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## **"I've had dolphins ... looking for abalone for me": Oral history and subjectivities of marine engagement**

**Andrea Gaynor and Joy McCann**

Abstract:

While oral histories have been used as a source of information about marine species and ecosystems in the past, this article explores how oral histories of fishers and divers may be read as narratives about human relationships with marine environments and animals. We propose that in listening closely to people who have long and intimate experience of the underwater world, we can begin to understand the subjective, emotional dimensions of what are now regarded as unsustainable fishing practices. These narratives also encourage us to acknowledge and take seriously the ongoing significance of anthropomorphism as a way of conceptualising and relating to the non-human world. Oral histories have a significant role to play in fostering human capacity and indeed desire to live ethically in and with a more-than-human (marine) world.

Oral history is playing an important role in studies of change in ocean environments. It is being employed for a range of purposes including overcoming the problem of 'shifting baselines' in perceptions of the marine environment,

determining marine species at risk, developing sustainable management strategies, and understanding the effects of changing environments or regulatory regimes on fishing communities. While such uses are significant and timely, they only begin to exploit the full potential of oral history to intervene productively in marine conservation.

In 2006 the University of Western Australia became involved in an oral history project associated with a benchmark scientific study on marine communities of the South-West Capes region of Western Australia. The region was the subject of a state government proposal to establish a marine park (subsequently declared in 2012), and the proposal had given rise to considerable tensions among stakeholders because of different and conflicting interests in the marine environment. The scientific study involved side-scan sonar mapping of the seafloor and a biological survey using conventional quadrat sampling techniques and underwater video. The oral history component was designed to provide an indication of how people perceived change and continuity in the marine and coastal environments of the South-West Capes region within living memory, as well as recording some of the experiences that constituted part of the marine heritage of Western Australia.<sup>1</sup>

Here we use the interview material generated by this project to explore how oral histories of fishers and divers may be read as narratives about human relationships with an ocean environment. In doing so, this study illuminates the important role such oral histories might play in fostering human capacity and indeed desire to live ethically in and with a more-than-human (marine) world.<sup>2</sup>

## **Oral history and environmental change**

The purpose and value of oral history has been the subject of scholarly discussion since at least the 1970s. Having been popularised in that decade, the practice of oral history found its home in social history. By the 2000s, however, it was also being used as a way to understand past land management practices and as a tool for ecological management and restoration of threatened landscapes and waterways.<sup>3</sup> A 1995 Australian study by Finlayson and Brizga criticised managers for trusting oral tradition over documentary sources, in ways that led to misunderstandings of environmental change and consequent errors in management.<sup>4</sup> In response, Ruth Lane of the National Museum of Australia produced a study of the relationship between oral history and scientific knowledge in understanding environmental change.<sup>5</sup> In her oral histories with local communities in the Tumut region of southern New South Wales, Lane explored patterns of environmental change and the responses of local people. She found that local knowledge, used appropriately, had the potential to supplement historical records and scientific understandings of environmental change to produce “a more comprehensive picture of change over time”.<sup>6</sup> Reflecting on the subjectivity of oral sources, Lane noted that the principal value of oral history for scientists lay not in “factual accounts”, but in “comprehending the human impact of environmental changes, the role that local people have played in these changes and reasons for their attitudes and behaviour”.<sup>7</sup>

The turn to historical sources in terrestrial land management was contemporaneous with the historical turn in fisheries management. A key

problem in fisheries was “shifting baseline syndrome”, a term coined by fisheries biologist Daniel Pauly in 1995 to describe the phenomenon whereby fisheries scientists’ observations of an environment at the beginning of their careers dictates the baseline from which they form their opinion about what constitutes change. The result, he concluded, is that each new generation of fisheries scientists perceives a progressively poorer natural world as the new “normal”. Total losses of biomass and diversity are thereby underestimated and as these errors are compounded over time, the bar for restoration and management goals is set progressively lower.<sup>8</sup> In order to counter “shifting baseline syndrome” fisheries scientists turned to historical documents. Historical data enabled them to push their baselines of stock size and species composition further back in time and thus obtain a better idea of the extent and nature of change. The need for this perspective became widely accepted; for example the Census of Marine Life (2000-2010) included an interdisciplinary historical research component known as HMAP (History of Marine Animal Populations), which used historical sources to explore the forms and causes as well as extent of human impacts on marine life.<sup>9</sup> As historical records that document changes in marine environments are all too often limited or fragmented, so studies of marine species and localities have increasingly turned to oral history to supplement and contextualise the data produced through scientific methods of inquiry.<sup>10</sup>

