

# Agency in human–shark encounter

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[journals.sagepub.com/home/ene](https://journals.sagepub.com/home/ene)**Leah Gibbs** 

University of Wollongong, Australia

## Abstract

Shark bite is exceptionally rare. And yet, representations of human–shark interactions are most often framed as inherently dangerous. The ‘shark attack’ trope has been widely critiqued as sensationalist and misleading. This image creates two further limitations: it offers a one-dimensional representation of sharks and overlooks crucial factors shaping human–shark relations. Human–wildlife conflict is focus of extensive research, in conservation biology and, increasingly, the social sciences. Calls have been made for deeper investigation of social and cultural factors in conflict. This paper seeks to present a more nuanced account of human–shark relations, through analysis of events in Western Australia in 2011–12: five fatal shark bites and implementation of a lethal shark management policy. Specifically, the paper reports on empirical research with the people most likely to encounter sharks, that is those who undertake recreational, professional, and/or volunteer activities in or on the sea. The paper deploys the concept of agency as a framework for recognising diverse capacities of sharks and distributed agency in production of events. It finds: (i) ocean-users know sharks to have diverse behaviours and agency to elicit caution, ambivalence, fear, and attraction, and to influence attitudes, actions, and engagement with the sea; (ii) embodied oceanic relations shape people’s everyday lives, attitudes towards the ocean, sharks and the risks they pose, and sense of self; and (iii) representation combines with numerous other factors – including potential danger posed by some sharks, reports of incidents, frenzied response, and personal context – to shape events. These findings offer alternate interpretation of human–shark relations, social-cultural drivers of human–wildlife conflict, and evidence of co-existence.

## Keywords

Shark attack, human–wildlife conflict, animal, ocean, agency, nonhuman, more-than-human, Australia

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## Corresponding author:

Leah Gibbs, School of Geography and Sustainable Communities, University of Wollongong, Wollongong, NSW 2522, Australia.

Email: [leah@uow.edu.au](mailto:leah@uow.edu.au)

## Introduction

Western Australia ‘shark attack capital of the world’ – *The Times*, 2 April 2012  
(Tedmanson, 2012)

... track, catch and, if necessary, destroy sharks identified in close proximity to beachgoers ...  
(Department of Fisheries Western Australia, 2012)

In 2011–12 five people died in Western Australia as a result of shark bites. The incidents garnered extensive media attention. The WA state government, under then Premier Colin Barnett, responded to the combined incidents with a suite of initiatives, including a new policy to proactively catch and kill sharks detected in ‘close proximity to beachgoers’ (Department of Fisheries Western Australia, 2012). This came to be known as the ‘imminent threat policy’. Public debate surrounding the accidents and government response was highly polarised, with two significant public protests against the new policy and a record number of submissions to the state Environment Protection Agency.

Shark bite is exceptionally rare. Media and government responses are usually dramatic. Incidents are most often framed as ‘shark attack’: terminology that has been critiqued as sensationalist and misleading (Chapman, 2017; Neff and Hueter, 2013). I argue that such framing leads to two further important limitations. First, it presents a narrow version of sharks, their behaviours, and thus their agency; and second, it overlooks other factors external to the animal itself that shape human–shark encounter. This paper investigates events in Western Australia, with the broad aim of informing understanding of human–shark relations and the wider field of human–wildlife conflict and co-existence.

Human–wildlife conflict is the subject of extensive research, particularly in the field of conservation biology, and increasingly in human geography and other social sciences. Recent calls have been made for greater attention to the social and cultural factors underlying conflicts between people and animals (Pooley et al., 2017). In the context of sharks, Techera (2019) has argued that culture plays an important role in legal responses to management and conservation. A good deal of social science research has analysed media representation of sharks, demonstrating the prevalence and power of the ‘shark attack’ trope (e.g. Fraser-Baxter and Medvecky, 2018; McCagh et al., 2015; Muter et al., 2013; Neff, 2015). In this paper I seek to extend that work by presenting empirical evidence of human–shark relations.

In the context of a highly polarised debate, this research seeks to learn from the people most likely to encounter sharks: ocean-users. It adopts a qualitative methodology, involving in-depth interviews with ocean-users and representatives of ocean-user groups in Western Australia, focusing on their views and experiences of the ocean, sharks, shark bite, and shark bite mitigation strategies. The paper takes a relational, more-than-human approach that aims to first, present a more nuanced account of the behaviours of sharks and the nature of human–shark relations; second, examine how people’s embodied interactions with sharks and the ocean shape their actions and attitudes; and third, consider other factors at play in human–shark encounter. I deploy the concept of agency in my analysis, as a framework for recognising multiple agencies of entities, and distributed agency in events.

Following this introduction, the paper reviews recent research in human–wildlife conflict and more-than-human agency. The next section presents the background to the study, introducing the issue of shark bite and shark hazard management globally, events in Western Australia, and the research method. Results and discussion are structured in

three sections reflecting the key issues that emerged from the field research: shark agency, embodied relations with the ocean, and the ‘shark frenzy’ – the combined effects of sensationalised media reporting, political and public responses, and other events. The paper concludes with key findings for human–shark relations and insights for studies of human–wildlife conflict and co-existence.

## Human–wildlife conflict

Human–wildlife conflict occurs across a wide range of social and environmental contexts (Nyhus, 2016; Woodroffe et al., 2005), in which wildlife is deemed to pose a threat to human life, livelihood, or valued environment. Large carnivorous species present particular challenges, as they are frequently identified as posing threats to people, are subject to a suite of human-induced pressures, and are often keystone species for functioning ecosystems (Chapron et al., 2014; Ripple et al., 2014). Research suggests contemporary global climate change will amplify the challenges of human–wildlife conflict, for several reasons. People will increasingly live beside and encounter carnivores as land use changes, habitats are encroached upon, and positive effects of long-term conservation efforts see some species recovery (Chapron et al., 2014; Ripple et al., 2014). Further, in response to climate change, species ranges are changing (Pech et al., 2017) and new multispecies interactions are emerging in unexpected places (Hobbs et al., 2006). Concurrently, nation states have regulatory responsibilities to protect threatened species and ecosystems. This combination of phenomena increases both the significance and complexity of interspecies interactions.

A substantial body of work investigates human–wildlife conflict. A large proportion emerges from conservation biology and environmental sciences, and adopts a management focus on the problem and resolution of conflict (Nyhus, 2016). One critique of the field is that demand for immediate solutions obscures drivers of human–wildlife conflict, and that further work should attend to social and cultural factors (Pooley et al., 2017). Research in human geography, related social sciences, and interdisciplinary work is growing rapidly (e.g. Barua, 2014; Collard, 2012; Margulies and Karanth, 2018; and see the interdisciplinary review by Pooley et al., 2017 and work cited therein). Such work seeks to understand and address the causes and consequences of human–wildlife conflict, and interrogate the implications of framing interactions in this way. Margulies and Karanth (2018) note that

The term ‘human–wildlife conflict’ itself has been extensively critiqued for its inherently negative positioning of interactions between humans and wildlife that can also be positive or neutral, and for obscuring whom or what may actually be at the center of conflicts. (155)

They argue that discourses of human–wildlife conflict mask more complex accounting of multifarious processes producing multispecies relations.

