

## **Wildlife Tourism: Extending Post-Experience Conservation Engagement Through Interpretive Nonfiction Narratives**



Sarah Pye<sup>a,b</sup>

<sup>a</sup>University of the Sunshine Coast, Australia; <sup>b</sup>Faculty of Hospitality and Tourism Management, UCSI University, Malaysia

\*Correspondence: [spye@usc.edu.au](mailto:spye@usc.edu.au)

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**ABSTRACT:** When complimented by effective interpretation, experiential wildlife tourism has been identified as a pathway to potentially transform tourists' environmental knowledge and attitudes. However, such powerful engagement capacity is often diluted post-experience and the opportunity for its translation to behavioural change is lost. Utilising non-traditional forms of conservation-related messaging has the capacity to broaden the conservation potential of wildlife tourism by extending learning and prompting behavioural change. This paper explores the power of long-form nonfiction narratives to extend the learning from on-site interpretation and broaden conservation engagement. It is illustrated by the case study of collaboration between Dr Wong Siew Te, founder and Director of the Bornean Sun Bear Conservation Centre, and Dr Sarah Pye's author of nonfiction narratives based on Dr Wong's experiences.

**KEYWORDS:** wildlife tourism; nonfiction narratives; extending conservation; Dr Wong Siew Te; Bornean Sun Bear Conservation Centre

### **Background**

Globally, wildlife tourism is one of the most rapidly growing tourism segments (World Bank, 2018). It has become a major economic driver and source of employment for an increasing number of countries (Fernández-Llamazares, Fraixedas, Brias-Guinart, Terraube, & Buijs, 2020; Moorhouse, Dahlsjö, Baker, D'Cruze, & Macdonald, 2015). In many of them, wildlife tourism funds community conservation projects and assists in securing important wildlife habitats which would have otherwise been decimated by development (Larm, Elmhagen, Granquist, Brundin, & Angerbjörn, 2018). Wildlife tourism also reduces animal poaching and the illegal wildlife trade by making threatened species more economically valuable alive than dead (Fernández-Llamazares et al., 2020).

Unfortunately, and not surprisingly, there is growing evidence that wildlife tourism also impacts wildlife by inducing behavioural changes and impacting habitat. For instance, artificial feeding associated with bear-watching activities has been shown to have ecosystem implications (Fernández-Llamazares et al., 2020; Penteriani et al., 2017) and research shows cetacean watching activities interrupt natural foraging behaviour (Christiansen, Rasmussen, &

Lusseau, 2013; Fernández-Llamazares et al., 2020). There is, therefore, a pressing need for the conservation community to establish strategic partnerships with tourism operators, in order to explore innovative way to communicate conservation matters to a wider public. Wildlife tourism has the capacity to promote ‘active citizenship and enhanced environmental stewardship’ (Fernández-Llamazares et al., 2020, p. 598) which can lead to positive conservation outcomes and funding. The industry has a moral responsibility to reduce its negative environmental impacts, and a pragmatic responsibility to sustain the very attraction on which it is based. Apps, Dimmock, & Huveneers (2018, p. 109) found stimulating long-term behavioural change is ‘more complicated than merely increasing knowledge’ and it is unrealistic to expect enduring attitude and behavioural changes after a brief wildlife interaction.

Studies have shown a correlation between pro-environmental behaviour and an individual’s level of environmental knowledge (Rickinson, 2001) and wildlife tourism offers an unparalleled opportunity to educate, engage and promote behavioural change. As Buell (2005) pointed out, ‘For technological breakthroughs, legislative reforms, and paper covenants about environmental welfare to take effect... requires a climate of transformed environmental values, perception, and will’ (Buell, 2005,vi). Although studies have shown that environmental education during mediated encounters can positively impact attitudes to wildlife, information provisioning alone is ‘insufficient to bid an individual’s conservation ethic’ to a level which leads to pro-conservation behaviour (Fernández-Llamazares et al., 2020, p. 598). Therefore, as urban populations become increasingly disconnected from wildlife (Fernández-Llamazares et al., 2020; Kesebir & Kesebir, 2017), ‘there is a greater need than ever to devise powerful tools to effectively engage society in conservation issues’ (Fernández-Llamazares et al., 2020, p. 598) making the importance of ‘building agency for change’ (Fernández-Llamazares et al., 2020, p. 598) during infrequent wildlife tourism experiences paramount.