While fisheries scientists became interested in oral histories as a source of information about marine species and ecosystems in the past, it soon became evident that they had other, possibly more significant value. For example, social scientists Madeline Fernbach and Kate Nairn completed an oral history project

for the Great Barrier Reef Marine Park Authority in 2007.<sup>11</sup> One of their key aims was to examine how the concept of “shifting baselines” might relate to perceived changes in the Reef environment. However they found that local people’s memories about environmental change were shaped more by how they had used the Reef over time than the particular decade in which they experienced the Reef for the first time. They concluded that while the information collected through oral history interviews could never be considered as a “truly objective” source of data about past environments, it was a valuable source of local knowledge about local people’s lived experiences and relationships with the Reef.

In this paper we extend this perspective, proposing that while oral histories carefully deployed can tell us much about marine environmental change, the most significant and novel insights they provide relate to the subjective dimensions of engagement with marine environments and species. We explore the way in which oral histories can evocatively reveal how it has felt, and what it has meant, in a particular historical context, to develop extended and intimate relationships with particular marine places, species and individual animals. We propose that in listening closely to people who have long and intimate experience of the underwater world, we can begin to understand the subjective, emotional dimensions of (what we now understand to be) unsustainable fishing practices. These narratives also encourage us to acknowledge and take seriously the ongoing significance of anthropomorphism as a way of conceptualising and relating to the non-human world. We conclude with some comments about the relevance of these perspectives for environmental management. In a capitalist and relatively mobile society in which opportunities to transmit and preserve

intergenerational knowledge are scattered, close relationships between people and marine life can take decades to develop, if they develop at all. This makes the task of recording and transmitting such narratives all the more urgent.

### **The South West Capes oral history project**

Between late 2005 and early 2006 the University of Western Australia project team conducted oral history interviews with fifteen fishers (recreational and commercial) and a dive operator, focusing on their activities around the South West Capes Region—Cape Naturaliste to Cape Leeuwin, Western Australia including Geographe Bay (Fig. 1.1). Each interviewee had at least 20 years' experience in the region.<sup>12</sup> The interviews provided information about perceived increases and decreases in marine animal populations over the last 30 to 40 years including seals and whales (increasing), snapper (declining), sharks (declining, except white pointers) and herring (fluctuating).<sup>13</sup> The historian on the project also conducted documentary research that yielded evidence supporting the claims of decline in the snapper populations and fluctuations in herring, as well as suggesting reasons for the changes, including human impact and environmental variation.<sup>14</sup>



**Fig. 1.1** Map of the South-west Capes region and surrounds.<sup>15</sup>

Here the oral histories played the role of support act: they usefully highlighted areas for further research, but presented less compelling evidence for environmental change than the historical documents. However, it soon became evident that these oral histories of fishers and divers could serve a different purpose—one that was at least as valuable as the empirical study of environmental change. Namely, they illuminated people’s changing relationship with the marine world—their values, beliefs, experiences—in a way that few other sources could. The following discussion examines two of the key themes that emerged from the interviews with fishers and divers.

***Theme 1: Abundance and ambivalence***

According to Italian oral historian, Alessandro Portelli, “[t]he organization of the

[oral history] narrative reveals a great deal of the speakers' relationships to their history".<sup>16</sup> In several interviews the overall mode was nostalgic, with the interviewees wishing to convey how beautiful and bountiful the marine life was in their recollections of the ocean environment:

...there were so many herring in the bay that season that people would catch them on bits of straw on hooks...<sup>17</sup>

...well, the salmon just about took us out to sea...<sup>18</sup>

In almost every interview, however, this sentiment was tempered with recognition that their exploitation of this abundance may have contributed to its (perceived) decline. The overall relationship with the past, then, was one of ambivalence: the "good old days" of abundant fish were also the "bad old days" of unsustainable catches. Recreational fisher, Neil Taylor, recalled how he dealt with large catches in the 1960s:

But it was good actually, because there was only one or two times where I can say that we went a bit crazy and at the end of the day we thought jeez we've got a bit more here than we need, and so we'd take some to our neighbours.<sup>19</sup>

Bill Webb, who worked as a deckhand, remembered the large hauls of certain species with a mix of excitement and incredulity:

When I started working with handline fishermen, our main target then was dhufish and snapper and honestly, I think a lot of fishermen not knowing in those days what a terrible damage we did to the stocks. We used to be able to just go out and maybe sometimes catch 80! 80 dhufish in a few hours.<sup>20</sup>

