reclaim the power of storytelling to embed ourselves within our own narratives and enable us to reclaim agency within our daily lives.

This paper asserts that exploring the ways in which individuals within communities use storytelling to communicate how they understand and describe their worlds could make a significant contribution to co- constructing sustainable futures. We argue that biographical storytelling is one way that people share with others their sensory experience of being alive. Yet storytelling is more than this. Storytelling shares narratives which both build collective identity and empathy within lived, biographical time: the time of personal memory and ongoing reflections on lived time. Moreover, storytelling is embedded in communal lives and relates to adaptive, co-learning processes with others. If it is possible to determine how scientific, academic and governance understandings of sustainability, which we collapse into the contentious shorthand of the 'expert', (Macnaghten and Urry 1998) can make sense in the stories that people tell each other, then it may be that the networks created by community stories become important ways of disseminating and actioning practices of sustainability; and for the 'experts' to finesse their approaches too.

It is argued in this paper that the sustainable futures literature does not yet explore with sufficient detail and granularity the ways in which local communities use, shape and deploy storytelling to share their sense and knowledge of the world (Agrawal 1995, Whyte 2017) with respect to sustainable futures. To frame this within a specific context, we have concerned ourselves with

using sustainable water resources management practices as a synecdoche for wider sustainability positionalities. Consideration here is given to thinking about storytelling outside of limited epistemological frameworks, to appreciate that the 'mood' or framing of a story is a mode in which a sense of the world is communicated; indeed, it may be that this sense or mood is equally important as knowledge in understanding an individual's relationship with his or her environment (Schauffler 2003). Further, as these stories are grounded in place and time, these closer, contextual sensory mappings onto the world collapse the 'big' stories about sustainability into something more immediate and comprehensible. Focusing in on changing water environments as exemplary of tangible, sensory alterations in our landscapes, emblematic of a rapidly changing climate, we can argue that to effectively communicate policies and strategies which support sustainability these closer insights as to how indigenous communities (in the sense of lives lived locally) interpret their changing environments are valuable. Stories are, by their nature, open to new interpretations. Through learning about indigenous, local biographical stories of human-waterscape interrelationships it may be possible to interrupt, disrupt, redirection these sense-making exchanges to further embed sustainability narratives. Our research enquiry can be framed as: in what ways do community stories about changing local water environments inform us about sustainable practices already engaged with and challenges faced at the riverside? Further, how can we use the insights gleaned from these stories to reduce the dissonance between knowledge realms in support of sustainability? Thus, the central research question posed by this paper considers: to what extent do the stories that individuals and communities tell about their 'lifeworld' mediate and contest the dominant discourses on sustainability?

In this next section the paper outlines what 'sustainable water management practices' can mean, whilst stressing that even the most innovative remain divorced from the ways in which almost all people think, access and connect with water resources in their daily lives. To further interrogate

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this disconnect, the paper outlines an approach based on community located empirical fieldwork. The focus of the fieldwork was to encourage individuals to share their experiences, understandings, practices and knowledges in response to changes in their water environments. A series of stories emerge that highlight how sustainability is 'lived' within indigenous lives, recalled through memory over time and developed through physical and emotional relationships with others and with the wider natural environment.

