

Introduction

The story of how this book came to be starts on one Christmas day when I was 16. I grew up on the Far North Coast of New South Wales in Australia, in a little surfing town called Cabarita Beach. On that now notorious day, I was surfing (or attempting to) in big surf on my home beach. I was not a natural surfer but my deep love and respect for the ocean, fostered over many years of it being my haven, along with my imagined teenage invincibility, made me believe that this would be the day I would conquer the surf. The waves were grey, rough and looming, difficult even for me to paddle over. It didn't take long for me to be wiped out. I was pushed onto my board's fin, it digging into my thigh, and then onto the sand below. I had a distinct thought that I was going to drown, the ocean had conquered me, not the other way around. After what felt like minutes, I was eventually carried to the surface, although not without a substantial injury requiring 11 stitches to my thigh and even more substantial damage to my pride. I haven't really surfed since but have remained connected to the ocean. It has cared for me over many years, embracing my thoughts, pain and stress as I became an adult and carried children. Perhaps because of my relationship with this place, my awareness and my connection to the ocean, I have always felt that it was worthy of illumination, awe and, most importantly, protection.

This protective mechanism was probably why I came to be aware of the phenomenon called 'human–wildlife conflict'. I have always been aware of the presence of sharks and the potential conflict they represent when we are in the water, their home. This conflict has been represented and recreated many times over in my home state of New South Wales and elsewhere around the coast of Australia. In early 2014, I was at the start of my research career. At the same time, there had been several fatal shark attacks in Western Australia and my research interest was piqued. The Western Australian government sought to implement a drum line programme and targeted killing of White Sharks off

its coast. I have been continually disturbed by the social and legal response to surfers being injured or killed by sharks around the coast of Australia, this being just one example. The response, typically dictated by what is effectively a 'hunt' for the criminalised shark or, worse, a wide-reaching cull or the deployment of destructive drum lines, was being very aptly demonstrated by the Western Australian Government.

I was not the only one to question this institutional response. The proposal was hotly contested. Media and scientific articles disputed the effectiveness of a drum-line programme in reducing negative interactions with sharks and numerous community petitions and protests took place. In one instance, over 5,500 Western Australians were polled by a local paper about the shark cull, with 86 per cent of participants voting against the programme and only 13 per cent favouring the shark culls to begin again. A petition opposing the shark culls had over 32,000 signatures. Another petition received over 38,000 signatures. Despite all this societal resistance, the programme went ahead. I was confused and disheartened. In a situation where most local people, scientists, academics and others were against a cull and the drum-line and had evidence to show it would not be effective, how was this allowed to go ahead? If science and a wide-reaching social movement against the proposal were not enough to discard it, then what was?

Since then I've become aware that these seemingly isolated conflicts we have with nature are evident in a million little, less obvious examples. Not long after the implementation of the drum-line programme in Western Australia, I revisited my hometown and was struck by a very specific oddity. There were no bugs on my windscreen when driving at night. Where were they? As a teenager with my first car, bugs on my windscreen were a fact of life. Now my windscreen is clean. I felt, and continue to feel, distinct grief surrounding the loss of those bugs. I have also since been emotionally struck by the treatment of wildlife and our wider relationship with nature in numerous other ways; melancholy elephants used and abused by tourists and their handlers in Asia; dingoes euthanised on K'gari (formerly known as Fraser Island) because they have conflicts with tourists and locals; the sheer number of wildlife deaths in the Australian Black Summer fires of 2019/2020, numbering in the billions; and the plight of 'endlings' – animals that are the last of their species, to name just a few examples.

My environment-related distress was heightened during March 2020, when I, like many people around the world, could not sleep. All around me people, governments and other institutions were escalating their strategies to minimise the spread of COVID-19 and reduce its devastating impact on communities, individuals and the economy. I was also deeply anxious about these things, but

at a deeper level, I couldn't sleep because I was grappling with the complete fiction-like state that the world had found itself in, while also recognising its absolute inevitability. I could not believe that we, as a collective, had arrived at this place, while simultaneously knowing that this disaster, like many others, was predicted and likely entirely avoidable. Yet, the social change required to avoid this and other disasters had not gained any significant traction.