Professional fisher Peter Warrilow's recollection of bumper catches of sharks evoked contradictory emotions:

My first boat, a 26 footer, we had 200-300 sharks at a time on the boat. They were whiskery sharks and they were virtually from the floor to the gunwhale and there was just no room for anything but the sharks... We left the gear out and brought the fish ashore. And most fishermen experienced catches like that. They're not catches to be proud of, but that's the way it was in those days.<sup>21</sup>

Retired professional fisher, Kerry King, reflected on the morality of past fishing practices:

Well, you know we only have ourselves to blame for this. It's greediness. Instead of going out there and getting half a dozen, you know just getting enough for your feed, they want to go out there and they want to catch enough for a month, two months. I was one of them, you know, go out there and catch, catch, catch; kill, kill, kill. Now you look back at the time and realise that it was wrong. You shouldn't do that sort of thing.<sup>22</sup>

The oral histories of fishers and divers included stories about taking too many fish, revealing a sense of ambivalence towards their actions in the past. Recording their memories of why they took what they now regard as “too much” is valuable for two main reasons. Firstly, the memories illustrate changing ideas of acceptable or “good” fishing practices. Secondly, they provide some insight into the subjective experience of unconstrained fishing. Clearly in the midst of such abundance, it was easy for recreational fishers to get caught up in the experience, to go “a bit crazy”. Their memories also tell us something of what it was like for professional fishers operating in a context in which fish were raw material there for the taking with few clear cultural or legal limits on their harvest and no rewards for forbearance. To them, it seemed that you just took the fish *because you could*. We have subsequently seen the emergence of such limits, and the ambivalence of these interviewees toward their past actions suggests that those limits are now firmly embedded, not only in law, but also culturally in some local fishing cultures, if not all.

### ***Theme 2: Connecting with the underwater world***

One of the more striking elements of the Capes interviews lay in the diverse ways that interviewees positioned themselves in relation to marine life. Whilst most interviewees regarded marine animals first and foremost as a resource, those who had spent considerable time *under* the water, in particular, also expressed a sense of familiarity and connection with particular species or individuals. These fishers and divers thought of themselves as *part of* the underwater world—at *home* there—if only temporarily.

To interpret these narratives we turned first to the new field of animal geographies. Emerging from the 1990s, these sought (and seek) to interrogate and challenge the manifold divisions between human and non-human. Approaches such as Actor Network Theory and Sarah Whatmore's 'hybrid geographies' effectively highlighted the agency of the non-human and the manifold ways in which the worlds we occupy are always 'more than human'. However as Catherine Johnson has noted, these approaches ultimately produced 'a politics of the nonhuman in which the nonhuman is qualitatively absent'.<sup>23</sup> While oral histories of human-animal relationships cannot 'let the animals speak', they have an important role to play in capturing active engagement with animals in particular historical contexts, as well as showing how animals have related to us, and how we have interpreted their subjectivities. This is particularly needed for the underwater world. Roger Scruton has argued that this world is alien and impenetrable to humans by virtue of its difference and lack of air.<sup>24</sup> Christopher Bear and Sally Eden on the other hand have convincingly shown how some English anglers build intimate (if not friendly) relationships with particular species and even individual fish. In developing their sensory and cognitive capacities to 'think like a fish', through patient acquisition of knowledge of fish behaviour, such people overcome the division between the 'airy' terrestrial world and the supposedly alien aquatic one.<sup>25</sup> Oral histories can help the rest of us to understand how such relationships have been developed and experienced.

One key theme in the new animal geographies is proximity and intimacy in human-animal relations, and the role of anthropomorphism. Such concerns are

by no means new. In his seminal 1977 essay “Why look at animals?” John Berger proposed that animals once were “with man at the centre of his world”.<sup>26</sup> While Descartes introduced the notion of animals as machines in the mid-17<sup>th</sup> century, this had little immediate impact on those living closely with animals. From Aristotle to Izaak Walton<sup>27</sup> and beyond, we see animals—even fish—scribed human characteristics such as cunning, melancholy, bravery, and lust. As Berger noted, “[u]ntil the 19<sup>th</sup> century... anthropomorphism was integral to the relation between man and animal and was an expression of their proximity”.<sup>28</sup> In *Man and the Natural World* (1983), Keith Thomas suggested that, as the processes of industrial capitalism brought increasing distance between people and animals, anthropomorphism made us uneasy and the concept became increasingly contentious within rational, scientific discourse.<sup>29</sup> This distance was even more apparent in the ocean context. As Franziska Torma has argued, the study of the sea as a geographical space in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries effectively “erased animal agency and claimed human scientific perception of the sea”<sup>30</sup>.