Numerous studies find the source of conflict to lie not between humans and wildlife, but between people over animals or over ideas about animals (see also Draheim et al., 2015; Pooley et al., 2017). A substantial body of work in this vein examines effects of conservation programmes on local communities (e.g. Bluwstein, 2018; Lunstrum, 2017; Margulies and Karanth, 2018). Another considers the power of discourse in determining management outcomes, such as discourses of belonging and of native versus feral, invasive or introduced species (e.g. Atchison et al., 2017; Crowley et al., 2017; Van Patter and Hovorka, 2018), and the notion of wildlife as disease vectors (e.g. Naylor et al., 2017). Somewhat less work attends to antagonistic interactions directly between humans and other animals. Findings of such work include: that interactions actively produce contested spaces (Collard, 2012;

Gibbs, 2018); and that other factors such as cultural beliefs (Baynes-Rock, 2013) and non-human matter (Barua, 2014) contribute to human–wildlife relations. Research focused less on conflict and more on interactions framed as ‘awkward’ – including ‘awkward encounters’ (Taylor and Pacini-Ketchabaw, 2017) and ‘awkward creatures’ (Ginn et al., 2014) – is also helpful here. Importantly, this work signals the ambivalence and ambiguity of multispecies relations. For example, Taylor and Pacini-Ketchabaw (2017) consider awkward encounters between children and raccoons (in Vancouver) and kangaroos (in Canberra). They contrasted the curiosity, wariness, attachment, and revulsion they observed in field research with the often-invoked nostalgia and sentimentality of child–animal relations. In highlighting ambivalence, such work steps away from the conflict discourse.

Human–wildlife conflict research has a terrestrial mammalian bias. There is little work on the sea (but see Draheim et al., 2015 for important contributions). Of the existing work, is an established and growing body on sharks. Just as Pooley et al. (2017) urged for the broad field of human–predator relations, Techera (2019) has called for greater attention to the role of cultural factors in shark conservation and management. To date, social science research has considered media representation of sharks and shark bite (Fraser-Baxter and Medvecky, 2018; Muter et al., 2013), and the role of the media in forming public attitudes and policy (e.g. McCagh et al., 2015; Neff, 2015; Neff and Hueter, 2013). Human–shark relations are frequently presented in their most dramatic terms. Muter et al. (2013) found that most media coverage of sharks in Australia and the US presents the risks that sharks pose to people, with over half of shark-related newspaper media articles treating ‘shark attack’ as their primary topic. Neff and Hueter (2013: 68) have argued that representation of human–shark interactions through the language of ‘shark attack’ ‘unreasonably amplifies social perceptions of risk’, is generic and misleading, and has been highly politicised. Chapman (2017) argued that media representation of sharks is extensive, and more balanced and informative coverage is needed. Other research investigates public perceptions towards sharks, shark bite, and mitigation strategies (Crossley et al., 2014; Gray and Gray, 2017; Neff and Yang, 2013; Pepin-Neff and Wynter, 2018; Simmons and Mehmet, 2018), and the combined social and environmental factors that contribute to shark bite incidence (Chapman and McPhee, 2016; Lagabrielle et al., 2018). Here, I extend this work by exploring embodied interactions between people and sharks. In so doing, I seek to contribute to understanding of the social and cultural factors shaping human–shark relations, and the diverse entities and processes producing broader human–wildlife relations.

## **More-than-human agency**

The agency of nonhuman lifeforms and materials has become focus of extensive attention in geography in recent years. Key insights relevant to this study are as follows: first, nonhuman agency challenges the subject/object divide. Agency is not possessed solely by ‘an intentional human subject’; rather, nonhuman matter has capacity to shape events and influence politics (Bennett, 2010; Lorimer, 2012, 2007). Second, agency emerges not only through individual materials, but also from groups of things assembling in specific ways (Bennett, 2010). These may be heterogeneous assemblages of humans and nonhumans, ‘all of which have agency potentials’ (Lorimer, 2007: 913). Third, agency is distributed. There is not one single all-powerful actant. This does not mean that all actants are equivalent, but that there is no ‘natural’ hierarchy of agency among humans, nonhuman life, and materials (Bennett, 2010). Influenced by actor-network theory, early research on nonhuman agency focused on technologies and artefacts. Recent work in geography has turned to ‘the agencies of a more lively and diverse collection of materialities’ (Lorimer, 2007: 913). In this paper I take

agency to refer to the capacity of humans, nonhuman living beings, non-living materials, and groups of diverse things assembling in particular times and places, to influence events and politics.

In the context of such ‘multinatural’ geographies (Lorimer, 2012), greatest attention has been paid to the animals. This work builds on the established field of animal geographies, with its attention to diverse forms and implications of human–animal relations (Buller, 2014; Wolch and Emel, 1998). The task of animal geographies has involved ‘acknowledgement not only of the agency of the animals themselves, but of the way agency is differentially constructed or understood in time and place’ (Buller, 2014: 309). Animal geographies scholarship has sought, according to Buller (2014: 312), to demonstrate agency of animals in our co-inhabited worlds; to destabilize accepted dualistic approaches (such as nature/culture, animal/human, object/subject); and to create a more radical politics able to accommodate such complexity. Research on animal agency has largely sought to reveal and attend to marginalised or missing signals of agency in social and political life and events. In this study my aim is somewhat different. I argue that in ‘shark attack’ too much agency is attributed to the shark, of a too-narrow form. In this way, I seek to build on existing research by identifying a fuller suite of shark agencies, and by shifting attention *from* the animal to a more widely distributed agency.

Beyond animals, more-than-human scholarship demonstrates distributed agency in social and political events. In contrast to the ongoing terrestrial and mammalian bias in animal geographies (Bear and Eden, 2008; Gibbs, 2019), some key work on agency has been done on marine and aquatic spaces. Through a Deleuzian approach, Bear (2013) found that the assemblage of sea and seabed, scallops, dolphins, fishing technologies, and regulatory practices disrupted territorialising processes of the Welsh scallop fishing industry, and complicated management and attribution of environmental harm. In a more-than-human, material study of ghost gear, Phillips (2017) found that ‘abandoned, lost, or otherwise discarded fishing gear’ does more than exist as material object, drifting to entangle other discarded materials and marine life. Rather, it allows us to trace the materials and processes that bring it into being, as well as the policy responses that figure it primarily as marine debris to be managed as isolated waste. Phillips (2017) contended that a challenge for more-than-human studies is ‘conveying the richness of embodied encounter while also making connections with that encounter’s conditions and implications’ (34). For her,

The ubiquitous but differentiated presence of synthetic ghost gear, the continuing surprise at its movements and implications, its endurance beyond common (human) spatial and temporal referents, point to a need to extend more-than-human analyses to include difficult, unruly, and/or harmful matters, their uneven implications, and the effort of dealing with them. (Phillips, 2017: 40)

In this paper I take up this invitation, examining the conditions and implications of troublesome encounters between humans and sharks. In so doing, I seek also to address the continuing terrestrial bias in both animal geographies and studies of human–wildlife conflict and co-existence.