Defining sustainable water resources management practices

Of late, diverse understandings of sustainability have developed. As there are multiple definitions of sustainability (Theile 2013; Sneddon 2000), so there are multiple roadmaps to enabling sustainability (Mazmanian and Kraft 2009). Swyngedouw (2011), amongst others, is cogniscent that though the sustainability discourse sits within a 'post political' framing, it operates within highly politicised spaces. As a result, sustainability reflects the 'normative values and predispositions of the actors who frame it' (Weaver 2015: 227). Trottier's (2008) exploration of the hegemony of types of epistemological community dominant in the water sector – scientific, infrastructural, international development-orientated – that have simultaneously intentionally and unintentionally closed discourses -is particularly illuminating with regards to sustainable futures thinking. For Trottier, the dominance of particular types of knowledge means that water management 'expertise' works in particular scalar and spatial domains, with little meaningful interrogation between realms (Budds and Hinojosa 2012). The effect is to pigeonhole types of knowledge; IWRM is the domain of hydrologists and engineers (Allan 2006), water stress has been 'owned' by climate change scientists, ecologists and environmentalists, whilst sustainability is increasingly defined through global institutions, epitomised by the 2030 Sustainable Development Goals along with its predecessors. The utility of Trottier's perspective is to be aware of the different knowledge realms operating and to use this insight as a spur to embrace new knowledges with equal reverence. Sustainability planning from this perspective is rooted within a pragmatic desire to address the

tenets of the original Bruntland definition of intragenerational sustainability (WCED 1987) within a framework which enables participatory transdisciplinary learning across a range of stakeholders (Swart *et al.* 2004; Schneider and Rist 2014) and is reflective of alternative sustainability trajectories (D'Alisa *et al.* 2014). This is especially pertinent as we move towards thinking about how to operationalise the 2030 Sustainable Development Goals and in particular SDG 6; ensuring the availability and sustainable management of water and sanitation for all. Target 6.b, supporting and strengthening the participation of local communities in improving water and sanitation management (https://sustainabledevelopment.un.org/sdg6), brings our attention to the micro catchment level.

The range and sophistication of thinking on sustainability suggests an intensification of 'expert' thinking, and a growing sense of how to make the link between policy and practice. However, a significant problem is working between expert discourses and the way in which 'non experts' understand their environments. It is necessary, therefore, to interrogate the ways that people understand their own lives, and their own actions, to find routes to link indigenous practices with scientific discourses. We argue this means understanding storytelling.

Storytelling

Stories are about people and places. Adger's et al.'s work (2005, 2009) along with that of Tuan (1974), Ingold (2000, 2003) and Massey (1991) all explore the importance of place embeddedness: that a person's sense of self is spatially fixed within landscapes that are resonant for them. When we talk of a place, or a story of a place, then that story, to some extent, is a story we share about ourselves and how we understand the world (Low & Altman 1992). As Ingold (2015:90) states 'the storyteller draws out the line of narrative from the echoes of memory'. Elinor Och's work goes further to suggest that personal stories are concerned both with 'recollection and anticipation' (1994:106) that within any framing there is the overlayering of the present and the future. From this

perspective stories are people, places, time past and time to come which are not so much

knowledges but ways through which we shape how we understand ourselves within our world.

The Intergovernmental Panel on Climate Change suggest that more localised research needs to be

undertaken to understand the emergent range of climate change impacts on everyday lives (IPCC

2014). Yet in some ways at least scientific 'certainty' has to be supplemented by qualitative

understandings of what Habermas (1984), drawing on Husserl, describes as the 'lifeworld'. In

summary, a lifeworld is constituted by one's immediate concerns. In distinction to formal worlds,

driven by logics of commerce, business or economic rationality, a lifeworld might connect through

senses of memory, emotion, or the granularity of a life lived. One of the problems is, of course,

reconstructing lifeworlds. To some extent, and in a relatively formal way, this can be the work of

certain forms of narrative. Thus, a personal diary might construct a lifeworld, a blog, vlog, twitter

account or email. Whilst these are ways into lifeworlds, the research on which this paper is based

understands informal storytelling as part of the active construction of a lifeworld.

A story, admittedly one told to a researcher by an interviewee, gives access to sets of concerns that

are often very specific and related to an individual's embeddedness in the place that they live. We

know too that social science research 'enacts' (Law and Urry 1999) changes in the social world.