What struck me during those sleepless nights was that it was distinct, modern consumer and pro-development type behaviour (wildlife consumption, individual and business travel as examples) that had led the collective to suffer in such a universal way as a result of the lightning spread of COVID-19.

This book is my exploration of my longstanding love of the ocean and nature more generally, concern for sharks, grief for an increasingly shrinking natural environment and how all of these feelings (and those in between) can be reconciled with the way humanity treats nature. It is an exploration of the behaviour that led to pandemics such as COVID-19, in many instances the very same behaviour that has also magnified climate change, biodiversity loss, land-clearing, income-inequality, racism, sexism and other social inequalities. It is an exploration of the interconnected dominations associated with all these events and our relationship with nature, through a legal lens.

1.1 THE BROKEN HUMAN–WILDLIFE RELATIONSHIP

As a lawyer, I am trained to believe that law has a purpose and is inherently good. It structures society, guides behaviour (both individual and collective) and ensures fair and just transactions and relationships. Naturally, I thought there must be a rational legal approach to resolving specific conflicts with wildlife so that humanity did not respond to shark attacks (and other instances of conflict) through indiscriminate killing. Of course, any social scientist, philosopher or conservationist (or any other number of people) could have told me that my perspective and trained ideology was fundamentally flawed. Humanity's relationship with wildlife is broken and beyond a quick legal fix.

In this book, the primary demonstration of such a proposition is the ubiquitous and intense nature of negative wildlife encounters around the world, such as shark attacks, and the human/social response to those encounters. They are often called 'human–wildlife conflicts', and that is the phrase I will use throughout this book, but I note there are difficulties with the semantics of this phrase and they will be discussed in Chapter 3.

Human–wildlife conflicts vary from physical attacks to crop damage and farm animal predation to vehicle–animal collisions. They evoke certain negative emotions, and affect the way that we think about wildlife and our

relationship with them. We need to be concerned about human–wildlife conflict because the cumulative impacts of a world of myriad individual conflicts can have long-term serious consequences that extend further than any isolated conflict situation. We have seen these long-term serious consequences in recent months, as humanity’s consumption of wildlife caused a global pandemic. Beyond this, the ramifications can extend to an ecosystem if the species involved in the conflict has a strong ecological role and if the conflict leads to mass killings, severe population reduction or the setting of minimal conservation goals. Ineffective responses to conflict can lead to public antagonism and that can affect the ability to cultivate a conservation or environmental ethic. Ineffective state responses to human–wildlife conflict can also have immediate effects for the wildlife that is the subject of the conflict. Illegal and retaliatory killings are very common where people perceive that the state is not prioritising their needs and interests. Further, ineffective responses can create further social conflict. Often it is not the conflict itself that creates tension but the conservation response, so that conservation becomes the conflict and the conservation process becomes futile.

Human–wildlife conflict is also one of the largest contributors to biodiversity loss and thus a primary cause of the current extinction crisis. More than one in eight species are currently threatened with global extinction. We can literally see species going extinct within one lifetime. Overall, humanity ought to be more concerned about the loss of biodiversity. The loss of a species can have large and devastating consequences on an ecosystem and the environment more generally, particularly if that species is a keystone species. Wildlife has a direct effect on the make-up of their habitats, habitats which people also use to survive and flourish. For example, the loss of large herbivores, such as the elephant, will mean their habitats eventually turn into forests, which can cause the disappearance of habitat for grassland species and also can affect the ability to sustain crops and farm domesticated animals. Various species can interact with the evolutionary adaptations of flora and play a vital role in seed dispersal and pollination. Global food security is at risk, as is the safety of agricultural systems. These interactions are only some of the known positive influences wildlife have on their habitat and there is still much we do not know about the role that species play in ensuring the survival of their surrounding environment and indeed about the species themselves.