## Literature Review

Although researchers have explored the relationship between travel writing and destination image (Meneghello & Montaguti, 2014), and the relationship between travel narratives and visitor behaviour (Hsu, Dehuang, & Woodside, 2009), there has been very little research into the power of nonfiction narratives to meet ecotourism’s conservation imperatives (Pye, 2020). To increase the likelihood of long-term changes, and extend the conservation potential, however, researchers suggest operators capitalise on the temporary emotional affinity with wildlife post-visit (R. Ballantyne, Packer, & Sutherland, 2011) through the use of ‘unattended’ interpretation which includes post-visit materials (van der Merwe, Saayman, & Botha, 2020). The chosen medium is the vehicle through which themes and messages are communicated (S. Ham, 2005) and different mediums have been explored for effectiveness. Ballantyne, Packer and Sutherland (2011) argue for the development of ‘post-visit action resources’ that reinforce onsite messaging (Hughes, Packer, & Ballantyne, 2011) and extend the conservation potential beyond the tourism experience. Cheung and Jim found digital resources were effective than printed interpretation (2014); Henker and Brown found podcasts as effective as traditional ranger programs (2011); and Mitsche et al. found 3D application, virtual tours, online exhibitions and games could be effective (Mitsche, Reino, Knox, & Bauernfeind, 2008). A marine turtle park in Australia found post-visit resources such as fact sheets, activities, quizzes and weekly emails, facilitated further conservation engagement (Hughes et al., 2011). Other studies identify the power of social media communities to link conservation messages to visitors’ experiences (Wheaton et al., 2016). Even though interpretation research in South African National Parks has shown that most ecotourists prefer ‘information-rich experiences’;

that creative text is one of the three most valued mediums for interpretation; and it is important to allow time for reflection (van der Merwe, 2020 p. 2), until my research, long-form nonfiction narratives had not been researched as a post-visit conservation engagement tool.

## Case Study

The Bornean Sun Bear Conservation Centre in Sepilok, Sabah, Malaysia is a tourism and conservation facility making a positive impact with on-site wildlife experiences, post-visit resources and outreach (BSBCC, 2022). Its founder, Dr Wong Siew Te began studying sun bears in the 1990s. At that time, he was one of only three such researchers in the world. His research spanned three continents and more than three decades. Part of Wong's masters and doctoral research included a survey of captive bears in Malaysia. During that study, he found bears kept in appalling conditions and vowed to improve their welfare, prompting the development of BSBCC.

Structural development of BSBCC began on Sabah Wildlife Department land in 2008, next door to the Sepilok Orangutan Rehabilitation Centre. It was opened to the public in 2014 and in its first year, BSBCC welcomed over 48,500 visitors from 96 countries (BSBCC, 2014). BSBCC has continued to grow both economically and structurally since. The Centre now includes housing for up to 40 bears, 1.1 hectares of rainforest enclosures which are as close to natural habitat as possible, a visitor centre with a retail outlet and education facilities, two aerial walkways and two observation platforms which offer visitors the ability to observe sun bear natural behaviour. Aside from COVID-19 pandemic years, when the Centre and the Malaysian international border were closed, visitor numbers have steadily climbed so that in 2019, the Centre welcomed over 84,000 visitors (BSBCC, 2019). BSBCC has become one of the premier tourist attractions in Malaysia.

The centre operates under four pillars. The first, animal welfare, focuses on the mental and physical health of approximately 40 sun bears rescued from poaching, habitat loss and the illegal pet trade. The second, research, is conducted both on-site and remotely in collaboration with well-established and respected conservation and academic institutions, including the University of the Sunshine Coast, Australia and Sunway University, Malaysia. The third, rehabilitation, refers to the Centre's goal of releasing suitable bear candidates back into secure habitats when possible. To date, 11 rescued sun bears have been released into 122.5-hectare Tabin Wildlife Reserve wearing satellite transmitting collars which gather data on their movements and advance the Centre's research aims. The fourth pillar, education, is delivered by an extensive, trained, staff who conduct onsite interpretation during wildlife experiences and guided school visits. They also extend learning and conservation engagement through an extensive outreach program. In 2018, BSBCC staff welcomed over 5,000 students to the on-site facility, which represented an increase of 30 percent in three years (BSBCC, 2018). Off-site school visited in 2017 numbered 54, educating and extending learning for over 13,500 students (BSBCC, 2017). For his service to science, conservation and tourism, Wong was named '*Wira Negaraku*' or Malaysian Hero by his own government in 2017. In the same year, he was named one of 25 CNN World Wildlife Heroes (Koshy, 2017) and awarded an honorary doctorate at the University of the Sunshine Coast, Queensland (Kennedy, 2017).