The growing field of ocean geographies has found that the oceans’ material qualities – verticality and volume, motion, flow and dynamism – complicate control and management (Bear and Eden, 2008; Elden, 2013; Peters, 2015; Steinberg and Peters, 2015). The sea shore and tides influence hazard management (Gibbs, 2018) and ecological planning (Jones, 2011). Lehman (2013) urged the ocean be considered an *actor* not a *factor* in political and social life. She found in Sri Lanka the sea ‘exercises agency, enrolls others, and is enlisted itself’

(485) in overlapping phenomena of environmental change, natural disaster, armed conflict, and everyday life. Understanding the ocean in this way, she argued, allows greater insight into such phenomena and recognises the experiences of those who live at these intersections. Lehman draws connections and bridges scales between the oceans' agency to shape political and everyday life. Working at the site of the everyday, and specifically the body, Anderson (2012) found the surfed wave has relational agency to incur risk and produce sensibilities. Peters (2012) argued that through offshore radio broadcasting the ocean produces visceral affects, which are felt not only at sea but also by those listening on land. Across this work researchers show how agency is distributed among human and nonhuman entities. This paper, focusing on ambiguous human–wildlife relations in the ocean, seeks to draw insights from human–wildlife conflict and more-than-human agency to offer a fresh perspective on multispecies relations, sources of conflict, and instances of co-existence.

### **Shark bite and shark hazard management**

Strategies for managing risk of shark bite vary around the world. They can be grouped into several categories. Physical barriers include enclosed swimming areas. Observation occurs from land, water, and air, and electronically through tagging programmes. Fishing techniques seek to reduce risk by reducing shark numbers, and include nets and drumlines (baited hooks attached to the sea bed and a floating drum). Culling programmes aim to kill target species. Sensory deterrents include electro-magnetic, chemical, and visual technologies as personal protection equipment or areal deterrents. This latter group comprises relatively new technologies, many of which are actively under trial (Green et al., 2009; Huveneers et al., 2013; McPhee, 2012; Reid et al., 2011).

Amidst these methods, lethal strategies – those that involve catching and killing sharks – are common (Gibbs and Warren, 2015). They take several forms. Some are explicit and active: culling programmes involve periods of targeted hunting of particular species, as was adopted in Hawai'i 1959–76 (Wetherbee et al., 1994). Others are less visible and appear more passive: shark nets and drumlines have been used widely in Australia since 1937 and 1962, respectively, and in South Africa since 1952 (Cliff and Dudley, 2011; Gibbs and Warren, 2015). Lethal techniques have also been adopted at times in Réunion Island, Aotearoa/New Zealand, Egypt, Russia, the Seychelles, and Mexico (Gibbs and Warren, 2015; Neff and Yang, 2013).

Effectiveness of lethal strategies to improve human safety is debated; research shows it is questionable and often overstated (Gibbs et al., 2020; McPhee, 2012; Wetherbee et al., 1994). Concurrently, negative effects for shark populations, other species, and surrounding ecologies are well documented (Cliff and Dudley, 2011; Green et al., 2009; Krogh and Reid, 1996; Meeuwig and Ferreira, 2014). In response to the damaging effects of existing management and growing concern for marine environments, non-lethal strategies are increasingly being investigated, including chemical, electro-magnetic and visual deterrents, new surveillance methods, and efforts to relocate live animals (Hazin and Afonso, 2014; Huveneers et al., 2013). Despite evidence of impacts, dubious effectiveness, and growing public concern, killing remains a dominant mode in which humans interact with sharks.

In contrast to the attention they garner, shark bites account for an extremely small number of human injuries and fatalities. In Australia on average 1.1 people are killed each year by sharks, and another 5.9 injured (measured over two decades 1990–2010) (West, 2011). This compares to an average 87 coastal drownings per year (Brighton et al., 2013).



## Encountering sharks in Western Australia

The fatal shark bites in Western Australia in 2011–12 attracted substantial attention across state, national, and international media outlets. Three fatalities occurred in 2011 and two in 2012. In comparison, the 20 years 1990–2009 saw six fatalities and 29 non-fatal incidents (West, 2011). Numerous factors complicate these figures, including population growth, changes in ocean use, beach patrol, and emergency and medical response (see Gibbs et al., 2020). The combination of incidents and media coverage in 2011–12 contributed to a perceived increase in frequency of ‘shark attack’. In response, the state government instituted new measures for mitigating shark bite, including: increased surveillance; funding for (mostly applied) research; and new policy to ‘track, catch and, if necessary, destroy sharks identified in close proximity to beachgoers’ (Department of Fisheries Western Australia, 2012). Previously, the state was allowed to hunt and kill a shark after a person had been bitten. The new policy enabled proactive killing.

The policy functioned through establishment of two Marine Monitored Areas (MMAs) around popular beaches in Perth and the state’s southwest. Baited drumlines were set at the edges of the MMAs. The programme targeted animals over 3 metres in length of three species identified by the Australian Government as ‘dangerous to humans’ (Australian Government Department of the Environment and Energy, n.d.): white shark (*Carcharodon carcharias*), tiger shark (*Galeocerdo cuvier*), and bull shark (*Carcharhinus leucas*). Target animals caught on the lines, or spotted within the MMAs, were killed. During the ‘trial’ period of January–April 2014, 180 animals were caught. Only 50 were ‘target animals’ – of target species and size (Gibbs and Warren, 2014). These were shot and killed; their bodies dumped further offshore. Non-target animals were released. The number of released animals to survive is unknown. Nongovernment organisation ‘No WA Shark Cull’ followed Department of Fisheries boats as they checked the drumlines each day and used social media to report activities. They recorded numerous released animals sinking to the ocean floor.

Public and media attention to the incidents and government response was dramatic. The ‘imminent threat’ policy attracted heated debate and extensive media attention. Protests in Perth and the southwest, and around Australia and internationally, attracted thousands. Two key protests saw 4000 and 6000 people at Perth’s Cottesloe Beach in January and February 2014. The state Environmental Protection Authority received a record 12,000 submissions opposing the policy, and in September 2014 recommended it be discontinued, based on the ‘high degree of scientific uncertainty about impacts on the viability of the south-western white shark population’ (Powell, 2014). After its initial trial, the WA government abandoned the catch and kill element of the new programme, in line with public opinion. The surveillance and research components remained.