Naturally, some of the effects of the loss of a species may be beneficial to humans, at least in the short-term. For example, there is some indication that the elimination of mosquitos would be desirable from a human health perspective. However, there remain to be unknown effects of extinction. For example, the genetic information held in wild species, even a species viewed

as a threat to humans, represents ‘future opportunity’ from an anthropological perspective. The drug ‘captopril’, used to treat heart failure, is derived from snake venom. Treatments for nerve disorders have been developed from spider venoms. There are many potential hidden benefits (medicinal and others) within wild animal species. We simply do not know what the overall effect of eliminating mosquitos would be on the health of the environment and the security of humanity. We do not know if eliminating mosquitos from existence would have a net benefit or net cost to humankind and the world as a whole. Further, we have not yet settled on the morality of eliminating an entire species in this way. The science around sentience is underdeveloped and so we make assumptions about the consciousness of species like mosquitos that might not be accurate. We have only just learnt of the intelligence and sentience of the octopus for example. There are of course arguments around the immorality of killing animals and removing species that have nothing to do with their level of intelligence and centre instead on the intrinsic value of each animal. Each of these arguments has merit and, therefore, we need to be very careful when balancing the costs and benefits of these kinds of actions.

Similarly, there are unlimited associated benefits in maintaining biodiversity and curbing the human-induced extinction rate, many of which we have only recently discovered. There are undoubtedly countless more that we are yet to discover. The ‘spirit’ and physical well-being of people is directly related to nature and this emotional response is biological. Manfredo discusses the emotional connection that people have with animals and wildlife and how the emotional benefits of experiencing wildlife in a positive way can decrease early morbidity.¹ We also know that we experience real feelings of grief and loss as a result of species death and environmental change. As a result, the ‘value’ of wildlife and biodiversity as a whole is a factor that remains unknown, an idea in itself that warrants the ongoing care and protection of the natural environment and a more structured and considered response to instances of human–wildlife conflict.

1.2 THE NATURE OF THE PROBLEM

Human–wildlife conflict is a social problem, as well as an environmental one. Often, conflicts evolve and mutate into distinct social issues because different stakeholders have different views over how ‘problem wildlife’ should be managed. We have seen too, post the onset of COVID-19, that the problem

¹ Michael J. Manfredo, *Who Cares about Wildlife?: Social Science Concepts for Exploring Human–Wildlife Relationships and Conservation Issues* (Springer, 2008).

can also be economic, technological, medical and political. This is because the complexity of the relationships between stakeholders and wildlife is not limited to individuals or groups of people. Institutions add another dimension to the conflict. For example, religious practice can have a very large impact on held values and attitudes towards wildlife. The presence of environmental values in education can shape future values. Importantly for this book, the law also has a very large role that feeds into the conflict. Traditionally, the law and lawmakers have played an end role within the process of addressing human–wildlife conflict. Law most often takes on a punishment/enforcement role when the conflict escalates to the point that conservation or other types of laws are broken. For example, penalties are imposed when a threatened or endangered species are killed in retaliation against crop-raiding or farm animal predation. Policies around fencing and separation are implemented when an animal kills or injures a person. The law is an afterthought in the process of responding to human–wildlife conflict and is used to achieve a goal after the conflict has been assessed. However, human–wildlife conflict is a legal problem that extends beyond using law as a product of an earlier non-legal process. Law, as a set of rules governing society and social behaviour, clearly has a larger role to play. However, even beyond that, the role of law plays deep into the heart of human–wildlife conflicts around the world. Law is an institution and, like all other institutions, has a two-way relationship with the people it seeks to govern. Law is made and shaped by people, but also people are shaped by the laws around them. The way that law is conceived, formulated, written, monitored and enforced can shape people's relationship with the environment and their values and attitudes towards wildlife. It can cause or exacerbate conflict or help to resolve it. The law as an institution is vulnerable to people and people are vulnerable to the influence of the law. Neither one is autonomous from the other. As a result, we must also examine the role of all institutions in shaping the values that feed into the relationship that people have with wildlife, including all levels of law.

However, to date, we have been unable to simultaneously engage all necessary levels of society for governance purposes to address the complex and numerous relationships that operate around any particular conflict scenario. Researchers and activists have connected with individuals, businesses, companies, institutions and states at different times for different purposes, but rarely (if at all) to solve a specific environmental problem. The conflict itself is institutionalised, and this is rarely acknowledged. The problem is greater than the manifested conflict and encompasses many different facets of society – laws being just one of them. However, as a governance tool, laws need to account for all of those facets and facilitate a response that addresses all

respective vulnerabilities. The law cannot do this when it focuses on a particular conservation ethic or prioritises a hierarchy that leads to disaffection and rebellion against conservation, wildlife and nature as a whole.