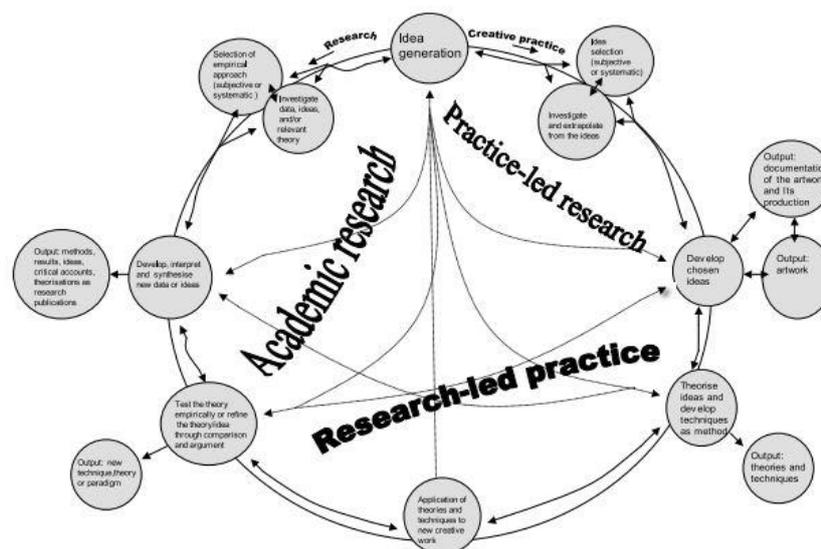
This case study uses collaboration between Dr Wong Siew Te, founder and Director of the Bornean Sun Bear Conservation Centre, and myself, Dr Sarah Pye, to illustrate how the scholarship of environmental interpretation can inform the writing of environmental narratives

and scientific biographies with the capacity to extend outreach activities, chip away at human inertia, improve environmental literacy (Verdier & Collins, 2017) and evoke global stewardship long after wildlife tourism experiences end.

## Methodology and Methods

I first met Dr. Wong in December, 2012. I had travelled to Borneo ostensibly to see orangutans in the wild before their forecast demise. I was captivated by his commitment to sun bear welfare and conservation and asked what I could do to help. ‘Do what you do best’, he said. Those five powerful words resulted in a decade-long journey, the outputs of which have further extended the conservation engagement and fundraising capability of the BSBC beyond its gates. These have included the creation of a global sun bear adoption program, and the writing of Wong’s narrative biography as the creative output of my Doctor of Creative Arts Degree. The objective of my accompanying exegesis was to explore how long-form narrative nonfiction biography can be written to engage a non-specialist audience in conservation.

This narrative nonfiction research project used practice-led methodology. Narrative nonfiction is a true story, written in a fictional style (Gutkind, 2012) and practice-led research encourages working from the unknown to the known in a purposeful, open-ended, yet exploratory cycle, continually reviewing existing knowledge structures (Smith & Dean, 2009). Smith and Dean’s *Iterative cyclic web of practice-led research and research-led practice model* (Figure 1) illustrates the cyclical nature of this methodology.

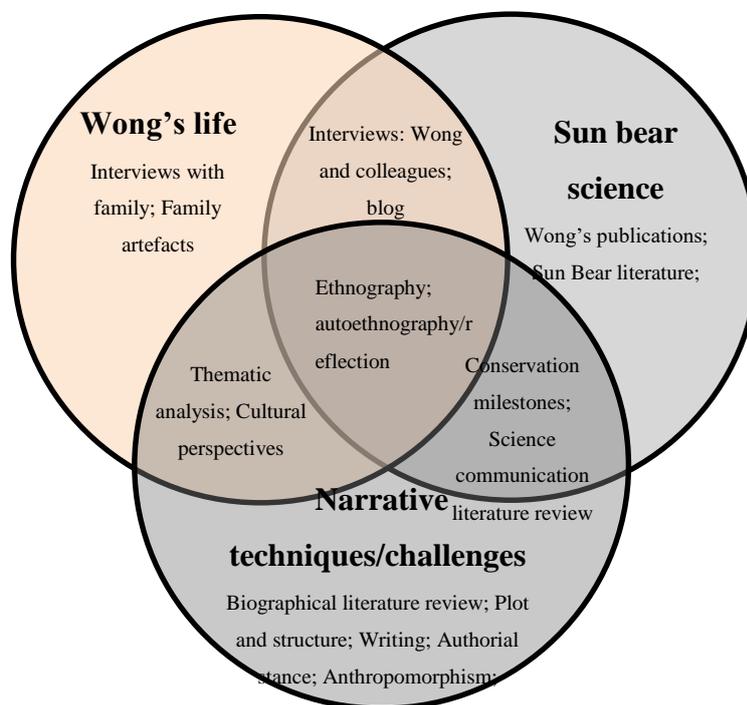


**Figure 1: Iterative cyclic web of practice-led research and research-led practice model (Smith & Dean, 2009)**

This methodology enabled me to formulate my own research loop as required (Kroll & Harper, 2013). Primary qualitative long interviews (McCracken, 1988) with Wong Siew Te enabled me to scaffold a timeline and identify gaps in my knowledge. This led to structured interviews with secondary sources and secondary scientific research, which impacted on the narrative structure and helped formulate further questions which were then posed in the next interview, that interview impacting the next cyclical iteration. While my project was driven by the knowledge I needed to craft the narrative in a practice-led approach, the extensive archival

research required was more in line with systematic research, the practice being led by the research (Kroll & Harper, 2013).