In recent decades, however, the utility of anthropomorphism has been re-evaluated. Johnson for example has advocated the development of ‘responsible anthropomorphism’, as

a way of knowing about and knowing with animals not based on our shared sentience, our shared place in the world or any other such abstract philosophical argument, but on our actual relationships, our day-to-day living and working.<sup>31</sup>

Johnson draws on the work of Tim Ingold, who emphasises the embodied, situational understandings developed through direct experience with animals. In 1988 he argued that we might

re-write the history of human–animal relation, taking this condition of active engagement, of being-in-the-world, as our starting point. We might speak of it as history of human concern with animals, in so far as this notion conveys a caring, attentive regard, a ‘being with’.<sup>32</sup>

Ingold suggests that hunters and herdsman can show us the best way to proceed, while Johnson cautions against “anthropomorphisms constructed ‘at a distance’ by academics who do not express any sense that they have a relationship with the non-humans concerned.”<sup>33</sup> Oral histories of fishers and (perhaps especially) divers, who share the intimate involvement with animal worlds characteristic of terrestrial hunters and herders, can also inform a more embodied, intuitive ethics of engagement with non-human worlds.

Such anthropomorphisms were evident in the testimony of some of the Capes project interviewees, whose work had brought them into an intimate engagement with marine life over a long period of time. This was particularly notable amongst the abalone divers who were, quite literally, immersed in this underwater world. However, their anthropomorphism was not of the Disney kind in which particular class and ethnic values and interests are projected onto animals, but reminiscent of a more pre-modern relationship with animals involving proximity and commonality in which interactions might range from

play to predation. “Abalone Joe”, for example, was one of the founders of the abalone industry in Western Australia. He recalled his relationship with particular marine life during his interview:

There used to be a great little shark come to visit me every time I was there, a couple of seals used to come and say hello and stand in front of me dancing. It was beautiful.<sup>34</sup>

Terry Adams used to be a competitive spear-fisher before becoming a professional fisher specialising in abalone. From the 1950s (when he was still in his teens) he spent a significant amount of time underwater. In the interview he described his relationship with dolphins and seals:

I’ve had dolphins sort of go along and looking for abalone for me. And then when I’ve gone across to them, there’s a patch of 20 abalone sitting on a reef. And they’d just sit back and I’d look at them and I’d measure one and say, “Oh no they are all too small” and leave them there. And [they] went off their trolley! They’d swim back again and say, “No no no!” and I’d say, “but they are too small” go onto the next. It’s just remarkable. They go lifting the weed up to look for them alongside you, and so do seals.<sup>35</sup>

Here marine mammals willingly enter, uninvited, into a joint endeavour with a human; an agency acknowledged and captured within the oral history narrative. Adams also recognised familiar behaviours in non-mammalian marine animals:

The eagle rays are the acrobats of the underwater world. When they want to show off they just do. Same for some of the other creatures, which are highly amusing, especially the large cuttlefish. They are almost human the way they act.<sup>36</sup>

Adams also forged connections with individual eagle rays, writing his initials and a date on some of the friendlier ones so that he could recognise them year after year:

We had one...he used to come down there fishing near the moorings. And this huge shadow came over me. I wasn't going to look, because I'd seen a couple of really large white pointers off the Cape. And I thought, "Oh no...this could be it". Then all of a sudden, this massive weight just settled on top of my shoulders. I suddenly realised that it was this giant black ray. Three giant prongs sticking out of its tail, and it probably weighed about 300 kilos. And it was sitting on top of me. Anyway, he'd been a local for about 9 or 10 years.<sup>37</sup>

Even abalone, which Adams harvested, had human characteristics of intent and subversion:

They know exactly where they are going and what they are doing...And night time they are very aggressive feeders. They don't mind bopping the one next door if they think it can get to the food quickest.<sup>38</sup>

Adams' experience was of an industrialising fishery. Starting off with individuals free-diving off small boats, he witnessed the introduction of larger boats, hookahs and scuba tanks, and shark cages. However, over an extended period of time, he established and maintained an intimate relationship with the marine animals of the region as wild, autonomous beings, not commodified units of industrialised meat production (or for that matter aquaculture). The killing of some of these animals involved recognition that they are "not us", although the fact that they are also "like us" is never far away, fostering respect for individual animals and species.<sup>39</sup> As Adams acknowledged: "we've got to be killers as well, but...you try to do it in the most humane way possible".<sup>40</sup>

