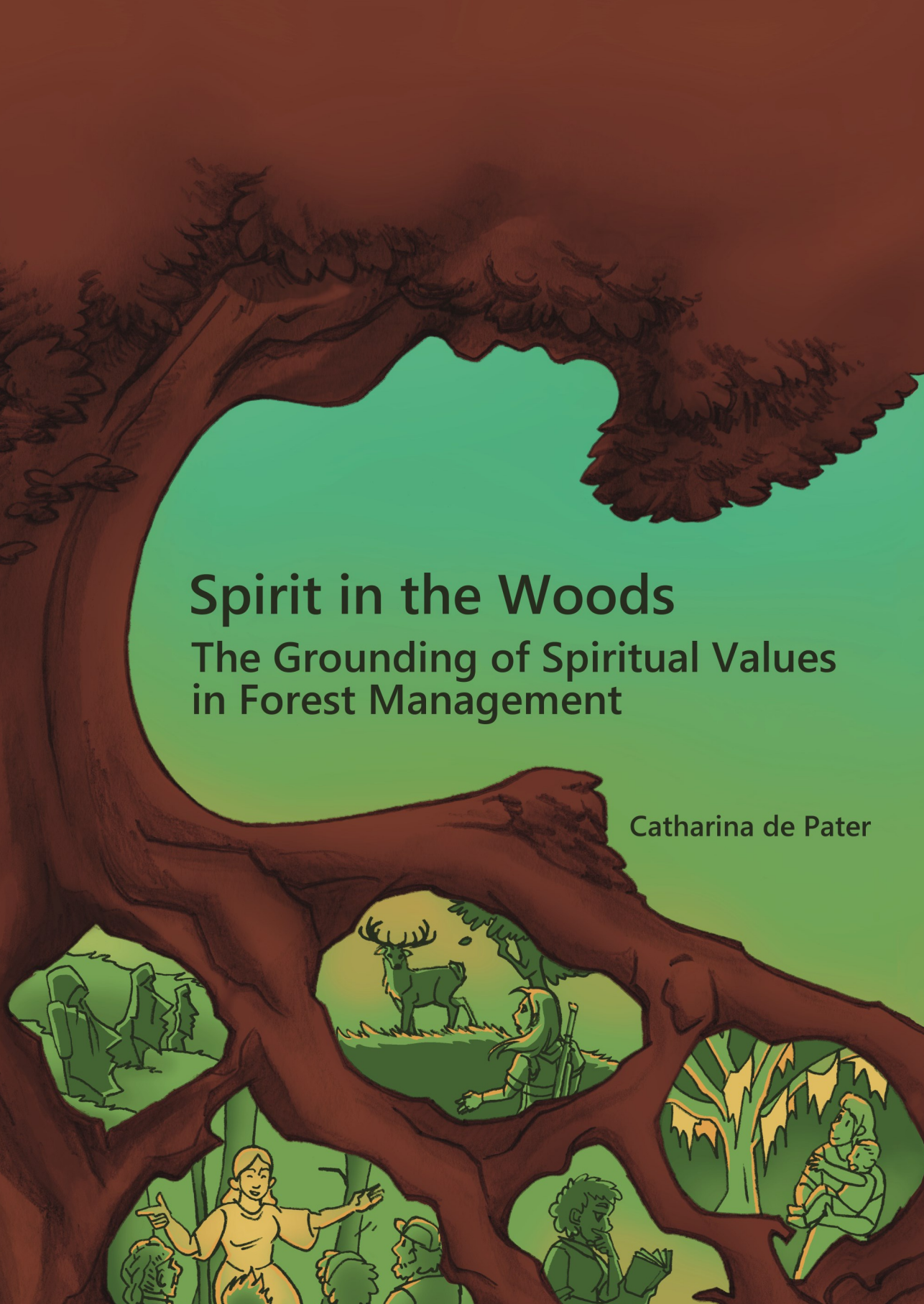
Spirit in the Woods

The Grounding of Spiritual Values in Forest Management

Catharina de Pater



Propositions

1. Forest spirituality is important for improving people's health and strengthening their pro-environmental lifestyles.
   (this thesis)