## Methods

This study seeks to contribute to understandings of shark bite, human–shark relations, and human–wildlife conflict and co-existence by attending to the experiences and views of the people most likely to encounter sharks. That is, those who undertake recreational, professional, and/or volunteer activities in or on the sea. Through their activities, these people – ‘ocean-users’ – engage with the ocean in embodied ways. They observe and negotiate the sea, and the existence of sharks, as part of their everyday lives. Many hold intimate relationships with and knowledge of the ocean and its constituents. Here, I seek to address how such embodied interactions with sharks and the ocean influence human–shark relations; and

consequently, what insights this may present for navigating broader human–wildlife conflict and co-existence.

The project employed two methods: an online survey and interviews with ocean-users and ocean-user groups.<sup>1</sup> Survey methods and results are published elsewhere (Gibbs and Warren, 2015). The survey attracted 557 respondents who identified as people who use the ocean in WA. Their activities were diverse, including swimming, snorkelling, surfing, paddling (kayak, surf ski, canoe), SCUBA diving, free-diving, fishing, spear-fishing, Surf Life Saving, kite-surfing, and others. Similarly, level of experience varied from casual or beginner to highly experienced or professional ocean-user. The survey provided means of recruitment for interviews. Participants were selected based on availability during two field seasons, July 2013 and March 2014. In addition to those recruited through the survey, three ocean-user groups were approached directly for interview, namely Surf Life Saving WA, Surfing WA, and the Department of Fisheries. In total, 46 interviews with 49 people were conducted. Approximately half were undertaken before the drumlines trial and half after. Interviews focused on four themes: ocean use, encounters with sharks, ideas about negotiating sharks, and views of shark hazard management. Interviews were transcribed. Transcripts were analysed using qualitative coding techniques, in which themes were identified and refined inductively.

## **Diverse and distributed agency in human–shark relations**

Sharks are the focus of extensive and sensational representation (Chapman, 2017). The dominant trope of ‘shark attack’ (Muter et al., 2013) presents sharks and human–shark relations in overly simplistic terms. In this image, the shark presents an inevitable danger to people. Such representation influences policy (McCagh et al., 2015; Neff, 2015; Neff and Hueter, 2013) and contributes to highly polarised outcomes. The ‘shark attack’ construct limits public debate and policy in two key ways. It presents a narrow version of sharks, their behaviours and their agency, and overlooks other factors that shape encounter. A more nuanced understanding of human–shark relations might open new possibilities for negotiation and co-existence.

This section is structured around three themes that emerge from the field research and address the research questions. First, ‘Shark agency’ presents a detailed account of the diverse behaviours and agency of sharks, and the nature of human–shark interactions. This section seeks to develop a more nuanced account of the agency of sharks. Second, ‘Embodied oceanic relations’ builds upon the previous section to examine how embodied interactions with the ocean, as well as with sharks, shape ocean-users’ actions and attitudes. It considers the agency of the ocean as a complex nonhuman entity. Third, ‘The shark frenzy’ explores other factors at play in human–shark relations; specifically, the combination of popular representation of sharks and the ‘frenzy’ that follows a bite incident. This final section also considers how other personal factors interact with the shark frenzy, including age and the time people have available for ocean activities. As such, it considers agency as distributed among multiple entities, human and otherwise, that come together in particular times and places.

### ***Shark agency***

In contrast to the dominant representation of sharks as inherently dangerous animals, ocean-users interviewed in this research demonstrate knowledge that sharks display far more diverse behaviours. Among the interviews are reports that sharks act to produce a



broad range of experiences, responses, and relations, at times ambivalent and often positive. Despite media portrayal, fear is not a strong theme in the data. Rather, most people accept sharks, and the potential risks they pose, as part of the ocean. This section explores the diverse behaviours and agency of sharks as understood by ocean-users through their embodied interactions with sharks and the sea.

The presence – or potential presence – of sharks plays some role in shaping participants' ocean use. Some describe ambivalent relationships with sharks, frequently based on species. The majority of ocean-users interviewed are highly aware of the diversity of shark species and behaviours. Pete – a skin diver, spear-fisher, and SCUBA diver – enjoyed seeing a grey nurse shark (*Carcharias taurus*), but says 'if I ever see a white shark, that's probably the end of my days . . . I don't want to see one. . . . But I'd love to see one from the boat one day. That would be phenomenal' (July 2013). For Pete, fear is mixed with desire, curiosity, and wonder. Others described a cautious approach to ocean use, considering times of year when perceived risk of dangerous encounter is high. Following the shark bite incidents of recent years, Belinda – an ocean swimmer, wind-surfer, snorkeller, diver, and sailor – says 'I've become more mindful, and I will consciously know that October's a time of year I don't want to go in the water, because I regard that as high risk'. She goes on 'but I was always a bit—not *anxious*—but I'd always hold back then anyway, because the water's not so warm' (March 2014). Belinda's increased mindfulness is difficult to extract from other aspects of life and qualities of the sea. She explains 'that's also partly my age, as well! [Laughs] Because I'm not as fit as I used to be, and if I'm going out at the start of the season, I just feel a bit safer on the river'. Similarly, Mark – surfer and CEO of an ocean-user group – says 'I've grown up a bit, too . . . I've reduced my risk profile surfing now' (July 2013). People respond to the existence of sharks and potential constraints they place on their practice in a variety of ways: some express frustration, disappointment; many are accepting. Sharks may be one factor shaping how and when people use the ocean, but usually not the primary one.

While caution, ambivalence, and some fear are present in the interviews, a far stronger theme is the agency of sharks to attract. Sharks were frequently described as 'beautiful' and 'awesome'. More specifically, seeing sharks can be 'exciting' (Katherine, surf lifesaver, snorkeller, and diver, March 2014), and Laura remarks 'That's, I think, what draws me to it. Seeing really impressive nature' (snorkeller and SCUBA diver, March 2014). Many interviewees expressed desire to see sharks; most commonly those who spend time underwater. Ash – free-diver, spear-fisher, and videographer – explains: 'I love getting footage more than anything else, but just diving with sharks is cool' (March 2014); and for Ian – SCUBA diver and underwater photographer – encountering a shark 'certainly puts the pulse rate up, but gosh it's worth it for the picture!' (July 2013). For these ocean-users, and others, the expectation and presence of sharks draws them into the sea. The pull of sharks, the excitement and enjoyment associated with encountering them, outweighs potential risks.

Encountering sharks elicits a range of responses. Perhaps surprisingly, given dominant representation (Muter et al., 2013), most are positive. Ash explains he has encountered 'hundreds' of sharks while free-diving; '99 per cent of sharks, of encounters, are quite good. They're calm, you can get quite close to them. They're inquisitive. . . . There's countless good experiences' (March 2014). Others describe similarly positive interactions: 'I've been rapt to be in the water and see a shark' (Simon, marine mammal researcher, SCUBA diver and body-surfer, July 2013). Encounter informs future practice. For Tania – a free-diver and spear-fisher – seeing a tiger shark, 'like a big log floating through the water, it was massive', prompted her to get out of the water. But she returned and reflected: 'I just think the more I spend in the water with them, the more comfortable I would be spearing with them' (July 2013). Similarly, following a close and prolonged encounter with a white shark, Carol – a SCUBA

diver – explains: ‘If anything, I’ve got a little bit more confident, because I’ve been there, done that. It didn’t attack me. I wasn’t aggressive to it; it was not aggressive to me’ (July 2013).