In the context of the Capes region of Western Australia in the twentieth century, it was clear from the oral history interviews that professional fishing was not just utilitarian or instrumental or pragmatic. It could also be an emotive and empathetic experience, generating connections with other species and individuals on the basis of familiarity. Is a similar subjectivity reflected in the narratives of recreational fishers? Historian Richard White has argued that "[w]ork once bore the burden of connecting us with nature", but that many now seek this connection through leisure. In doing so, as White puts it: "It is no accident...that the play we feel brings us closest to nature is play that mimics work".<sup>41</sup> A similar empathetic subjectivity to that of the professional divers was also evident in the narrative of one recreational fisher and diver, John Williams in Augusta. Williams would sometimes catch blue groper, but recognised this animal as:

such a big and inquisitive fish. They come swimming right up to you and almost want to smile and talk to you and the saddest days were Mondays, after a long weekend, you'd go out to the rubbish tip here and find half a dozen groper on the rubbish tip from spear fishing... Great white hunters you know, coming in and having their photos taken with these beautiful big old blue goppers. And then putting them on the tip.<sup>42</sup>

Here, the distinction is made between a local fisher's moderate and respectful use of familiar local animals with the wasteful exploitation of ignorant outsiders for whom fishing was a sport. The main point of difference is between local communities (of human and non-human animals), and human outsiders. Animal outsiders, however, might be welcomed, for both aesthetic and utilitarian reasons. Here is John Williams again:

And the South African leg worms colonised this area of the coast, from here around to Cape Leeuwin. This is one of the only places in Western Australia where there are these beautiful big leg worms and they grow up to metres long and [make] beautiful bait.<sup>43</sup>

His concern was clearly for abundance and vigour, not necessarily the ecological integrity of the underwater world. This kind of identification with marine animals can also influence views on conservation measures.

John Williams also reflected on the increasing use of technology that reduces the chances of fish escaping the fishers' nets:

Echo sounders and GPS's allow you to target the fish in their own residence. You're almost going to their back door and catching them, it's too sad.<sup>44</sup>

This view of fish has almost certainly influenced his view that “no take” zones involving the favoured breeding habitats of the different species of fish should be reserved (so at least some fish have a chance of living and breeding undisturbed, “at home”).

As these oral histories demonstrate, fishers and (especially) divers have the capacity to establish a deep familiarity and sense of connection with the marine environment and the animals who dwell there. This has evolved in part because of a recognition of the commonalities and differences between human and nonhuman in a (temporarily) shared underwater world. This is not the kind of anthropomorphism associated with pet-keeping, as the anthropomorphised animals might also be killed and eaten. Instead, some fishers and divers imagine themselves as part of the animals' world, with all its attendant relationships and risks (including predation). While not precluding exploitation, such identification with an environment and its denizens appears to militate against over-exploitation, even within a capitalist, market-dominated system. Indeed, those interviewees whose narratives most strongly reflected this kind of subjectivity had actively worked to regulate the sectors in which they were involved in order to prevent over-exploitation. For example, “Abalone Joe” and Adams worked to achieve regulation in the abalone industry—until recently the only fishery in

Western Australia with a quota system—and Williams was instrumental in winding up a local recreational fishing competition.

## **Conclusions**

Drawing on an oral history project conducted in the South West Capes region of Western Australia, this article explores particular ways in which the oral histories of fishers and divers highlight the affective dimensions of local people's relationships with marine life. While all forms of historical inquiry are necessarily selective and biased, what distinguishes oral history from other forms of history is its reliance on memory and narrative, which can offer deeply personal yet often shared insights into the particularity of the physical environment in a way that makes sense in the present. When people talked about the history of fishing and diving in the Capes region, they told stories about their intimate connections with the undersea environment, their relationship with marine life and their ambivalent feelings of excitement and sadness about past fishing practices.