2. Forest spirituality not only encompasses spiritual experience, but also responsible forest use.
   (this thesis)

3. The core of spirituality is empirically unresearchable.

4. Taking non-humans as active agents, raises questions of responsibility and blame.

5. Separation of policy-making from policy implementation inhibits good governance.

6. Noise pollution is an underestimated mental and environmental problem.

7. The question of whose lives count and whose lives do not, lies at the core of the planetary crisis.

Propositions belonging to the thesis, entitled

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Catharina de Pater

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Spirit in the Woods

The Grounding of Spiritual Values in Forest Management

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Thesis

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This thesis is dedicated to Birgit Elands,
in grateful remembrance

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CHAPTER 1

Introduction

1.1. Background

Globally and locally, spiritual values of forests are gaining importance in forest management. In this dissertation I use the term 'forest spirituality' to mean 'spiritual values of forests', a shorthand I thankfully adopt from Roux et al., (2022). Major international forest-related policies and strategies include spiritual values as part of the concept of sustainable forest management, often in combination with social and/or cultural values (FSC, 2023; PEFC, 2018; MCPFC, 2002; IUFRO, 2007). Advocates argue that attention to forest spirituality is important in the search for a sustainable world. The importance of forests is not only emphasized in technical and ecological debates, but also in debates about meaning and human-nature relationships. However, knowledge about the specific role of spirituality in these debates and how it works in practice is as yet fragmented or entangled in larger discourses. In this dissertation, I therefore focus specifically on forest spirituality and how it is articulated in the planning and practice of forest management.

To do so, my study is grounded in two quite different academic domains: the humanities and science. Although the gap between these domains is slowly narrowing, they do not always understand each other well (Bartelink, 2009, Nugteren, 2009, Robinson et al., 2016). The rising academic field of Religion and Nature (Taylor, 2005, 2007), also known as Ecology and Religion (Grim & Tucker, 2014), offers a suitable space in which to increase understanding between scholars and scientists on matters of 'nature' and 'spirit'. It also offers a platform on which the wide range of religious and spiritual worldviews and values can interact with each other on an equal footing. This is especially relevant to debates on forest and nature conservation, management and governance in relation to Indigenous peoples' worldviews (Deloria, 1975; Snodgrass & Tiedje, 2008; Lewis & Sheppard, 2015; Tran et al., 2020; Htoo et al., 2023). In terms of globalization, these debates are not only meaningful in 'Indigenous' contexts, but they are gaining importance worldwide. In this dissertation, I focus on the Global North and especially on the Netherlands[1], where these debates and their empirical consequences

[1] In this dissertation I use the terms 'The Netherlands' or its adjective, 'Dutch' to indicate the European part of the country of the Netherlands. The country consists of 12 provinces in Europe and 3 provinces in the Caribbean: the islands of Bonaire, Saba, and Sint Eustatius. The country of the Netherlands is a constituent of the Kingdom of the Netherlands which is further constituted by the countries of Aruba, Curaçao and Sint Maarten.

have been studied far less than in the Global South (see for instance, Allison, 2017; Jagger et al., 2022).