Empirical fieldwork creates effects. Asking people about their experiences causes them to be

reflexive about both the story they wish to tell and why their experiences are deemed important

enough to merit research. We argue in our approach that even though fieldwork research questions

may remain consistent, each retellling by the interviewee may slightly change, though the emergent

key themes will have continuity. Recognising that stories can be at once partial, subjective,

unfocused, and contradictory (Latour 2005), highlights the inherent empirical difficulties of mapping

our lived experiences at the micro level of the social with social science techniques that require

certainty and replicability. The methods section, below, outlines the ways that this fieldwork works with uncertainty to identify how sustainability is framed by local residents at the riverside.

Methods

The methodological approach of the empirical fieldwork is concerned with the exploration of self, place and storytelling with regards to water resources management and sustainability, contextually situated within the lives of other community members. Community is understood here as a local population, connected together through shared physical terrain. The aim of the overall research project from which these community stories are drawn was to understand individual responses to, and articulations of, changing water environments through extended conversations. It explored both the range of local knowledges evident within a specific geography of place connected with water resources, together with experiences of lived time, memories and future prospects, to establish respondents' narrative sense of their world (Newton and Parfitt 2013). In order to uncover these nuanced response profiles from residents, the fieldwork adopted a qualitative semi-structured interview methodology. The research focused on a section of a river corridor to begin to map the various spatial and temporal relationships between citizens and their immediate water resources. Through examining linked communities, in this case connected by the river itself and through shared economic and cultural resources, shared water resource management administrative and regulatory institutions, the aim was to pinpoint the actions, people, processes and behaviours which would reveal a narrative sense of time, place and self. Within the UK some work has been undertaken to explore the connectivity between people and their local waterscapes (Strang 2004), though this is generally framed within a specific context such as flooding (Lane et al 2011, McEwan et al 2017), drought (Dessai and Simms 2010) or water quality (Faulkner et al 2001). To capture the intimacy of the stories of people who live and reside alongside their local water resources the research approach was to select three interconnected riparian villages, all sharing one riverside, but with their own

distinct array of springs, ponds, sewers, drains, streams, ditches and brooks (see Figure 1 below) which collectively make up their local water resources.

Figure 1: The three riparian villages of Steyning, Bramber and Upper Beeding, West Sussex, UK.

Through talking to people across the three riverside villages, the aim was to find both stories which shared a connection across the area, but also to uncover stories relating to the specificities of each villages' own water resources and waterscapes. The River Adur within West Sussex in the South East

of England was selected as the river of study, with the mid catchment villages of Steyning, Bramber and Upper Beeding, all sitting adjacent to the river chosen as the sites of enquiry. This area of England sits within a rain shadow with predictions of water stress for the region within the coming thirty years (Rodda 2006).

The River Adur is a medium sized river catchment which has a diverse array of sustainability issues such as both diffuse and point source pollution, impacting on water quality all along the river; fluvial, pluvial and coastal flooding affecting both wildlife and human habitats, as well the long term effects of growing urban hubs at Burgess Hill, Henfield and Shoreham (see Figure 1) on water use and allocation. The river also has a number of Sites of Special Scientific Interest (SSSIs) along its course, and several chalk streams which are increasingly a rarity in this part of England. The catchment sits within a national park, the South Downs National Park, which imposes planning and development restrictions. Along the river's course there are a range of urban, peri-urban and rural sites and at the mid-point of the catchment, just above the study site, the two upper catchment branches of the river conjoin beneath the growing town of Henfield. The study site is notable for mixed arable and livestock farming, and above the river valley sits the Sussex South Downs which attract tourism to the villages from local walkers and biking enthusiasts.

Purposive sampling was undertaken to access respondents who were deemed likely to have insights into water resources management due to their professional, recreational or civic water related interests, or those whose domestic residences situated them close to local water resources. These water related interests included historical, environmental, cultural or political spheres, so contacts were made with local museums, businesses, history groups, parish councilors, environmental organizations and artists as well as domestic householders approached at non water related community events. From these initial contacts further contacts were snowballed as future

interviewees were recommended. Interviews were continued until all key stakeholder groups, identified at the piloting stage of the research, were represented (see Table 1). To structure the conversations respondents were invited to talk widely about their memories, responses and actions towards changing local water environments in whatever context appealed to them. Interviews were recorded and transcripts prepared. In all twenty nine respondents were interviewed with interviews lasting between 60 and 90 minutes (see table 1) during July 2015 to February 2016.