While direct human intervention is only one factor in the degradation of marine ecosystems, limiting the impact of such intervention plays an important role in marine conservation. As this project has demonstrated, oral histories offer valuable insights into subjective experiences, attitudes and relationships with the undersea world, as well as into their environmental implications. We need to acknowledge the role of desire, imagination and feeling in relation to human relationships with the ocean environment and the marine animals that inhabit it. The utility of oral history narratives goes well beyond counteracting shifting

baseline syndrome. It provides a primary source of evidence for the ways in which the marine environment is experienced and imagined by those who interact with it, and offers an important yet often overlooked vehicle for engaging fishers and divers in a practical way with marine conservation solutions and practices.<sup>45</sup> For example, it can help to highlight the potential benefits for fishery managers of accepting and acknowledging 'responsible anthropomorphism' in relationships with the natural world.

In his seminal 1981 discussion of "The peculiarities of oral history", Portelli outlined the specific strengths of oral sources: they take us into the realm of "imagination, symbolism and desire", he said. Oral history:

tells us less about *events* than about their *meaning*. This does not imply that oral history has no factual interest... But the unique and precious element which oral sources force upon the historian and which no other sources possess in equal measure (unless it be literary ones) is the speaker's subjectivity.<sup>46</sup>

This subjectivity lies at the heart of oral history's importance to ocean scientists and resource managers who seek to understand why fishers and divers engage in overexploitation or, conversely, voluntarily limit the number of fish they take. Just as studies of Australia's working agricultural landscapes have shown, the marine environment is both a place of work within an industrialised market economy, and a place of memory and storytelling in which fishers and divers have built a sense of intimacy, knowledge, and connection with the undersea

world over time.<sup>47</sup> It seems that people's behaviour in the ocean, as on land, reflects a combination of utilitarian and ethical impulses; conscious intent and emotion arising from wellsprings of embodied experience. While ocean scientists and resource managers tend to focus on the rational and utilitarian motivations, it is the ethical and emotive dimensions of experience—as revealed for example through oral histories—that have the power to shape the way in which fishers and divers develop an ocean consciousness and respond to environmental changes in the marine environment. As the Australian poet and environmentalist, Judith Wright, has observed: “if we are ever to move from economic values to a reassertion of ecological values, our feelings and sympathies must be engaged first”.<sup>48</sup>

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#### Endnotes

<sup>1</sup> Andrea Gaynor, Amrit Kendrick and Mark Westera, “An Oral History of Fishing And Diving in the Capes Region of South-west Western Australia,” report to the South West Catchments Council (Perth, WA: University of Western Australia, School of Humanities and School of Plant Biology, 2008),

[http://www.web.uwa.edu.au/\\_data/assets/pdf\\_file/0011/199865/Oral\\_history\\_of\\_the\\_Capes\\_region.pdf](http://www.web.uwa.edu.au/_data/assets/pdf_file/0011/199865/Oral_history_of_the_Capes_region.pdf) (accessed April 5, 2016).

<sup>2</sup> Human engagement with the underwater world is attracting increasing considerable interest amongst social scientists, although not necessarily using oral history methods. For example, Jon Anderson and Kimberley Peters, eds, *Water Worlds: Human Geographies of the Ocean* (Farnham: Ashgate Publishing, 2014) draw on memory and mental mapping, while Mike Brown and Barbara Humberstone, eds, *Seascapes: Shaped by the Sea* (Farnham: Ashgate Publishing, 2015) draw on “auto-ethnography” whereby the contributors reflect on

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their own experience of the sea to examine how it has shaped their sense of identity, belonging and connection.

<sup>3</sup> For Australian case studies see Jane Roberts and Geoff Sainty, "Oral History, Ecological Knowledge, and River Management," in *Environmental History and Policy: Still Settling Australia*, ed. Stephen Dovers (South Melbourne: Oxford University Press, 2000), 118-44; H.A. Robertson and T.K. McGee, "Applying Local Knowledge: The Contribution of Oral History to Wetland Rehabilitation at Kanyapella Basin, Australia," *Journal of Environmental Management* 69, no.3 (2003): 275-287; M. Semken, K.K. Miller and K. James, "The Value of Oral History in Natural Resource Management: The Balcombe Estuary Reserve, Mount Martha, Victoria," *Australasian Journal of Environmental Management* 18, no. 2 (2011): 109-22.

<sup>4</sup> B.L. Finlayson and S.O. Brizga, "The Oral Tradition, Environmental Change and River Basin Management: Case Studies from Queensland and Victoria," *Australian Geographical Studies* 33, no. 2 (1995): 180-92.

<sup>5</sup> Ruth Lane, "Oral Histories and Scientific Knowledge in Understanding Environmental Change: A Case Study in the Tumut Region, NSW," *Australian Geographical Studies* 35, no. 2 (1997): 195-205.