1.2. Spirituality

In academic and policy literature, 'spirituality' is often associated with the concept of 'spiritual values'. The meaning of 'value' varies across the different disciplines; it can refer to a principle or core belief, a preference, importance or a measure, e.g. size or numbers (Díaz et al., 2015). For instance, Pascual et al. (2022) (refined by Raymond et al., 2023) placed spiritual beliefs and practices within the categories of 'relational values' and 'intrinsic values', which, together with 'instrumental values', are at the core of the elaborate frameworks for biodiversity and ecosystem services value assessment used by the International Panel for Biodiversity and Ecosystems Services (IPBES). At the individual level, Scheler (1980) argued that values can be ranked by preference, which is, in essence, based on intuition and not fully on reasoning. The highest in Scheler's value ranking are what he calls 'meta-intentional' values, those absolute values that exist in a 'pure' state of feeling, independently from momentary feelings or life events. These are, for example, moral values and the divine or what Strasser (1977) labels 'the level of the spirit'. Spirituality is thus engrained in the highest – or deepest – level of a person's value system. At the same time, it is characterized in literature as 'hard to define', 'hard to measure' (Driver et al., 1999), 'intangible', 'ethereal' (Emmons, 2003), 'incommunicable', 'elusive', (Terhaar, 2005; 2009) and even 'avoiding definition' altogether (Mitchell, 2016). One thing we can be sure of is that there is no commonly agreed definition of spirituality. Researchers have worked around this problem by adapting definitions to their respective domains of research. However, this has not gone uncontested.

An important debate is about the demarcation between 'spirituality' and 'religion', which also lacks consensus (Aldridge, 2000; Smart, 2002; Emmons, 2003; Harrison, 2006). The boundary between the two is vague and varies depending on the writer's viewpoint (Hill & Pergament, 2008). For instance, what William James (2002 [1902]) described as 'religious experience' in his famous book *The Varieties of Religious Experience* equates to what others describe as 'spiritual experience' (e.g. Terhaar, 2005; Champ, 2009 in Jansen, 2017). Many authors (e.g. Van Niekerk, 2018) – and many among the general public too – view 'the religious' as a domain of collective and organized belief directed at otherworldly aims while they regard 'the spiritual' as a personal quest for interior wisdom and personal growth based on experience. Others, including myself, understand 'the spiritual' as being not limited to individuals, but as also present in human collectivities. Understanding spirituality in this sense makes it easier to query its impact beyond the individual, e.g. on human behaviour and the planet (Snodgrass & Tiedje, 2008; Taylor, 2010a; Taylor et al., 2016).

As my study is about spiritual phenomena in relation to forest management, I prefer to concentrate on the nature and significance of spiritual phenomena above being

preoccupied with definitional boundaries. Therefore, following Taylor (2010b), I will not sharply distinguish 'spirituality' from 'religion'. I will use the term 'spirituality' for all 'spiritual' and 'religious' phenomena together, as long as they have some form of 'the ultimate' (see below) at their core. However, as 'spirituality' has fewer formal connotations than 'religion' and is more frequently used in literature on human-nature relationships, I use 'spirituality' as a shorthand, thereby encompassing the 'spiritual' phenomena that others might term 'religious'.

Many definitions of spirituality refer to something greater or larger than the individual self (Schroeder, 1992), often denoted as the 'ultimate', 'ultimate reality' or 'ultimate concern' (Emmons, 2003; Harrison, 2006; Webster, 2021). This 'other' or 'ultimate' does not necessarily have to be termed in a traditional religious sense, it can be anything as long as it "transcends one's individual sense of self and gives meaning to one's life at a deeper than intellectual level" (Schroeder, 1991:25). Indeed, the importance of spiritual experience and its motivational power for self-transcendence is often highlighted (Waaijman, 2001; de Groot, 2003). Nevertheless, however this 'ultimate' is apprehended, this sense of self and meaning can only be obtained through experience, not by cognitive reasoning.

1.3. Spirituality in relation to nature and forests

Some psychological and religious scholars have emphasized that spiritual experiences are more likely to occur in a natural environment (James, 2002 [1902]; de Hart, 2014). On the other hand, empirical studies confirm that nature experiences are spiritually enriching in many ways, not only for the individual's self-realization (Frederickson & Anderson, 1999; Williams & Harvey, 2001; Heintzmann, 2009, 2011; Hedlund-de Witt, 2013), but also as a source of inspiration for writers, artists and thinkers (Taylor, 2010a). Therefore, the term 'nature-based spiritualities' is often used to denote spiritual phenomena in close connection with forest and nature (Taylor et al., 2016). That these spiritualities are growing is theorized as 'dark green religion' by Taylor (2010a) and, much in the same vein, as 'ecospirituality' by Choné (2017).