Through experience and encounter ocean-users – especially those who spend time beneath the surface – come to know that sharks are not homogenous. Shark behaviour and agency is extremely diverse: ‘there’s a lot of sharks swimming up and down the coast and they don’t all necessarily want to bite you’ (Craig, fisher and SCUBA diver, July 2013). Ash goes on, with a note of sarcasm: ‘obviously different species of sharks behave differently. They’re not all the same thing, like: “sharks are sharks”, you know, and “they’re all man-eating monsters”. There’s lots of different sharks’ (March 2014). Most obviously, different species present greater or lesser potential threat to people. This is widely recognised by ocean-users and governments. The Australian Government identifies white shark, tiger shark, bull shark, and other whalers (*Carcharhinus* spp.) as ‘dangerous to humans’ (Australian Government Department of the Environment and Energy, n.d.). But this is often overlooked in media reportage, which tends to speak of ‘sharks’ as a uniformly threatening entity. Even among species identified as dangerous, differences exist. Speaking of tiger sharks, Ash describes:

They’re inquisitive when you’re not looking at them [laughs], but as soon as you make eye contact with them, they’re really shy. They’re really, really shy. So, as a cameraman, when I’m filming I want to get good footage of tigers, but it’s really hard because as soon as you start swimming towards them with a camera, they take off. . . . So I like interacting with them probably the most, because they’re big, sort of formidable creatures but their behaviour and their temperament is really, really sort of shy and calm, and I don’t feel all that sort of unsettled with tiger sharks. (March 2014)

People describe other species differently: grey nurse sharks are ‘pussycats’ (Ian, July 2013), and whalers are ‘sneaky’: ‘they work together as a pack, they’re sort of like dogs in a way’ (Ash, March 2014). Comparison with cats and dogs – domesticated animals – suggests familiarity gained through encounter and observation. Such familiarity confounds the notion of sharks, or even individual species, as inherently dangerous.

In addition to differences between species, ocean-users have knowledge of places and times particular species are more likely to be about, or be aggressive, as Belinda describes above. Further, people who spend time underwater demonstrate careful observation of changing behaviour of individual sharks: ‘you can tell a lot by the animal’s behaviour as to whether they’re aggressive or whether they’re just mooching around. That also puts you a bit more at ease’ (Craig, July 2013). Notably, several people spoke about sharks behaving differently in the presence of prey, bait, or burley, and some recognise change at different times of day. Talking about ‘dives bridging that time between daylight and darkness’, Ian describes:

White tips suddenly really get going in that time; it’s their hunting time. They’re not a problem to us, but, they come closer at that time. They’ll come between divers at times. Just a flash between them. But normally, during the day, they’re sitting sleeping under a rock, or under a ledge, or on the bottom somewhere. You swim towards them and they swim off, and lie down again and sleep. (July 2013)

Such observations unsettle an homogenous category ‘shark’, and demonstrate knowledge of the diverse behaviours of diverse sharks. Such knowledge is gained through observation, encounter, and experience.

This evidence from ocean-users illustrates that the presence of a shark is not, as the WA policy suggested, an ‘imminent threat’. Through accumulated experience ocean-users come

to know that sharks are not just ‘sharks’. Ocean-users distinguish between the broad category ‘shark’, particular species, and individual animals; between the individual and multiple collectives. They come to know that shark behaviour is diverse, determined by species, season, location, time of day, and the character, rhythms, and moods of individual animals. As a result, sharks have agency to produce a wide range of effects. As Bear (2011: 298) noted, these ‘non-airy spaces, cold blood and very “other” bodily forms do not act as barriers to inter-species affective encounters’. Ocean-users experience and come to know sharks through observation, embodied engagement with the marine environment, and direct encounter. Through these avenues, sharks spark wonder, curiosity, ambivalence, caution, which influence people’s attitudes, actions, and engagement with the sea.

While sharks are most often represented in terms of antagonistic relations (Muter et al., 2013), the accounts of ocean-users’ experiences presented here show that potentially antagonistic or otherwise negative relations have diverse and ambiguous effects. Such ambiguity reaffirms Lorimer’s notion of nonhuman charisma, for him a key element of nonhuman agency. Sharks might be considered highly charismatic, but their charisma is most frequently presented – using Lorimer’s lexicon – as at once aesthetic and corporeal (i.e. visual, affective, and emotional), negative and ‘feral’ (radically different from anthropocentric norms). It is a response to what Kristeva terms the ‘abject’; the ‘breakdown of meaning that results from being confronted and overwhelmed by the other’ (Lorimer, 2007: 920, following Kristeva). The accounts presented here show that even in the case of one of the most widely feared groups of animals, agency is not simple. Sharks may be deemed at once beautiful and threatening; awe-inspiring and frightening. Nor is agency unilineal, leading to one inevitable negative outcome. Ambiguous and often positive outcomes result from actual or potential shark encounter.

Extending to broader understandings of human–wildlife conflict, this case presents evidence of co-existence, even amidst relations widely represented as unquestionably dangerous. Further, it suggests that the most common representation of human–wildlife interaction – in this case ‘shark attack’ – has become so powerful as to marginalise or erase other relations and effects. Similarly, in their work with invasive plants, Atchison and Head (2013: 964) found that attention is paid to particular qualities and capacities, while others are overlooked or neglected. They found that ‘a persistent landscape focus in invasive plant management... hides—or risks ignoring—the quiet agency of differential permeability, durability, or punctuated growth’. Lulka (2009: 68) referred to a ‘reductionist’ and ‘improverished form of agency’, used to further distinguish humans from other animals. Key here is that human attention to nonhuman agency is partial, in the sense of being both incomplete and biased. Some forms of agency are granted attention and others are not; it is the dominant, dramatic, or otherwise favoured character or effect that drives human counter-action, with considerable implications for practical engagement. For human–shark relations, the dominant, partial agency promoted through representation of ‘shark attack’ is what determined government action (cf. Neff and Hueter, 2013). The WA imminent threat policy was a response to ‘shark attack’ that sought to protect people by proactively killing sharks. Attention to ocean-users’ knowledge, experience, and embodied encounters with sharks provides a fuller sense of nonhuman agency, which has potential to inform alternate responses to possible harm.

### *Embodied oceanic relations*

Accounts of ‘shark attack’ and political response to shark bite incidents not only present a narrow version of the shark. They also overlook other factors, external to the animal, that

shape human–shark encounter and relations. Field analysis shows that the ocean is a key agent influencing ocean-users’ understanding and appreciation of the sea, their activities, everyday lives and sense of self, and their thinking and action towards sharks. Further, just as embodiment informs relations with sharks (as discussed above), people come to know the ocean, and it comes to shape their lives, through embodied relations.