Backscheider says ‘the persuasive power of narrative rides upon the rails of evidence’ (1999, p. 83). The initial data gathering component of my research was divided into three main areas: investigating Wong’s life story, understanding the science of sun bear conservation, and practising narrative techniques. Once data was gathered, I applied thematic analysis methods and research by writing. As evidence of a practice-led methodology, these methods were not conducted in silos (Ricketson, 2014). For instance, interviews with Wong and his colleagues helped determine gaps in my scientific knowledge, which prompted a broader scientific literature review but also helped establish initial themes; interviews with family helped strengthen my understanding of Wong’s life while informing narrative structure; attending the first ever Sun Bear Symposium in Kuala Lumpur, in 2017, improved my scientific knowledge of the species, and offered an opportunity to practise positioning myself within the text; and a literature review of science communication, specifically biography, prompted interdisciplinary research about interpretation. Figure 2 illustrates how these paths of enquiry intersected. Ethnography and autoethnographic enquiry informed my understanding of each of the three areas.



**Figure 2: Research methods focused on three overlapping lines of enquiry**

## Findings

### *Scientific biography*

Wong’s story includes ambition, passion, disappointments and moral choices, all of which make a good biography (Nye, 2006). His life also follows ‘The Hero’s Journey’ (Campbell, 1988) which is a standard plot structure in high-grossing box office films through a call to adventure, threshold, challenges, revelation, transformation, atonement and return. Life

writing has been identified as a powerful nonfiction genre for the communication of science (Ferry, 2010). Biographer of Charles Darwin, James Moore, says that this genre of nonfiction 'may yet prove the most effective way of informing the widest audience about the politics of scientific practice and the cultural formation of natural knowledge' (cited in Nye, 2006, p. 323). Life stories of scientists who work to protect vulnerable species, like Wong, can provide an important conservation lens which is accessible to a non-scientific audience with the capacity to extend awareness reach of wildlife experiences while breaking down 'otherness' between science and the rest of society (Hecht, 2015). When reading a well-written biography, the readers experiences the pleasure of living someone else's life (Ambrosius, 2004; Vefa, 2014) and when it comes to scientific biography, the reader often becomes engaged in the struggles, successes and failures of scientists, impacting their own lives as they explore and construct knowledge of the natural world (Nye, 2006). In addition, many scientists have been inspired to enter the field by the example of prominent personalities. The combination of the professional and personal aspects of a scientist's life has 'the function of providing exemplary lives for the edification of apprentice scientists, as algorithms for "scientific lives well lived" and thus provide a focus for aspiration' (Greene, 2007, p. 756). Carneiro (2007) claims that biographies have the ability to break down myths around the process of science, thereby potentially raising an interest in science and inspiring future scientists (Christensen, 2007). Wong's life story can also offer a compass to 'chart a life course that combines intellect, heart, judgement and professional skills' for future conservation scientists (Orr, 1999, p. 1244). It offers inspiration for the edification of apprentice scientists by exposing them to 'people doing great things with courage, stamina and creativity' (Orr, 1999, p. 1244). As Pimlott (1998) puts it:

While any biography has to be focused, even focused obsessively, on the individual at the heart of it, it is not really about that individual at all... the character is just a vehicle, a peg, a device by which the writer insinuates himself and gains the attention of the reader, who – intrigued by the developing personality, the tragedy and drama – becomes engaged in the background. (1998, p. 57)

My initial research into existing conservation life narratives, which have also been called natural biographies, uncovered an imbalance in conservation biographies which focus heavily on Western conservationists transplanted into alien cultures (Vivanco, 2002), and a dearth of stories of non-Western conservationists. I was unable to find any other book-length biography about a Malaysian conservationist, and the existing biographical narratives of Western scientists I researched (Fossey, 2000; Galdikas, 1996; Goodall, 2010), failed to address the relationship between cultural ideology and conservation, unbalancing the conservation discourse. By telling the life story of a living Malaysian biologist and tropical ecologist as he negotiated the difficulties of saving a species within his own country, my research was innovative because it attempted to address that imbalance. Since Wong and I are from different cultural backgrounds, it also raised the problematic risk of cultural appropriation. I addressed this risk by integrating my subjective experience into the narrative and addressing cultural differences overtly. If the points of difference between cultural and colonial perspectives are identified and acknowledged (Lawrence, 2015; Snodgrass, 1992; Tedlock, 2011), they have the power to add depth to the narrative and prompt the reader to question their own stance. My subjective experience therefore had the capacity to help reconcile conflict by 'making new things familiar, and familiar things new' (Johnson, S cited in Beck, 2002, p. 117). This perspective also has the added capacity to connect the narrative to multi-cultural audiences. I concluded that, rather than being detrimental, a cultural difference between the author and the subject can be beneficial if approached with caution and openness. My role in the narrative

became one of an experiential interpreter and that perspective was informed by the scholarship of environmental interpretation.