In this dissertation I do not draw a sharp distinction between 'forest' and 'nature'. With 'forest' I mean any landscape occupied or potentially occupied by trees or other woody vegetation (after Den Ouden et al., 2010:21 and FAO, 2018). Here I use the term 'landscape' rather than 'ecosystem' to cover not only ecosystemic aspects, but also social, cultural and spiritual perspectives on forests (see also Simensen et al., 2018). That forests are part of 'nature' is generally accepted, however, here too, the distinctions are blurred. Not only are there many ecosystemic relationships between forests and grasslands, moors, water bodies, etc., but these landscapes are often under one administrative and policy purview. Furthermore, the concept of 'nature' is widely interpretable depending on the specific social, cultural, historical and religious setting

where it is discussed. My conceptualization of 'nature' is based on the one by Frank (1997:411), but replaces his anthropocentrism with a more inclusive view that considers the non-human as well. I therefore understand 'nature' as a natural system with planet-wide physical, social, cultural and spiritual interdependencies between human and non-human life forms.

Returning to 'nature-based spirituality' or 'nature spirituality', I use these terms when referring to spirituality in relation to any undifferentiated 'natural' landscape. When spirituality or spiritual values are used specifically in connection with 'forests' – or 'nature' associated with forests – I will use, in this dissertation, the terms 'spiritual values of forests' and its shorthand 'forest spirituality'.

So how do spiritual values in nature manifest themselves? Considering spiritual values in a person's relationship to nature, we follow Holmes Rolston III (2003, in Brown & Verschuuren, 2019: 8) in understanding values as "*the sum of the intrinsic values embodied in an object [e.g. a forest], the beholder (the person who bestows or constructs value) and the relationship between the two (relational and situational values)"*. This means that 'spiritual values' are at the core of the beholder's construction of the world, including nature. Such construction is a dynamic and relational process, not only between humans and the natural world, but also between humans and the spiritual 'ultimate', wherever that 'ultimate' is perceived to be situated depending on one's worldview, cosmology or religious beliefs. I will use the term 'significance' when referring not only to the values aspect of forest spirituality, but also to the associated "knowledge, meanings, feelings, and associations with the forest" (after Bernbaum, 2017 in Brown & Verschuuren, 2019: 6). When the significance of forest spirituality becomes manifest in humans' practical dealings with the forest, I call it the 'grounding' of spiritual values in practice, here in the context of forest management.

1.4. Importance of forest spirituality

So far, forest spirituality emerges at the intersection of several research lines in human-nature relationships. I discuss, consecutively, the situation and research gaps in respect of: 1) the rise of spiritual values in global forest-related policies; 2) progress of research into forest and nature spirituality; 3) the rise of forest spirituality in Dutch society; 4) the role of forest spirituality in connectedness with nature, human well-being and pro-environmental behaviour; 5) the growing public demand for forest spirituality; 6) forester managers' responses to the rise of forest spirituality; and 7) existing frameworks for research.

1.4.1. The rise of spiritual values in global forest policies

At the global level, interest in the spiritual values of forests is expanding. Spirituality has been an important driver for Indigenous people and local communities (IPLC) to increase their influence on such major global policy platforms affecting forests as the Convention on Biodiversity (CBD, 2020, 2022), the International Platform on Biodiversity and Ecosystem Services (Díaz et al., 2015), the International Tropical Timber Organization (ITTO, 2016), the UN Framework Convention on Climate Change (UNFCCC, 2021) and IUCN (Verschuuren et al., 2010).