Thematic analysis was undertaken to categorise the central concerns of each respondent with regards to water resources management and changing water landscapes (see Table 1 below). The data was then revisited to interrogate how these concerns are framed in terms of sustainability; and who or what are deemed culpable for enabling or resolving socio-economic, environmental or political sustainable transitions. Some responses directly addressed sustainability, but most were inferred through references to changes over time and prospects to come and the potential for stasis or change. This secondary analysis enabled the research to identify in which knowledge domain water resources sustainability 'sits' from the perspective of the interviewee; as an indigenous issue approached through a community focus, a regional 'meso' issue to be handled by municipal authorities, or something wider, at a more global in scale. These spatial framings reveal the interviewees intuitive understandings of sustainability debates, couched within the language, and from the viewpoint, of their lifeworld.

Interview number	Community role/ interests	Key storytelling concerns	In what discourse domain do interviewees frame sustainability?
1.	Conservation	Wildlife, rewilding	Ecological
2.	Councillor	Drainage	Financial and policy
3.	Conservation	Wildlife	Ecological/ Community
4, 5.	Farmers (x 2 i.e group interview)	Flooding from building development, Rainfall perturbations associated with climate change, food security	Governance
6.	Environmental	Rainfall, water conservation, society attitudes to the environment	Attitudinal
7, 8.	Local flood	Flooding	Domestic level, community

	committee (x 2)		involvement to support individuals
9.	Householder	Rainfall changes	Business as usual
10,11.	Building development (x 2)	Success of project, climate change, affordable housing	New technologies
12.	Environmental	Water quality, water quantity	Governance
13.	Householder	Historical changes to river valley	Community
14.	Environmental	Rainfall, water company responsiveness	Private sector
15,16,17.	Householders (x 3)	Historical experience, local council involvement, drainage	Community
18,19.	Residents' Action group (x 2)	Drainage, road flooding, parish and local council activity, land ownership and management	Community, local governance
20.	Local Business	Water quality, water pricing	Governance, private sector
21.	Councillor	Land fill leading to water pollution	Governance, private sector, community
22.	Estate Manager	Localised water management, community relations, climate change effects on people and the environment	Attitudinal, community involvement to support individuals, governance
23,24.	Parish Councillor & Conservation volunteer	Drainage, governance, parish and local council activity, road flooding. Water quality	Financial, policy, wildlife
25.	Retired Southern Water	Historical experience, local council involvement, drainage, flooding, comprehensive water management	Governance, financing, expertise, dominance of policy agenda towards the environment.
26.	Drainage Engineer	Drainage, planning, governance, parish and local council activity, flooding.	Governance, parish councils, local expertise
27.	Planning Authority Representative	Planning, sustainability, environment	Governance, national policy
28.	Householder	Environment, sustainability	Human capacity
29.	County Council Civil contingencies	Planning, flooding, community, emergency 75 services, localism	Governance, localism, community.

Table 1: Listing of 29 the catchment interviewees' water management concerns and storytelling mode

The following sections of the paper outlines three community stories that are emblematic of the range of insights regarding water resources sustainability shared with the author. The stories, and an interrogation of their utility, is offered in the next section.