### ***Environmental interpretation***

A natural nonfiction narrative can be strengthened by utilising the scholarship of environmental interpretation. Story is the umbilical cord that connects us to the past, present, and future' (Williams, 1987, p. 130), and ancient myths understood that 'the soul of a landscape is a story, and the soul of a story is a personality' (GK Chesterton cited in Tilden, 1977, p. 29). Just as in a good story, good interpretation of wildlife experiences should lead the tourist to personal discovery or revelation with elements of suspense and surprise, provoking interest and curiosity while connecting them with the subject matter (Beck, 2002; Tilden, 1977).

The level of tourist environmental engagement at the majority of wildlife tourism operations is reliant on the communication skills of tour guides and while a certain level of 'mental unease' is necessary for guides to provoke future behavioural change (Roy Ballantyne, 1998, p. 89), cognitive conflict can occur when a reader is presented with new knowledge which is completely 'incompatible with their present understanding' (Roy Ballantyne, 1998, p. 88). This often leads to apathy and inaction. Regular and consistent training in environmental interpretation which 'involves translating the technical language of a natural science or related field into terms and ideas that people who aren't scientists can readily understand' (S. H. Ham, 1992, p. 3) therefore, increases the power of oral narrative and its ability to prompt lasting impact. Freeman Tilden, referred to as the father of the discipline (Beck, 2002), saw environmental interpretation as an approach to communication which uses relationships and meanings, rather than isolated facts (S. H. Ham, 1992:3; Tilden, 1977). The interpreter's role is to reveal connections which are relevant to the audience based on their values, motivations and satisfactions (Beck, 2002; Lee, 1986).

Environmental interpretation is essentially storytelling, and, in a wildlife tourism experience or facility, it can be delivered orally, by guides, or in the form of interpretive signage. Tilden (1977) uses an example from the writings of Charles Darwin to illustrate good written interpretation. While in South America on the HMS Beagle, Darwin describes the landscape as consisting of 'various kinds of submarine lava, alternating with volcanic sandstones and other sedimentary deposits' (cited in Tilden, 1977, p. 20) which is purely delivering information. Darwin then interprets the information by bringing geology to life and making his observations relevant to the reader:

It required very little geological practice to interpret the marvellous story which this scene at once unfolded... I saw the spot where a cluster of fine trees once waved their branches on the shores of the Atlantic, when that ocean came to the foot of the Andes... the trees now changed into silex, were exposed, projecting from the volcanic soil, now changed into rock, whence formerly, in green and budding state, they had raised their lofty heads. (Darwin cited in Tilden, 1977, pp. 20-21)

Whether it is oral or written, the intention of appropriate interpretation may be twofold: to increase understanding of environmental issues and influence participants to adopt conservation practices after they leave the experience (Apps et al., 2018; Beaumont, 2001; Hughes, 2013; Powell & Ham, 2008; Walker & Moscardo, 2014). To influence the second aim, wildlife tourism operators and communicators need to consider using more than one medium for conservation message dissemination (Dahlstrom, 2014). A study collaboration between

Georgia State University and Clemson University found types of written communication had differing influence on understanding and recall (Zabrucky & Moore, 1999). While interpretive signage is very effective at the time of the experience, longer narratives are associated with the readers' increased recall and comprehension (Zabrucky & Moore, 1999), and life writing has been identified as a powerful genre in the communication of science (Ferry, 2010). One of the most important innovations of my research was, therefore, linking a longer narrative form to the interdisciplinary scholarship of environmental interpretation. This was accomplished with the integration of my subjective experience in the role of interpreter. While the perspective of a narrator is responsible for telling a story, an interpreter plays the role of guide, 'establishing the meaning of the material for the reader' (Nadel, 1984, p. 171). Although the interpretive stance is the most difficult perspective to sustain in writing, Nadel says it is the 'most absorbing to read' (Nadel, 1984, p. 171). When natural biography aims to elicit environmental stewardship, this proved not only appropriate, but a powerful tool. I saw part of my subjective role as interpreting sun bear science, Malaysian culture and the rainforest environment for a non-specialist reader with the aim of prompting behavioural change. The narrative, therefore, became a braid of three lives: Wong's, mine, and that of individual bears. By including myself as interpreter and offering differing viewpoints, perspectives and insights (Beck, 2002) into sun bear science and Malaysian culture, I was essentially guiding the reader through challenging material. My subjective experience therefore had the capacity to help reconcile conflict by 'making new things familiar, and familiar things new' (Johnson, S cited in Beck, 2002, p. 117). For instance, my reader would not have taken a sun bear to a medical centre, but I was able to make the experience relevant by comparing it to taking a child:

Taking a child for an x-ray can be an inconvenience but taking a sun bear for an x-ray is an adventure with a whole different level of complexity...[Wong] smiles as he recounts the startled look on the other patients' faces as a sun bear was carried through the front door on a canvas stretcher.