1.3 A THEORY OF ECOLOGICAL VULNERABILITY

In this book, I suggest that there is a central influence that is ever-present in the problematic relationship between people, wildlife and the greater environment as it is represented in law – the push for autonomy. Autonomy shapes the hierarchy that defines the relationship between wildlife and people and has a symbiotic relationship with the liberal hierarchy evident in environmental laws and policies. This is important because, although liberalism is normally associated with the removal of previous forms of hierarchy and seeks to make all people free and equal, throughout this book I argue that liberalism's promotion of an autonomous liberal being as the ideal actually perpetuates hierarchical and unequal structures. In this sense, autonomy is not defined as 'freedom' or the ability to make one's own choices but the separation of people from each other, the environment and the institutions they have created that continue to define behaviour and society as a whole. It is the belief that individuals operate independently from all those things. It is in the actions of people when they ignore the greater social and environmental consequences of those actions. It is the falsely advertised certainty that continued economic growth does not extend an already existing inequality gap. It is evident by the continued domination of nature even where science is certain of the negative consequences of that domination.

Despite my initial ideological training, it is evident that law is a societal institution that promotes this type of autonomy, instead of responding to collective vulnerabilities and promoting justice and equity. Martha Fineman suggests that western conceptions of law and legal systems have been formulated to promote a sense of autonomy, an understanding that one is independent or immune from intervention by the state and other people.² Legal systems work to have people operating independently from societal connection. However, this form of autonomy is a myth. People cannot operate independently from each other, the institutions they have created and the environment. Similarly, societal institutions are not autonomous. The law does not operate in a vacuum and neither does religion, science, the family, systems of education or political institutions. All human institutions have interconnections and

² Martha Fineman, *The Autonomy Myth: A Theory of Dependency* (New Press, 2004), 28.

relationships that build and sustain them and so promotion of their autonomy too is a fallacy. Notwithstanding, most of society's institutions continue to promote themselves as independent and free from the influence of other institutions, or at least certain institutions. This perceived autonomy of institutions themselves means that they are not responding appropriately to the needs of people and wildlife, but they are also reducing their resilience by ignoring the very relationships that promote cooperation and synchronicity between themselves.

The answer, then, is to temper the law's promotion of autonomy and balance it with something else – something that is reflective of all the interconnections and relationships that are necessary to live with safety and security, now and into the future. In this book, this 'something' is vulnerability. Vulnerability is universal, while autonomy is not (and nor is it even truly possible). Vulnerability is a concept that can be applied to everyone and everything in the world. People are vulnerable, the environment is vulnerable, wildlife is vulnerable and even society's institutions are vulnerable. To respond to this vulnerability while promoting the necessary relationships that maintain equality and security, the law should be focused on improving resilience to vulnerability, instead of promoting disconnect via individual liberal autonomy.

Fineman and other vulnerability scholars recognise that people have various kinds of vulnerability, including those related to their physical bodies (embodied vulnerability) and those related to their socially, politically and culturally constructed place in society (embedded vulnerability). In this book, I suggest that people have a third type of vulnerability, a type that cannot be separated from the preceding types; ecological vulnerability. Because all three types of vulnerability are interconnected through webs of relationships, the most appropriate course of action is to respond to all three simultaneously by seeking to build resilience in the entire web of connections with reliance on the environment placed squarely in the middle. Throughout this book, this interconnected web of vulnerability and the process of placing the environment at the centre of it will be referred to as eco-vulnerability.