Ocean-users know the ocean intimately. They understand it not as an expansive surface or homogenous volume (cf. Steinberg and Peters, 2015). Rather, they know its varying qualities, conditions, and differential agency to produce sensations and effects, on the surface and at a range of depths. Matt – surfer, kite-surfer, and SCUBA diver – describes that his views of the ocean and of sharks are shaped by ‘getting involved with diving and getting a picture of what happens underwater as opposed to just sitting on top, or just seeing a sea of blue. When you’re diving, you’re actually understanding there’s a world under there’ (July 2013). Several divers describe this distinction between surface and underwater, feeling ‘very safe on the bottom of the ocean floor’, whereas ‘on the top you’re very exposed. Flailing about, kicking, making a lot of noise. It doesn’t quite seem as safe’ (Kathryn, SCUBA diver, July 2013). Speaking of potential dangers associated with sharks, one diver says: ‘I guess you think about it when you’re on the surface. And as soon as you’re underwater you don’t think about it anymore’. When asked why, she responds: ‘Just blissed out, I guess! . . . There’s too much to be looking at and everything’s beautiful so you don’t really care about the sharks’ (Colleen, SCUBA diver, July 2013). Matt speaks in detail about the differences between being on the surface and underwater. On the surface:

you’re dealing with just a body of water, whereas when you’re below the water you’re certainly inside another world. As opposed to just . . . looking at it as, say, ‘water’, it’s actually an environment. That’s not to say you don’t appreciate it, because we go kite-surfing up in Coral Bay, and you’re just cruising across a coral reef. You appreciate the view or the environment you’re in, and that includes down to the bottom, so it’s not just, you’re not just enjoying what you’re doing on the surface. It’s your understanding that you’ve got this beautiful world below you. . . . There’s always this connection with what’s going on below, whether or not you’re playing on the surface or diving below. (July 2013)

Through embodied interactions, people experience the ocean’s depth and volume; they describe distinct sensations produced by different points in the water column. Being in the water, experiencing difference with depth, offers ocean-users insight and appreciation of ‘a whole world’. Sharks are accepted as part of that underwater world.

Through their interactions, ocean-users know the ocean as always changing. It is not a static, homogenous entity. Temperature, swell, clarity vary day-to-day, through the year, and year-on-year. Participants talk about the ocean in terms of diverse qualities, conditions, and patterns: ‘The Leeuwin Current ebbs and wanes . . . it’s a cyclic thing over numbers of years, not yearly’ (Graham, free-diver, fisher, and ocean-user group Chair, July 2013); ‘we have the warm currents coming down off the north; we have a tropical shift’ (Mark R., surfer, fisher, diver, and former surf lifesaver, July 2013). The changing features and qualities of the ocean shape people’s interactions, experiences, and relationships with the sea, including the activities they pursue at particular times: ‘a bit of surfing, if it’s up’ (Mark R.); ‘we can only dive it when the swell’s under two metres, otherwise you get knocked around too much in there’ (Peter, SCUBA diver and cray fisher, July 2013). The sea’s dynamism acts on the activities people undertake and their experiences.

The changing qualities and conditions of the ocean prompt response to various risks and potential threats: encountering a shark is one. Participants describe avoiding certain circumstances. When asked how he negotiates being in the ocean with sharks, Craig replies:

I think there are also times when perhaps you can minimise the risk by not being in the water in specific locations. So it's also being a bit smarter about it. As a diver, I really don't like overcast days, and quite often I'll choose not to dive in deeper spots that require a long descent from a boat in gloomy water. (July 2013)

Numerous people describe avoiding known seal colonies, and migrating tuna and salmon, as these provide food sources for sharks. Whale migration – August–September through October–November – is widely understood as a time when more sharks are around, and 'they're at their most aggressive' (Richard W., surfer and ocean swimmer, July 2013). Ash describes the range of factors that come together to create times for diving, spear-fishing, and filming. He observes that the whale migration corresponds with white shark sightings. At this time also,

the pelagic fish have stopped running. And nowadays there's a demersal species closure. You know the good reef fish that you're allowed to spear, you're not allowed to spear between the fifteenth of October and the fifteenth of December anyway, so there's a certain chunk of the year where there's not a lot of fish to get, and there's more risk of getting eaten by a white [shark]. So, for me, I'm a real 'risk versus reward' type of person, you know? (July 2013)

Through their embodied interactions, Ash and others know the ocean as comprising multiple lifeforms, materials, qualities, patterns, and processes that come together in distinct ways at particular times and places. Changes over multiple time scales influence people's assessment of and response to risk of dangerous shark encounter.

Speaking more broadly, the ocean has agency to shape people's activities, outlook, and sense of self. 'It gets under your skin. It becomes part of who you are' (Richard M., diver, snorkeller, surfer, and ocean swimmer, July 2013):

We're fortunate enough to live three hundred metres from the beach, and it's just something we do. I'd rather drive down the ocean way than have to drive in through the freeway—if I can help it—to work. But it is part of my life, and as I said before, getting involved in the surf club with my kids and the ocean stuff, it's a good way of getting the kids, too, closer with nature and giving them a positive outlook on life.

For many participants the ocean is a central part of life; a material presence that influences everyday practice, such as the route taken to work. Through its everyday presence, it becomes a feature of individuals' and families' ways of being and understanding the world. Matt (July 2013) explains

I grew up in the ocean, with my parents taking us to the beach every weekend... looking back on, I guess, the years that the ocean's given to me, it's sort of time to give back to the ocean a bit;

'it's definitely a passion, I guess, if you like—the ocean'. Relationships with the sea can have profound effects. As Tania describes of free-diving: 'The more I do it, the more I learn about myself' (July 2013). The ocean is central to the lives of many ocean-users.



These accounts demonstrate that the ocean acts upon people in important ways, which influence human–shark relations. The ocean draws people in. In doing so, it shapes everyday lives, appreciation of the marine environment, values and sense of self, attitudes towards sharks and responses to the potential threats they pose. The ocean’s agency in this context is determined, in part, by its depth and dynamism. To date geographic scholarship on oceanic depth and dynamism has largely focused on questions of geopolitics, and on social and political processes including territory and mobility (e.g. Elden, 2013; Peters, 2015; Steinberg and Peters, 2015). This study begins to reveal the significance of the oceans’ depth and dynamism for cultural geographies and everyday embodied and more-than-human relations (see also Picken and Ferguson, 2014; Straughan, 2012). Through attention to the ‘obscured uses and life at sea’ (Peters, 2010: 1267) of ocean-users, this work shows that the ocean shapes individuals’ lives and cultures of nature. The ocean entices ocean-users to become immersed, and the experience of immersion – of embodied interactions with the ocean – contributes substantially to understandings, attitudes, and actions. In the context of human–shark relations, the ocean influences both the possibility of encountering sharks, and responses to doing so.