Results; Three community stories about life, people and water

Riverside story 1: Row, row, row your boat

Within this story we have a community who wish for their local lane's natural spring to return to its former, remembered incarnation as a cherished water resource. For many generations of villager local children used to sail homemade paper boats along its length singing the nursey rhyme 'row, row, row your boat'. This small spring acted as almost a miniature of its local grandee, the River Adur, as it emerged from the upper slopes of the chalk Downland to gently flow on the side of the road into the village beneath. However, some residents argue that land management changes higher up the lane over the past four years has led to water cascading down the land in wetter months, along with soil debris, eroding the road surface. The stream now turns into a 'torrent' in autumn and winter, sitting at the bottom of the lane as a brown stagnant mass which billows and pools, washing out garden walls and making routeways difficult. Complicating matters, satellite navigation technology diverts the large delivery trucks which service the large farm estate at the top of the lane up this narrow lane. These fast moving trucks causing the standing water and attendant debris to wash away walls, break car windows and leave potholes in the road. Whilst interviewing residents the researcher had two car tyres punctured by these very holes. The local residents argue that better upland soil management techniques and improved road infrastructure to stop lorries driving up and down the narrow lane would return the spring to its former glory. The farming estate claims that changing rainfall patterns are causing the increased surface run off and that satellite systems usage by their suppliers is beyond their control. Those tasked with negotiating these conflicting perspectives are the parish councilors, themselves voluntary local residents whose remit and resourcing operate within a 'politics of austerity' (Kitson et al 2011) which limits response options.

This story is concerned then with remembered, generational histories documented with photos, singing, and memories of the residents' own childhood and that of their children. Their intention is to live in harmony with the spring, but they are unwilling to accept its new physical state, as this also means a detrimental outcome for them within the story. The downstream residents see the water as

a problem to be resolved, to enable a return to a former state. For the upstream land owners the water is an outcome of climate change impacts, as heavier more frequent downpours changes how water falls and moves through the landscape. Their story is one in which their landscape and livelihood is changing negatively too – but they identify the causes differently from their downhill neighbours. Sustainability here is a story of mixed viewpoints with equal validity, with no clear resolutions, but an openness in discussing issues which impact differentially on residential property owners and land owners.

Riverside Story 2: 'They don't live here, they just sleep here'

The above quote is taken from a respondent who had spent all of his working life in one of the villages, leading a council team of workmen whose role was to undertake the management of the river under the guidance of hydraulic engineers. His family and his working life are embedded within the landscape. He does not present an idealised version of village life, but one forged in living and working alongside local riverscapes. His comments inferred that, in reversal of stereotypical concepts of ageing, it is the young in the village who had become invisible: they were either in their cars commuting, or at home recovering from the working week. They were not connected or engaged with the life of the village. Their visibility only comes to the surface when there is a problem or issue which affects their home. This casts Riverside Story 1 in a different light. If the lane had not flooded or eroded the hard- standing of the road, or become in any way problematic, would the residents of the lane still relate to each other so closely? Firm friendships have been forged through the problems arising from the spring on the lane – would this have been the same if problems had not arisen? And has the experiential learning created by the problems raised awareness of other issues around sustainability and climate change, and indeed around the nature of governance and personal responsibility?

Another local resident and parish councillor also noted how people in his community only attend council meetings when their lifeworld is deemed under threat. In this situation it is to do with defunct landfills leaching foul-smelling waste into the local river. According to the respondent, only when the pollution becomes obvious – due to smell, discolouration of the water, or algae blooms due to the pollutants, will residents take action and petition. For this respondent the threat needs to be obvious and close at hand for people to act. Too far removed and the urgency declines. Again, he links this with a lack of community cohesion as he recalls:

'*When we had trouble with the tips and everything and, you know, we'd manage, we would manage to fill the village hall when there was a threat, when there was a threat of something happening, yeah, then you can get them bandied together, but when there's no threat it's very difficult'.*

This story tells us that there is a community presumption around how the river should function – it should flow, be clear, provide a thriving ecosystem, be free of smell or of any attributes of anthropogenic artifice. Yet rivers are intimately linked with our industrial heritage (Strang 2004) and emblematic of Victorian enterprise and economic wealth. In industrialised economies, communities relied upon rivers to convey goods and still act as a means to discharge human and other effluent. This sanctifying of the river system can be seen to connect with the rural idyll about our imaginary landscapes. When asked about how water management should be organized in years to come the former water engineer stated that it should be 'all under one umbrella' but that the current narrative was to separate the environment out from infrastructure planning or local development policy. For him this disconnect privileges biodiversity above community lives: 'they're all out for the birds and the butterflies aren't they?'.