1.4 SOME HOUSEKEEPING

1.4.1 *What Is 'Wildlife'?*

The definition of 'wildlife' can vary vastly between different groups of people. It can mean any living organism, ranging from single-celled bacteria to fish to large primates. Generally, to address human–wildlife conflict, wildlife

managers and biologists/ecologists differentiate between terrestrial vertebrates and all other organisms, such that only the former are defined as ‘wildlife’.³ Such a definition is very narrow when one considers the breadth of living organisms on the planet and also suggests that organisms other than terrestrial vertebrates are incapable of being involved in human–wildlife conflict. It excludes spiders that can cause injury by way of a bite; nematodes, worms and snails that can cause losses to crops; termites that can destroy homes; and a vast array of species within the ocean that are also capable of being involved in conflict with humans, for example with the fisheries industry.⁴ Some wildlife managers also exclude reptiles, such that the definition is limited to ‘free-ranging birds and mammals’.⁵

From a legal perspective, the definition is not based on biology but on whether the animal is ‘wild’ in the sense of ownership.⁶ An animal is ‘wild’ if it is not under direct human control, thereby excluding domesticated pets and farm animals.⁷ This ‘legal’ definition is preferable for several reasons. First, and as noted above, the current definition used by managers excludes many forms of conflict that also require direct attention and analysis. Second, the biological definition does not accord with the cultural and everyday use of the word. Of course, biology is important to the definition but to be relevant it must be consistent with how society views the term. Third, and in a similar vein, wildlife managers, applied ecologists and people working at the ground level in human–wildlife conflict must operate within the barriers of the law. For there to be consistency between the law and the practice of management at the ground level, there needs to be common ground at a semantic level.

In this book, the legal definition will be utilised, such that domesticated animals, which are subject to individual ‘ownership’ and hold different legal

³ See for example Michael R. Conover, *Resolving Human–Wildlife Conflicts: The Science of Wildlife Damage Management* (Lewis Publishers, 2002) 4.

⁴ For some examples see Fabricia Barbieri et al., ‘Interactions between the Neotropical Otter (*Lontra longicaudis*) and Gillnet Fishery in the Southern Brazilian Coast’ (2012) 63 *Ocean and Coastal Management* 16; Taylor C. Cook, Kira James and Maddalena Bearzi, ‘Angler Perceptions of California Sea Lion (*Zalophus californianus*) Depredation and Marine Policy in Southern California’ (2015) 51 *Marine Policy* 573; Aliko Panagopoulou et al., ‘Caught in the Same Net? Small-Scale Fishermen’s Perceptions of Fisheries Interactions with Sea Turtles and Other Protected Species’ (2017) 4 *Frontiers in Marine Science* 1–15.

⁵ A. R. E. Sinclair, John M. Fryxell and Graeme Caughley, *Wildlife Ecology, Conservation, and Management* (Blackwell Science, 2005) 2.

⁶ Although note that this is one among many possible legal definitions. For example, under common law liability rules, ‘wild’ may refer to the dangerous propensity of an animal, whether it is ‘owned’ by people or not.

⁷ David S. Favre, ‘Wildlife Jurisprudence’ (2010) 25 *Journal of Environmental Law and Litigation* 459–510, 462.

protections, are not included in the scope of the term ‘wildlife’ and are not subject to state management to the same extent.⁸ There is a practical problem with this expanded definition, in that much of the wildlife governance and ecological literature concerns only wildlife that are terrestrial vertebrates and occasionally ocean mammals.⁹ It is also the case that the effects are more severe and well documented when it comes to large mammals.¹⁰ Notwithstanding, I assert that the principles discussed in this book are equally applicable to the expanded definition of wildlife.

1.4.2 Law, Governance and Policy

To those outside the field of law, the term ‘law’ may be easily definable. A dictionary definition might suggest that law is ‘a set of rules of societal conduct’ created by a State or State-authorised body and that are enforceable. However, legal theorists view this type of definition as too simplistic and it is not accurate for all types of legal systems, such as that of international law. Classical writers of legal theory, such as John Austin, H. L. A. Hart and Ronald Dworkin have long debated the existence of a definition of law and whether one is even necessary. One major point of contention is whether law has natural or positivist foundations, that is, whether law is derived from a ‘higher’ source and is based on an inherent, universal morality or whether law is a social construction that is only loosely associated with morality. It will become clear in Chapter 2 that, in this book, law is very much a social construction, designed to support the ‘liberal autonomous agent’ to the exclusion of the environment, wildlife and many groups of people.