### *The ‘shark frenzy’*

Diverse shark behaviours and embodied oceanic relations shape human–shark relations, as discussed in the previous two sections. In the face of shark bite incidents, a third factor comes into play. One respondent used the term ‘shark frenzy’ (Mark, surfer and ocean-user group CEO, July 2013) to refer to the extreme, extensive, and sensationalised attention to sharks, shark accidents, and sightings that occurred in WA from 2011. Other research has found that representation of sharks and shark bite has a powerful influence on public opinion and policy (McCagh et al., 2015; Neff, 2015; Neff and Hueter, 2013). This section examines how representation interacts with other phenomena and life factors. The notion of distributed agency (*sensu* Bennett, 2010) is helpful here for considering how a diverse range of heterogeneous things – including people, sharks, the ocean, media representation, public discourse – comes together to produce a range of effects in a particular time and place.

Describing the events of 2011–12, ocean-users speak of sirens going off, alert systems in place, increased aerial patrol, shark tagging programmes and beacons, and increased awareness of the presence (actual or potential) of sharks, all fed and compounded by the media’s reporting. Mark describes ‘that siren’s ringing every day, and it’s in the paper at least twice a week, or on the news. It doesn’t go away’. He explains it is difficult to separate ‘what’s fact and what’s hysteria. What’s hype. And then, probably, also being on the receiving end of how many texts per day we’d be getting. Notifications. You go, “Oh, my god!”’ (July 2013).

A key component of the shark frenzy is the extent and form of media representation: ‘seems like the media just concentrates on it too much. Like, you’d see every day in the paper over summer, sharks being sighted. They’re in the water! So yeah, it’s just too much’ (Colleen, July 2013). Many describe misrepresentation and sensationalism. Keith (SCUBA diving instructor, July 2013) speaks about use of the terms ‘man-eater’ and ‘shark attack’, stating ‘It’s the language that they use which defines how sharks are perceived by the general public’. He goes on to describe annoyance at frequently reproduced images of sharks:

It’s a great, dramatic shot: the shark out of the water with its mouth open. What you never see is, just out of shot, there’s a tuna head, because they’ve attracted it in and then made it come out



of the water! Ninety-nine percent of the time, the shark's swimming around with its mouth shut. (July 2013)

Language and imagery compound powerful long-standing representations of sharks in popular culture. Negative consequences are widely recognised: 'I hate the way the media sensationalises it, and people latch onto it, and it becomes a topic of conversation. It really does' (Belinda, March 2014). Following her great white shark encounter, Carol explains:

we did not publicise it on purpose, because around those months in Perth, it was just crazy, what the media was doing, you know. If you saw a shark or if you did anything, whatever you said, they would just take it out of context and sensationalise it. So we didn't publicise it. Some of our friends got pictures, obviously, and we said, "Do not send this to the press!". (July 2013)

These ocean-users identify the power of the media's representation of sharks, in the context of the shark frenzy, to influence public discourse and feed misinformation and extreme views and actions.

Throughout the shark frenzy, the shark is the focus. Less attention is paid to the other factors leading to a shark bite incident. The animal is perpetrator of 'shark attack'; the media reports on 'man-eaters' and 'rogue' individuals; governments cite individual incidents and spikes in incidence; policy is instituted to 'track, catch and . . . destroy' animals; government departments employ people to deploy hooks, boats, and guns to kill sharks. The animal – be it the broad group (sharks), a species (e.g. white shark), or an individual (the fictional 'rogue' shark) – is presented as the sole agent, which we humans must counteract. Individual and collective are here conflated. In the context of policy-making, the shark frenzy is apparently unilineal; the progression in discourse and action from 'shark attack' to lethal policy is presented as a common-sense line of reasoning. The shark frenzy increases public fear, and directs policy-making towards short-term reactions, irrespective of lack of evidence of the efficacy of the method. Such intense focus on the 'imminent threat' of the shark limits the need to look further for possible sources of conflict and pathways for negotiating co-existence.

The shark frenzy has varied effects for individuals, communities, institutions, and industry. Some ocean-users report changing their practices in response to shark bite incidents, but it is not as simple as staying out of the water because of sharks. Rather, people alter their practices in a range of ways. Shark accidents do not stop people getting in the water – 'doing things that we love' – but make some people think differently about potential dangers: 'it does make you stop and pause' (Pete, July 2013), or re-evaluate 'risk versus reward' (Ash, March 2014). Respondents report surfing and snorkelling less often in remote locations, and choosing clearer conditions when and where visibility is best. Richard M. discusses change in his practice:

I train with a bunch of guys who have been part of the surf club for many years. Some of them are in their sixties. They have not had a fear of sharks for many, many years up until recently, since the spate of shark attacks. Typically, our training patterns on Saturdays would be to run 800 metres down the beach and back, and then swim out to the 250 metre buoy . . . we do that three times. We would joke around on the way out about sharks, and do the *Jaws* theme and tell the latest shark sighting story for many years, and then all of a sudden it changed. People would stop swimming out to the 250 buoy. We'd actually swim along the beach rather than swim out, and that's been a marked change in behaviour. It hasn't stopped the usage and continuing to go

in the water and the love of the ocean, but there is a fear now of just going out too far. So, people have become a little bit more risk-averse. (July 2013)

Even among those who use the ocean regularly, and have for many years, who understand and accept the presence of sharks and associated risks as part of the ocean, the shark frenzy relies upon and provokes fear. Through the events of 2011–12 in WA – the fatal shark bites and media and government responses – risk of shark bite became more present for some ocean-users.

But, as mentioned, responses vary. For some respondents, the combination of fatalities and reporting has steeled determination: ‘It actually, if anything, makes me more determined to stay doing what I do, because I enjoy it, and, you know, to a certain extent proving to people that it is not as risky as they say it is’ (Grace, SCUBA diver, July 2013). Likewise, Tania (July 2013) describes: ‘If anything, it’s made me a little bit more headstrong about it’. Some others report no change in their practice or attitude.

Motivations for altering practices are not straightforward. They are not a simple response to media representation of events. Rather, they involve combined effects of the known potential dangers posed by sharks, the shark frenzy, and other life factors, such as age and available time. Speaking of the fatalities of recent years, Richard W. (July 2013) says: ‘it does change the way you use the ocean, and certainly you think twice about jumping in at five in the morning or, you know, six o’clock at night, for that matter’. He explains that he gets in the water fairly regularly, though ‘probably not as regularly now as I used to—and that’s not because of sharks, it’s probably just because of time’. Colleen, relatively new to diving, says that she

didn’t actually go diving at all this summer. And I think it did have a lot to do with the attacks, and because it was so much in the media . . . I don’t know, it was a combination of time getting away with us, and not having actually a weekend free to go diving. (July 2013)

Reasons for changing practice are often complex; it can be difficult to disentangle the effects of shark incidents, the shark frenzy, and other aspects of life.