Prevalent within community resilience literature there is an emphasis on localism, on agency, of the engaged resilient actor-citizen (Edwards 2009). These attributes are associated with vitality and vigour, associational strength and a motivation that is associated with community

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mindedness as demonstrated with Riverside Story 1. Yet the fieldwork revealed something more complex, more nuanced, with the starting point leading from what Harvey has termed 'disruptions of social networks' (2011: 246). Cloke and Goodwin (1992) noted the way in which economic reconfiguration and a creation of a rural 'idyll' reshapes the nature of rural spatiality. Commuting, home working, leisure economies rather than agricultural economies have altered expectations of where and how income is generated. This combined with the packaging of a rural 'lifestyle' leads to a rupture between embedded locals and those who have in-migrated. In many ways then the rural idyll is a fiction about a romantic way of living – with residents immersed in cosy community life, with fresh air and space for children, and a happy welcoming community spirit for adults.

Thinking ahead to sustainable futures we may need to find routes to reshape this imaginary to both reaffirm the multiple role of rivers in our societies and use this as a way of engaging citizens with an understanding of how their daily choices impact over time on the landscape. Pristine rivers can only be achieved through everyday changes in how we choose to live. Rather than presenting landfill leachate as a governance problem, it should be represented as an issue of our everyday, intra-generational lifestyle choices, to highlight that there are trade-offs of which we need to be cogniscent.

This also involves an affirmation to be engaged with our lifeworld in the everyday, beyond and above challenging times, as a way of imprinting ourselves positively on our environment. This community story suggests that it is not just place connectivity that has importance – but age connectivity too. The respondents that were most engaged with activism, whether as parish councillors, in local flood action groups, resident's associations or volunteering in community orchards and greening groups were all those of retirement age. Their focus on contributing their

energies and expertise towards a variety of agendas which support water resources stemmed from a desire to be engaged with their immediate environments, that there was no time to postpone involvement. Ageing and place become the unifying point at which one of the core concepts underpinning an alternative sustainability trajectory for economies, that of 'degrowth', come together. Here economies are encouraged to stabilize, retract and shrink to enable a less consumerist mode of economic organisation, with a focus on utilising existing resources. Here, as Chris Carlsson suggests (2016) 'redefining life's purpose', is finessed. Reflecting back, projecting forward, but operating in the continual 'now', these elders helps us to consider possible other sustainable futures that the degrowth imaginary offers. This enables us to see that our original story statement 'they don't live here, they just sleep here' is not a criticism but a desire for the younger generation to enjoy a more integrated connection with their community and local environment if community sustainability is to flourish. This leads us to our final riverside story. This entwines the environment, voluntary work and an older cohort of respondents actively engaged in sustainable practices.

Riverside story 3: If you get it right for the fish, you get it right for everything else

In our final community story sustainability develops from unexpected sources. Here different

community groups have banded together to work on river restoration. For conservationists

allowing rivers to return to their natural course supports rewilding initiatives and biodiversity and is

beneficial to supporting natural flooding zones. Community orchard schemes in the locality, which

are connected with supporting sustainable local food sources, also enables tree planting which

provides shade to the river for spawning fish, and soil protection to prevent riverbank erosion.

Anglers work with them to rehabilitate fish spawning grounds in support of long term continuity of

local species for their recreation and to promote a diverse riparian environment.

Normally these three organizations would work in separate spheres. In particular, wildlife

conservationists often have no affinity with anglers due to the sporting nature of their pastime; with the fish as the quarry rather than a protected species. Yet in this story fish are the unifying factor as all three groups recognize the need to protect biodiversity over the long term. As one conservationists stated: 'if you get it right for the fish you get it right for everything else'.