<sup>6</sup> Lane, "Oral Histories," 195.

<sup>7</sup> Lane, "Oral Histories," 204.

<sup>8</sup> Daniel Pauly, "Anecdotes and the Shifting Baseline Syndrome of Fisheries," *Trends in Ecology and Evolution* 10, no. 10 (1995): 430. Pauly is the principal investigator in the *Sea Around Us Project* which studies the impact of the world's fisheries on marine ecosystems. Also see Jeremy B.C. Jackson, Karen E. Alexander and Enric Sala, eds., *Shifting Baselines: The Past and the Future of Ocean Fisheries* (Washington: Island Press, 2011).

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<sup>9</sup> “History of Marine Animal Populations (HMAP)”, Census of Marine Life, <http://www.coml.org/projects/history-marine-animal-populations-hmap> (accessed April 10, 2016).

<sup>10</sup> See, for example, R.E. Johannes, “Integrating Traditional Ecological Knowledge and Management with Environmental Impact Assessment,” in *Traditional Ecological Knowledge: Concepts and Cases*, ed. Julian T. Inglis (Ottawa: International Development Research Centre, 1993), 33-40; NOAA Office of Science and Technology, National Marine Fisheries Service, “Voices from the Fisheries,” <https://www.st.nmfs.noaa.gov/humandimensions/voices-from-the-fisheries/index> (accessed April 22, 2016); Andrea Saenz-Arroyo et al., “Using Fishers’ Anecdotes, Naturalists’ Observations and Grey Literature to Reassess Marine Species at Risk: The Case of the Gulf Groper in the Gulf of California, Mexico,” *Fish and Fisheries* 6, no.2 (2005): 121-33; Lisa L. Colburn and Patricia M. Clay, “The Role of Oral Histories in the Conduct of Fisheries Social Impact Assessments in Northeast US,” *Journal of Ecological Anthropology* 15, no. 1 (2011-12): 74-80, <http://www.nefsc.noaa.gov/read/socialsci/pdf/publications/JEA15-Colburn.pdf> (accessed April 2, 2016); Brooke Fowles and Andrea Gaynor, “The Challenge of Creating a Scientifically-Robust Historical Description of Changing Finfish Populations in the Ningaloo Marine Park,” *Studies in Western Australian History*, no. 27 (2011): 99-123.

<sup>11</sup> Madeline Fernbach and Kate Nairn, “Reef Recollections: An Oral History of the Great Barrier Reef” (Townsville: Great Barrier Reef Marine Park Authority, 2007): 15, [http://www.gbrmpa.gov.au/\\_data/assets/pdf\\_file/0010/5599/gbrmpa\\_RP99\\_Reef\\_Recolle](http://www.gbrmpa.gov.au/_data/assets/pdf_file/0010/5599/gbrmpa_RP99_Reef_Recolle)  
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<sup>12</sup> Fernbach and Nairn, *Reef Recollections*, 11.

<sup>13</sup> Gaynor, Kendrick and Westera, *An Oral History of Fishing And Diving*.

<sup>14</sup> Andrea Gaynor, “Shifting Baselines or Shifting Currents? An Environmental History of Fish and Fishing in the South-west Capes Region of Western Australia,” in *Historical Perspectives*

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*of Fisheries Exploitation in the Indo-Pacific*, MARE Publication Series 12, ed. Joseph

Christensen and Malcolm Tull, (Dordrecht: Springer, 2014), 231-50.

<sup>15</sup> Map reproduced from Gaynor, "Shifting Baselines or Shifting Currents?", courtesy of Springer.

<sup>16</sup> Alessandro Portelli, "What Makes Oral History Different," in *The Oral History Reader*, ed. Robert Perks and Alistair Thomson (Oxford: Routledge, 2015), 36.

<sup>17</sup> 'Local 1', interviewed by Amrit Kendrick, Cowaramup Bay, Western Australia, January 16, 2006.

<sup>18</sup> Noel Wright, interviewed by Amrit Kendrick, Marybrook, Western Australia, January 19, 2006.

<sup>19</sup> Neil Taylor, interviewed by Amrit Kendrick, Busselton, Western Australia, January 23, 2006.

<sup>20</sup> Bill Webb, interviewed by Amrit Kendrick, Wardan Aboriginal Cultural Centre, Western Australia, March 6, 2006.

<sup>21</sup> Peter Warrilow, interviewed by Amrit Kendrick, Margaret River, Western Australia, March 6, 2006.