### ***The power of bears***

Bears are an unparalleled narrative tool because their interconnectedness with their environment makes them an important component in bio-systems. and Wong's life is what Straight calls a relational one (2012) interdependent with the lives of sun bears. Although the Malayan Sun Bear (*Helarctos malayanus*) squarely faces the frontline of human impacts to the environment, it is the least known species in the genus *Ursus* (Servheen, Herrero, & Peyton, 1999). Bears are classified on the sociozoological scale as charismatic megafauna, which means bears have symbolic value and widespread popular appeal (DeMello, 2012, p. 53). For instance, the existence of sun bears is representative of tropical rainforest health. Sun bears are listed as vulnerable (IUCN, 2019) and numbers are expected to decrease a further 30 percent in the next thirty years as climate changes, habitat is lost, and poachers kill individuals for body parts (Garshelis, 2017). Consequently, as a 'poster child' for Bornean conservation efforts, many less charismatic species may depend on people's subjective feelings (Kellert, 1983) to sun bears which act as a 'symbolic barometer of people's fundamental beliefs and valuations of nature' (Corbett, 2006). Bears are also perfect ambassadors for the environment owing to a wide, culturally ingrained and deeply established narrative connection (DeMello, 2012; Forrest, Goldman, & Emerson, 2005). 'Nothing speaks to us of the natural world as animals do' (Corbett, 2006, p. 212) and many childhoods have been exposed to a 'veritable panoply' of anthropomorphic bear representations (Forrest et al., 2005) from Winnie the Pooh, Yogi Bear and Paddington Bear to Rupert Bear, *Jungle Book's* Balu and Goldilocks' three bears.

One morning in January 2017, I leaned against the Bornean Sun Bear Conservation Centre observation platform rail watching a bear called Panda. I had spent the morning reading her back story and knew Panda was rescued from a backyard zoo where her species was mistakenly labelled. As I watched her play, it became apparent that my narrative had a greater chance of engaging the reader if I harnessed the power of individual sun bear histories and used them to personalise the human impacts they endure. Recreating the subjective experience of sun bear character, Gutuk, had the power to illustrate the psychological damage of bear captivity; Bongkud's death showed how increased storms caused by climate change impact bears; the story of Koko illustrated how agricultural crop modification has unintended consequences for wild animals; the story of Schizo and Little One illuminated the danger of inter-bear violence; and the release of Natalie and Damai offered hope for the future of the species.

However, anthropomorphic representations seldom accurate and they can lead to inaccurate assumptions which counter conservation aims (Corbett, 2006) and lead to criticism (Lockwood, 1989). since 'as soon as language begins to articulate the vital inner experiences of animals, the suspicion arises that culture is learning more about itself than about animals per se' (Scholtmeijer, 1993). Conversely, by highlighting the fact that animals are *not* people, scientists often forget that people *are* animals (de Waal, 2005) and anthropomorphism can also improve interspecies connection. If applied critically, with 'balance, perspective, attunement and sensitivity to animality' (Gruen, 2009, p. 25), anthropomorphism has the potential to animal behaviour accessible without being harmful (Bekoff & Jamieson, 1996). I chose to illustrate the challenges sun bears face in relation to poaching, habitat loss, global warming and the illegal pet trade using informed speculation to address the 'unequal relationship between human researcher and animal subject that denies their agency' (Hamilton, 2017, p. 57) because animal representations, 'pale before the enormity of failing to represent them at all, or of representing them as non-communicative and non-intentional beings' (Plumwood, 2007, pp. 60-61). I concluded that the use of restrained and informed anthropomorphism is preferable to the alternative of not giving animals voice, because individual animal stories can prompt empathy and a deep concern, which is not otherwise possible (Plumwood, 2007). In this example, for instance, I attempted to imagine the experience of a bear waking from an anaesthetic:

Natalie woke with a dry tongue and her head felt heavy. Time had mysteriously disappeared, and her body clock struggled to reset. It took her a few minutes to feel the weight of the perforated collar and chunky transmitter hanging around her throat like a Saint Bernard's barrel. She half-heartedly tried to shake it free, but an anaesthetic headache pounded, so she sunk down on all fours and rested.