Whilst the activity of river restoration was motivated from various sustainability perspectives the communal outcome was to create a thriving river, with enhanced water quality, improved conditions for spawning fish and strengthened riverbanks to slow water progress and deter flooding events. Of great interest is that these community groups do not publicise their work: their stories needed to remain secret. This invisibility is linked to poaching, and in particular to the action of renegade anglers. Reveal where you are developing spawning grounds and you reveal the sites of vulnerable fish, easy to catch which, over time, reduces the number of breeding adults. The work in developing the spawning grounds, or gravel 'redds', of migrating trout was very important in this section of the study area. For many years the decline of trout was linked to the river system being neglected, with the smaller tributary streams left to become silted up and in-filled with debris preventing returning sea trout from accessing spawning grounds and those spawning grounds decimated by poor watercourse management. Equally, young trout setting off to sea were deterred in joining the main river through its faster movement leading to greater sluice use. This fast movement can, in part, be attributed to increased run off from new building development and heavier episodic rainfall events.

From a community perspective the three groups, over the course of the restoration work, have developed mutual respect. The 'story' is orientated around the fish, and this enables a side stepping of difficult conversations about motivation and goals. Rather, the respondents now feel able to discuss other water resource projects due to the mutual respect that has developed through working together and sharing the restoration story. Sustainability is then a shared, joyous

endeavour, connecting people with nature in a collective spirit of mutual work. Each of these three community stories reflects the very different motivations of the participants, which in turn is instructive as we think around constructing pathways to communicate sustainable futures messages.

Discussion

The objective of this article was to understand in a more detailed way how residents in waterside communities perceive, articulate and respond to changing water environments. The aim was to determine linkages with the challenges that resource management and policy practitioners face and to identify spaces and approaches through which sustainability messages can be communicated. The results show a wide range of responses, from the formation of campaigning groups, to direct fundraising and action, to disinterest until the physical properties of the river had become aesthetically discordant. Importantly, these community stories enable us to reflect on the wider importance of sustainability narratives. Of special note is that throughout the analysis of all twenty-nine interviews there were scant direct references to sustainability, environmentalism or even being 'green'. This terminology was outside the language of the respondents. This suggests that there is a disconnect between performances of care, concern and action (Held 2006), taking place at the catchment, and an ability to see these as linked to practises which contribute to macro sustainability objectives.

Instead the focus was on action; meetings that were taking place to raise awareness, organising letters of support, fundraising, clearing out drains and digging in gravel. The responses were experiential, physical and communal in nature – direct, self-organised and outcome orientated. Of great significance are the role of the elders in all three communities, fulfilling a role that Loorbach and Rotmans (2010) have typified as that of the 'frontrunners' (2010: 243): 'Frontrunners, in particular real go-getters with an overly amount of energy and enthusiasm to combat the many

hurdles within the regime, need support and especially space for their innovation activities. Innovation space for frontrunners turns out of crucial importance in transition processes'. It could be suggested then that there is a clear willingness to enact a custodial relationship with local water resources, even if the motivation behind the intent is not framed in terms of sustainability. Transitions towards sustainability may not be articulated vocally: instead they may be enacted performatively.

In the first community story all three parties felt unsupported and argued that the former mediator, the local council, had withdrawn from view. Yet dialogues continue in an attempt to find resolution. In the second community story, modern rural livelihoods have ruptured community involvement in participatory processes, linking with Putnam's thesis on declining social capital (Putnam 1995). The difference in response between both stories is the immediacy of the threat – when the threat is acute, direct, immediate social capital develops – and over time deepens as neighbours work together to discuss, resolve and plan approaches and trust develops. In many ways it is this issue of trust which links the three stories, and its role in enabling collaboration is evident, particularly in the final community story. The actors involved there have diverse motivations for river restoration, but the clandestine nature of their activity, together with the need to co-operate across spheres of expertise, links them in a correspondence of mutual reliance which appears to enable close working relationships with parallel, but not necessarily interlinked, objectives. Again, what is clear is how trust has enabled sustainable responses to flourish.