Yet ‘law’ is not the only term referred to in this book to discuss sets of socially constructed rules. ‘Governance’ is referred to herein to mean something greater than law, which often refers only to specified and documented rules. Governance, on the other hand, refers to a larger system surrounding lawmakers and the other processes a State undertakes to wield power and authority, such as political and economic processes and policy. Governance refers to individual actions (such as law-making), but also the nature of

⁸ It should be noted though that even such a distinction between domesticated and non-domesticated species is sometimes blurred. See Ph Chardonnet et al., ‘The Value of Wildlife’ (2002) 21(1) *OIE Revue Scientifique et Technique* 15–51, 18–19.

⁹ Nimmi Seoraj-Pillai and Neville Pillay, ‘A Meta-Analysis of Human–Wildlife Conflict: South African and Global Perspectives’ (2017) 9(1) *Sustainability* 34.

¹⁰ Rosie Woodroffe, S. J. Thirgood and Alan Rabinowitz (eds.), *People and Wildlife: Conflict or Co-existence?* (Cambridge University Press, 2005) 2.

interactions between the State and other social actors such as corporations, individuals and other political actors.

Finally, ‘policy’ is a term also often referred to in this book and it is evident that lawyers have a very different understanding of policy than compared to say, conservation scientists. Policy is again different to law and governance, and in this book is used to refer to a specific, non-legally binding document that directs behaviour (such as the *Fraser Island Dingo Management Policy*) or a specific, non-binding principle or course of action undertaken by a governing body, institution, corporation or another group.

1.4.3 *The Structure of this Book*

The book begins with a deep exploration of eco-vulnerability as it relates to the human–wildlife relationship through two core theoretical paradigms; vulnerability theory and ecological feminism. Thereafter, Chapter 3 further analyses the concepts of human–wildlife conflict and coexistence and includes a non-legal analysis of specific conflict management models, showing that many of them are not equipped to deal with the value conflicts that surround instances of human–wildlife conflict. Instead, the governance of wildlife at the ground level most often seeks to promote individual autonomy and, as demonstrated in Chapter 2, such an emphasis is not conducive to an appropriate response to human–wildlife conflict.

The later chapters in this book deal with several specific case studies. They are divided into an exploration of a system of governance, exploration of two particular instances of human–wildlife conflict and then exploration of a larger bound problem (a pandemic). The case studies were selected to demonstrate the use of vulnerability theory across legal institutions and specific problems. Each case study draws upon recent and historical documented research, laws and policy documents in environmental wildlife governance, combining critical analysis of the legal structures and assumptions inherent in each scenario.

The first case study presents international wildlife law as an institutional governance system relevant to local responses to human–wildlife conflict. Wildlife governance is an international matter and international environmental law has normative value for environmental governance as a whole, including matters of human–wildlife conflict. The case study includes a critique of the use of autonomy in international wildlife law and in particular the ‘rights’ paradigm that it presents, before describing various eco-vulnerability principles designed to solve human–wildlife conflicts.

The following two case studies are conflict-specific: human–dingo conflict on K’gari; and human–elephant conflict in Northern Botswana. As they are

conflict-specific they incorporate various legal systems and rules and so international law, domestic laws and regional/local laws are all analysed. The final case study is a situational one and centres on the wildlife trade and its relationship with pandemics (in particular COVID-19). The case studies demonstrate the current over-reliance on the promotion of autonomy and the effect that has and show that an eco-vulnerability response to human–wildlife conflict is possible, without necessarily having to experience a world-wide social and cultural revolution. We have the basic principles necessary already in our governance systems and, as the case studies will show, there has been some attempt to implement them to respond to human–wildlife conflict. However, to give them greater effect in building resilience to human–wildlife conflict, we need to expose the dichotomies that underlie the principles and so dictate their continued implementation, especially that of autonomy/vulnerability, so that we can neutrally use the principles. The book concludes with several further research areas and legal and policy reform recommendations to achieve this end.

Overall, this book is my response to the unease I have felt around culls of animals that interfere with human interests in some way (or in some cases are just in the wrong place at the wrong time), the neglect of animal welfare, the continued legal and illegal wildlife trades and the continuing hierarchy that suggests humans are above animals and nature and not an integrated whole. To improve the human–wildlife relationship through law, we first need a deep sociological analysis of the ways that law and other institutional structures define that relationship. And so, we begin.