There are eight bear species on earth and to do the bears' perspective justice in the narrative, I widened my research to other bear species, gathering reliable research on bear sentience — primarily from giant pandas and black bears. Bear scientist Ben Kilham observed and genetically recorded radio-collared bears for over two decades, amassing what has been called one of the 'richest repositories of information ever gathered about black bears' (Kilham, 2013). He found black bears to be more social than previously noted, with a level of intelligence he likened to chimpanzees. In controlled laboratory or zoo settings, bears have been able to connect images of objects with the real thing (Johnson-Ulrich et al., 2016), discriminate between faces (Dungl, Schratter, & Huber, 2008), differentiate between colour (Kelling et al., 2006), and count. Although claims of animal intelligence are often dismissed as unscientific (Waal, 2016), Kilham (2013) believes bears show gratitude and friendship, they are sometimes judgemental and, at other times, they exhibit reciprocal altruism. Bears also appear to be deeply

affected by death (Bradshaw, 2017). Acceptance of animal sentience is growing, or perhaps we are starting to acknowledge a rich historical connection and evolution alongside other species (Lents, 2016). Not only is this research important to those responsible for on-site or on-experience interpretation, but it informed the accuracy of my nonfiction narrative by giving me licence to conceptualise the experiences of sun bears. For instance, in this excerpt, I imagine the emotions of Natalie, a bear who escaped for a month and was recaptured:

Before long, depression replaced aggression and, for days on end, she cocooned herself in the metal basket attached to the wall in her den with her eyes fixed on the forest outside. The taste of freedom still sweet on her tongue, honey was no longer of interest.

### ***Age-appropriate interpretation***

During my doctoral practice-led research, I grew to understand the added importance of adapting environmental interpretation for younger audiences. Both on-site and post-visit resources can prompt young visitors to consider their own actions, and how they might make a contribution to the health of wildlife habitats in their own community (Chawla, 1999; Hughes et al., 2011). Narratives about iconic species in the rainforest can also be used to ‘engender support for protecting other, less popular’ species (Hughes et al., 2011; Orams, 1994) This development launched a new collaborative project to create a series of children’s nonfiction narrative books focusing on Wong’s adventures with different rainforest species. The first, *Wildlife Wong and the Sun Bear* (Figure 3), was launched in 2021 (Pye, 2021). It has been followed by four more with a plan for a total of nine. Each book is designed to engage a variety of middle-grade readers through narrative, informational text and hands-on experiments, and each one focuses on a different theme. Research in formal education settings has demonstrated that follow-up activities ‘help students convert conservation intentions into actual behaviour’ (de White & Jacobson, 1994) so, these books align with the Australian curriculum, making them suitable as a classroom resource. The creation of this series of narrative nonfiction books for children, has been followed by development of classroom presentations and workshops introducing rainforest ecology, and the introduction of puppetry to engage young audiences through performance.