Writ large onto sustainable futures dialogues, these findings highlight the importance of supporting relationships based on mutual respect and trust to enable collaborations and innovations the time and space to embed themselves. This could be the antidote to what Tim Jackson has described as the epidemic of 'social recession' (2009: 144) which blinkers sustainable futures. It appears that developing these relationships of trust first through action is fundamental. Returning to how we

achieve the 2030 Sustainable Development Goals, this action first, bottom up approach may prove a route forward in tandem with other forms of governmental engagement.

These three community stories reveal the essentially experiential nature of the lifeworld. Experience is social, and thus the meaning of experience is always embedded in social networks: who did what and when; who said what to whom. The events described are done so in practical and pragmatic terms; indeed, people are brought together in social networks to deal with issues that affect them all. It would follow that an understanding of sustainability has to be entirely local: how local is an interesting question- but- the main point is that general, overarching 'narratives' might make no sense to people. Furthermore, we might say that water resources managers and others within the dominant discourses domain need to target the micro scale in order to make sustainable futures messaging salient and credible.

This issue has, to an extent, appeared in the literature. Loorbach and Rotman talk of transition arenas (2010: 243). We can go further than Loorbach and Rotman and suggest that the 'transition arenas' must be deliberately co-created. In all three of these community stories the forum which offers the potential to discuss issues widely could be through group collaborations such as citizens' juries (Wakefield *et al*. 2015) or transdisciplinary scenario building workshops (Schneider and Rist 2014), held in some community, communal space. Using the concept of sustainable futures as the guiding principle, these juries and workshops enable ideas to be explored and perspectives to be shared (Wakeford *et al.* 2015). There are limitations to this approach (Crosby 1995) but they do enable a means for all the community to make a contribution and understand the limitations, concerns and viewpoints of others joined within the debate. These co-learning methodologies also help people locate their experiences within wider narratives and discussions such as those of sustainable futures. Reflecting again on the successes depicted in the community stories it could also be suggested that this involves a commitment of

time, as well as expertise and financing, in order to develop what Schneider and Rist have called 'visions of the future' (2014:470).

Implicit within the study is the scarcity of time – in multiple senses. Respondents and volunteers are mainly elders – as the younger adults are working, commuting, raising families or caring for elderly relatives. Younger adults seem to be locked out of sustainability debates – not through lack of interest, but lack of time. Yet time is precious when we return to the climate change science evidence and may be the very factor that will ultimately be transformative.

Conclusions

This study has used community stories to reveal the nuanced ways experiential learning and community action in relation to water resources sustainability emerges. Biographical storytelling provides us with intimate disclosures of people's lifeworlds. These insights demonstrate that by accessing the stories that make sense to indigenous lives we can potentially find a closer accommodation between the aims of sustainable futures thinking and how these messages are understood, interpreted and enacted by communities. Our community stories highlight that policies and processes in support of sustainability must be sensitive to the particular socio-economic, cultural and political contexts and contingent temporalities of these shared lifeworlds. Generic messaging fails to grasp the nuances of lives lived alongside local water resources and the importance of time – memory, the everyday, future hopes, dreams, anxieties- in shaping our relationships with ourselves, others and the landscapes we reside within. Instead, understanding local community stories about changing water environments enables us to appreciate the need to refine sustainability action and communication in a way that is tangible and useful for local citizens, actors, agents, beneficiaries – however we categorise ourselves and others. Paying closer attention to community stories could enable those operating within the dominant discourses realms – academics, practitioners, technicians, politicians – to not only critically engage with

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indigenous knowledges and practices, but may also provide opportunities to find ways to seed these stories with the wider 'big history' perspective so essential to supporting sustainable futures, and water resource integrity, over the long term.

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