Finally, numerous people speak about effects of the shark frenzy for industry, including dive shops, surf schools, kayak operations, and the broader tourism industry. Concern is high, relating to people’s own livelihoods, others’ employment, reliance on the industry for access to ocean activities, or general support for ocean-based pursuits and their benefits. Mark reports significant drops in numbers, and therefore income, and small businesses closing as a result. It is difficult to determine the cause – ‘sightings were probably far more frequent, but you add that media hysteria, the car park talk . . . and the word around town’ (July 2013) – but there is a strong sense among respondents that local industry is adversely effected by the shark frenzy. Ocean-users identify the shark frenzy as contributing significantly to public fear.

The shark frenzy shapes events. But its effects are diverse. Its apparently unilineal logic led from shark bite to an immediate policy outcome: catching and killing sharks deemed to pose an ‘imminent threat’ to beach goers. But the shark frenzy sparked a range of responses from ocean-users – from increased wariness to a steely determination to maintain valued relations. While change in behaviour is apparent among some individuals and institutions, the reasons for change are difficult to define. The record of shark bites, the frenzied public reaction, and the suite of other events that shape people’s lives are tightly entwined. Further, the shark frenzy acts differently in concert with other things. For policy-making it combines with a deeply entrenched culture of fear and misrepresentation. For ocean-users it comes

together with the diverse agency of sharks, embodied oceanic relations, and other life factors. These diverse things – human and nonhuman entities, elements, materials, and processes – combine or assemble in distinct ways, leading to vastly different outcomes. The result is a substantial disjunct between the government's response to shark bite and ocean-users' experiences and attitudes towards sharks as part of the oceanic world.

Representation of sharks has been focus of a good deal of social science research (e.g. Crossley et al., 2014; Gray and Gray, 2017; Muter et al., 2013; Neff and Hueter, 2013; Neff and Yang, 2013). This study extends that work by examining how representation interacts with more-than-human agency and embodied oceanic relations to produce a range of effects. The research in turn contributes to human–wildlife conflict scholarship, by moving beyond a search for immediate solutions, towards understanding underlying social and cultural factors driving conflict (Pooley et al., 2017). Through a more-than-human approach, the gaze is turned from a narrow focus on the animal at the centre of conflict, as promoted in the policy notion of 'imminent threat', to a diverse and distributed agency. This process enables us to identify sources of effects (Bennett, 2010), harmful and otherwise.

## Conclusion

Shark bite is an exceptionally rare event. And yet, the dominant portrayal of sharks is as inherently dangerous animals. Social science research has critiqued the representation of 'shark attack' and its effects as sensationalist and misleading (Chapman, 2017; Neff and Hueter, 2013). I argue that this image leads to two further limitations: it presents a one-dimensional view of sharks, and marginalises other factors that influence human–shark relations and shark bite incidents. Overcoming these limitations may offer other places to look for causes of dangerous interactions and possibilities for co-existence. Here, I have sought to contribute to understandings of shark bite, human–shark relations, and human–wildlife conflict and co-existence more broadly. A relational, qualitative research methodology has enabled investigation of experiences and views of the people most likely to encounter sharks – those who undertake recreational, professional, and/or volunteer activities in or on the sea. Key findings are as follows.

Ocean-users hold nuanced understandings of sharks, their behaviour and their agency. This stands in stark contrast to the dominant narrow representation of 'shark attack'. Shark agency is understood to vary based on species, season, time of day, location, as well as on the character, rhythms, and moods of individual animals. Ocean-users distinguish between the individual animal and multiple collectives. As a result, responses to sharks and the potential dangers they pose are also varied among ocean-users. Sharks spark wonder, curiosity, ambivalence, caution, and fear, which in turn shape people's attitudes, actions, and engagement with sharks and the ocean. A partial – both incomplete and biased – form of shark agency is represented in media and policy realms. This dominant view drives decision-making, with considerable implications for animals and human–animal relations. Attending to ocean-users' knowledge of and embodied experiences with sharks offers a fuller sense of nonhuman agency, which might inform alternate responses to potential harm.

Factors other than the shark influence human–shark relations. The ocean is key. Spending time immersed in and on the water informs people's knowledge of the ocean and its constituents, including sharks. Embodied relations with the ocean, particularly its depth and dynamism, shape people's everyday lives; appreciation of the marine world; values and sense of self; attitudes and responses to sharks and to the potential dangers they pose. For most ocean-users, embodied relations with the sea present a draw that

overrides and is more highly valued than potential risks posed by sharks. To date, ocean geographies scholarship has demonstrated the difference the ocean makes to geopolitics and to social and political processes including mobility and territory (e.g. Elden, 2013; Peters, 2015; Steinberg and Peters, 2015), as well as the relational agency of the sea (Anderson, 2012; Peters, 2012). This paper builds on this work to reveal the significance of the ocean for the connected phenomena of politics, culture, and more-than-human worlds.

Beyond the case of sharks, four further insights can be taken forward for human–wildlife conflict scholarship. First, research elsewhere has found that representation of predators is powerful. This study extends that work by examining how representation interacts with other phenomena. The ‘frenzy’ that emerges in the wake of shark bite incidents – the assembly of media reports, increased surveillance, car park conversation, cultures of fear, and so on – produces a wide range of effects. Some ocean-users report increased wariness and changes to practice, others steely determination, and others still report no change. A further effect is a disjunct between government action and ocean-users’ priorities, which is, in turn, counter-productive for identifying means of co-existence. Second, research with ocean-users demonstrates that even in the case of a widely feared group of animals, such as sharks, relations are not straightforward. Human–wildlife encounter does not lead to one inevitable negative outcome. Ambiguous, ambivalent, and positive encounters and relations exist. Third, human and animal geographies and human–wildlife conflict studies have terrestrial, mammalian biases. Looking beyond the land towards the sea enables understanding of a broader diversity of lifeforms, more-than-human relations, and ways in which animals shape worlds. Finally, a qualitative, relational approach allows us to move beyond a search for immediate solutions. Turning the gaze from the animal reputedly at the centre of conflict, towards a distributed agency, casts light on a fuller suite of social, cultural, and more-than-human factors underlying conflict and possibilities for navigating co-existence.

## Highlights

- The ‘shark attack’ trope offers a one-dimensional view of sharks and marginalises key factors shaping human–shark relations.
- Ocean-users know sharks to have diverse behaviour and agency.
- Embodied oceanic relations influence lives, actions, and attitudes.
- Representation combines with other factors to shape events, often at odds with ocean-users’ experiences and values.
- Qualitative, relational methodology offers evidence of human–wildlife co-existence.

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## ORCID iD

Leah Gibbs  <https://orcid.org/0000-0003-3231-9238>

## Note

1. Both elements were approved by the Human Research Ethics Committee of the University of Wollongong (HE13/074 and HE13/269).

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