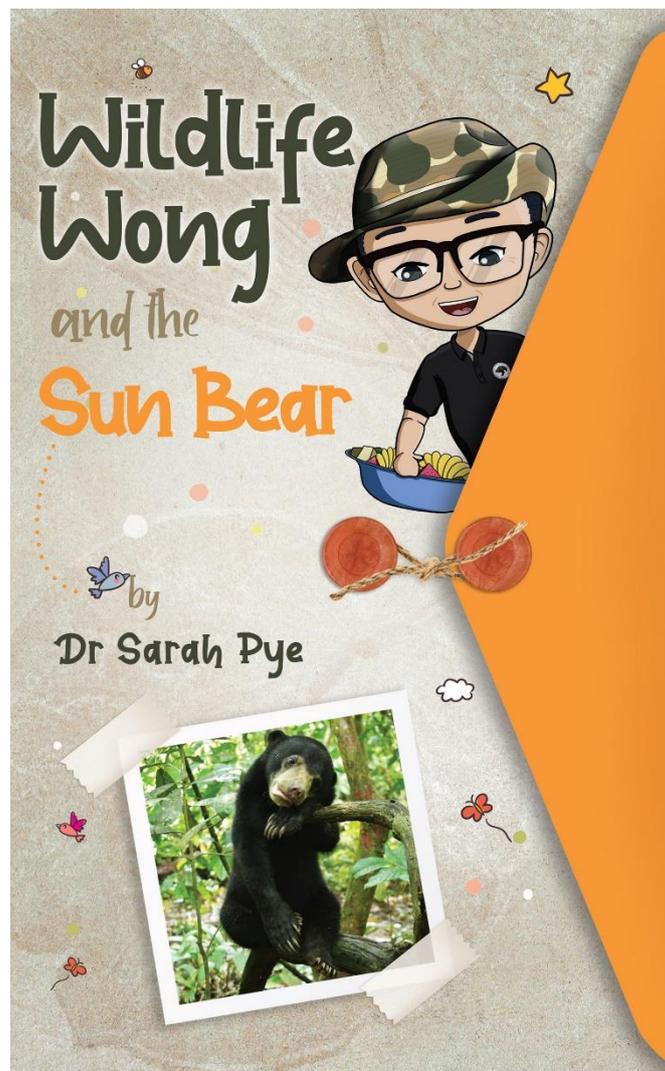


Figure 3: *Wildlife Wong and the Sun Bear* cover

### Further Research

Stronza, Hunt, and Fitzgerald (2019) have developed a framework for rigorous assessment of the conservation impacts of ecotourism and further research could apply this assessment to BSBCC to identify possible improvements. However, studies exploring whether environmental interpretation prompts visitors to adopt conservation practices *after* their visit are rare (Hughes et al., 2011) and there is a need for further research to determine how conservation messaging could be best delivered to result in maximum education value (R. Ballantyne et al., 2011).

Determining the reach of natural biography and conservation nonfiction narratives, and the degree to which they evoke behavioural change are also topics for future research. It is hoped that my biographical nonfiction narrative, *Saving Sun Bears* (Figure 4), will challenge the reader by countering deeply held values and cause them to consider their place in the world (McNeill & Douglas, 2017). Measuring its level of environmental engagement and effect on behavioural change would be beneficial, as would measurement of conservation engagement prompted by the Wildlife Wong series of children's books and the accompanying hands-on workshops. In 2021, I was approached by Rebecca Dostal, a Queensland puppeteer, who kindly gifted me an orangutan puppet. Since then, my menagerie has grown, and my current practice-research has extended to integrating puppetry in my work. Further research will evaluate the

use of puppetry in conservation communication and the results may prompt wildlife tourism facilities to consider the use of puppetry in education programs.

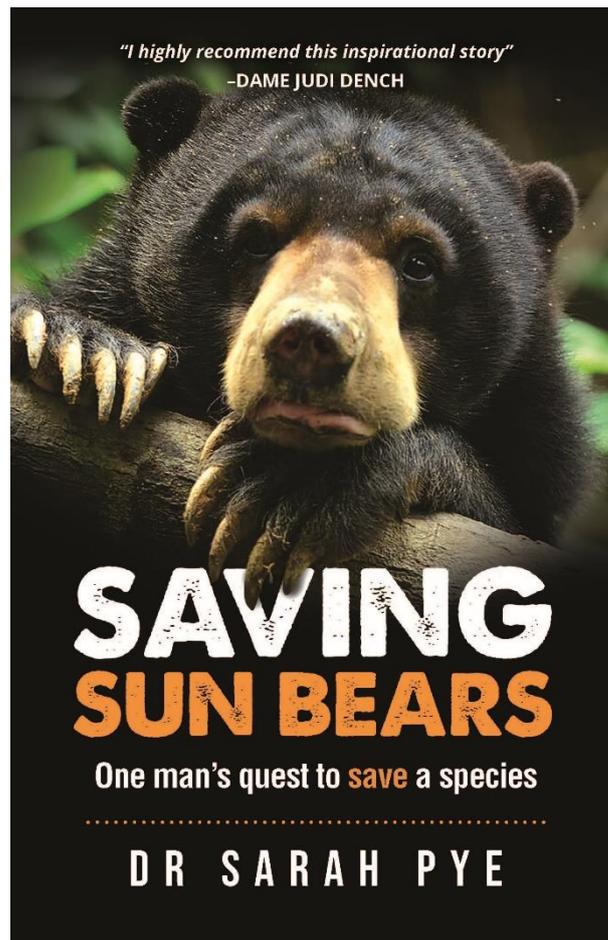


Figure 4: *Saving Sun Bears* cover

## Conclusion

Environmental interpretation plays an important role during wildlife tourism experiences, but it is limited in its ability to promote lasting behavioural change. Narratives have the power to extend conservation engagement long after visitors have left a wildlife tourism facility or tour, and long-form narratives have been shown to be one of the most effective post-visit resources. Research shows conservation biographies have the added benefit of inspiring the next generation of potential conservationists to enter the field. Animal biographies, too, can prompt interspecies connection and give voice to a forgotten or disappearing species. Animals may not have the capacity to tell their own stories, but that does not diminish their value. Finding innovative ways for narratives to be more ‘polyphonic’ (Jolly, 2019, p. 474), and species inclusive, is of paramount importance (Hamilton, 2017). Harnessing power of nonfiction narratives to extending engagement has positive implications for the wildlife tourism industry and animal conservation funding. Even more importantly, if we fail to address the disconnect between humans and natural systems, unsustainable human behaviour has the capacity to lead to our own eventual demise (Tonn & Stiefel, 2014).

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