<sup>22</sup> Kerry King, interviewed by Amrit Kendrick, Margaret River, Western Australia, January 15, 2006.

<sup>23</sup> Catherine Johnston, "Beyond the Clearing: Towards a Dwelt Animal Geography," *Progress in Human Geography* 32, no. 5 (2008): 635-9.

<sup>24</sup> Roger Scruton, *Animal Rights and Wrongs* (London: Metro, 2000), 111.

<sup>25</sup> Christopher Bear and Sally Eden, "Thinking like a Fish? Engaging with Nonhuman Difference through Recreational Angling," *Environment and Planning D: Society and Space* 29, no.2 (2011): 336-52, <http://epd.sagepub.com/content/29/2/336.full.pdf+html>.

<sup>26</sup> John Berger, "Why Look at Animals?," in *About Looking* (New York: Pantheon Books, 1980), 3.

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<sup>27</sup> Izaak Walton was an English writer and biographer, best known for his book *The Compleat Angler* originally published in 1653.

<sup>28</sup> Berger, "Why Look at Animals?," 11.

<sup>29</sup> Keith Thomas, *Man and the Natural World* (London: Allen Lane, 1983): 73. See also Lorraine Daston and Gregg Mitman, eds., *Thinking with Animals: New Perspectives on Anthropomorphism* (New York: Columbia University Press, 2005), 61-2.

<sup>30</sup> Franziska Torma, "Locating Marine Life? Searching for the Animal's Place in the Oceanic Environment." Unpublished paper presented at the American Society of Environmental History conference, Toronto, Ontario, 2013.

<sup>31</sup> Johnston, "Beyond the Clearing," 646.

<sup>32</sup> Tim Ingold, "The Animal in the Study of Humanity," in *What is an Animal?*, ed. Tim Ingold (London: Unwin, 1988): 96.

<sup>33</sup> Johnston, "Beyond the Clearing," 640.

<sup>34</sup> Abalone Joe, interviewed by Amrit Kendrick, Margaret River, Western Australia, March 13, 2006.

<sup>35</sup> Terry Adams, interviewed by Amrit Kendrick, Margaret River, Western Australia, March 12, 2006.

<sup>36</sup> Terry Adams, interviewed by Amrit Kendrick

<sup>37</sup> Terry Adams, interviewed by Amrit Kendrick

<sup>38</sup> Terry Adams, interviewed by Amrit Kendrick.

<sup>39</sup> Similar positions have been noted among contemporary hunters and fishers by M. Adams, "Redneck, Barbaric, Cashed up Bogan? I Don't Think So': Hunting and Nature in Australia," *Environmental Humanities* 2 (2013): 43-56.

<sup>40</sup> Terry Adams, interviewed by Amrit Kendrick.

<sup>41</sup> Richard White, "'Are You an Environmentalist or Do You Work for a Living?': Work and Nature," in *Uncommon Ground: Rethinking the Human Place in Nature*, ed. W. Cronon (New

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York: W.W. Norton & Co., 1996), 174.

<sup>42</sup> John Williams, Interviewed by Amrit Kendrick, Augusta, Western Australia, March 7, 2006.

<sup>43</sup> Interview with John Williams. The “leg worms” are probably the polychaete worm *Eunice aphroditois*.

<sup>44</sup> John Williams, Interviewed by Amrit Kendrick.

<sup>45</sup> John N. Kittinger et al., *Marine Historical Ecology in Conservation* (California: California University Press, 2014), 10.

<sup>46</sup> Portelli, “What Makes Oral History Different?,” 36. Recording and using the traditional ecological knowledge of Indigenous people has played a central role in the Australian Government’s National Landcare Programme. See Australian Government, “Utilising Knowledge,” National Landcare Programme, <http://www.nrm.gov.au/indigenous-nrm/knowledge> (accessed April 21, 2016).

<sup>47</sup> For example Joy McCann, “History and Memory in Australia’s Wheatlands,” in *Struggle Country: The Rural Ideal in Twentieth Century Australia*, ed. Graeme Davison and Marc Brodie (Clayton: Monash University ePress, 2005), <http://books.publishing.monash.edu/apps/bookworm/view/Struggle+Country%3A+The+Rural+Ideal+in+Twentieth+Century+Australia/140/xhtml/chapter03.html> (accessed April 12, 2016).

<sup>48</sup> Cited in B. Roberts, *Ground Rules: Perspectives on Land Stewardship* (Darling Heights: University of Southern Queensland Press, 1993), 47.