Before continuing, I will clarify my understanding of the term 'Indigenous peoples' in this dissertation. Current global definitions (ILO, 1989, FSC, 2023) stress Indigenous peoples' self-identification and encompass history, ethnicity and social, cultural and legal institutions and positions. The most elegantly formulated definition encompassing all these elements is the one by Bulkan (2016:7, based on Cobo, 1981), which I therefore apply here: "*Indigenous communities, peoples and nations are those which, having a historical continuity with pre-invasion and pre-colonial societies that developed on their territories, consider themselves distinct from other sectors of the societies now prevailing in those territories, or parts of them. They form at present non-dominant sectors of the society and are determined to preserve, develop and transmit to future generations their ancestral territories, and their ethnic identity, as the basis of their continued existence as peoples, in accordance with their own cultural patterns, social institutions and legal systems*". In order to avoid the risk that Indigenous people are uncritically essentialized as more 'Earth-connected' than non-Indigenous peoples (Snodgrass & Tiedje, 2008; Taylor et al., 2016), I will refer to 'Indigenous philosophies' to denote Indigenous peoples' ontologies, epistemological perspectives, values and ethics, which are, undeniably, important in the global search for nature-inclusive solutions for the planetary crisis (Ghosh, 2021), but should be read as critically as any other thinking.

In global fora, IPLC have evolved from being 'victims' of the environmental crisis (they make up one third of the world's rural poor according to Forest Peoples Program (2020) to being 'experts' on biodiversity and forests. IPLC's territories cover approximately 30% of the world's surface and include high levels of biodiversity (Trewin et al., 2022). Their traditional knowledge and spiritualities are increasingly recognized as 'vital' in local socio-cultural settings, and for their potential to contribute to solutions for the biodiversity and climate crisis (Pascual et al., 2022). As for forestry, this recognition coincided with the development of 'sustainable forest management', which requires a balancing of economic, ecological and social aspects in the management of all forests worldwide (UNGA, 2007). When global certification schemes for sustainable forest management (SFM) such as FSC (2022) and PEFC (2018) were established, spiritual – and cultural – values were incorporated in their criteria and indicators. Likewise, cultural and spiritual values were adopted in the standards for SFM of IUFRO (2007) and MCPFE (2002). However, such schemes and standards refer only marginally to the

implementation of spiritual and cultural values and consequently, their impact on forest management practices remains unknown.

1.4.2. Progress in research in forest and nature spirituality

In the Global South, the role of spiritual practices and beliefs of IPLC has been well-documented in traditional forest-related knowledge (Parrotta & Trosper, 2012) and collaborative and participatory forms of forest management (Wiersum & Sands, 2013; Bulkan, 2016; Gilmour, 2016; Razafindratsima et al., 2021). Most studies in the Global South emphasize the importance of addressing spiritual values for several reasons: a) spiritual values are inherent in people's relationship with land, identity and knowledge (Constant and Taylor, 2020); b) they potentially make management more effective in terms of enhanced products, services, well-being or poverty relief (Jagger et al., 2022; Mavhura & Mushure, 2019); or c) they might prevent or mitigate potential or actual management conflicts arising from different worldviews (Allison, 2017; Rutte, 2011; Shanley et al., 2012). However, many studies are case-specific with limited validity, and they often adopt a monodisciplinary ethnographic perspective. Most studies tend to pay more attention to spiritual and social patterns than to detailed forest management practices interacting with these patterns.

1.4.3. The rise of forest spirituality in European and Dutch society

Recent research on the significance of forest and nature spirituality in conservation management has expanded beyond the Global South and Indigenous peoples to include religious groups and the general public in the Global North (Verschuuren & Brown, 2019; Verschuuren et al., 2021, de Pater et al., 2023b). In the Global North, spiritual values hardly feature in national forest policies, but they are undoubtedly present in society. As for the Netherlands, public interest in spirituality has long been growing, although the trend has somewhat levelled off in recent years (Bernts & Berghuis, 2016). There has also been a steady increase in what is termed "nature-based spiritualities" by Taylor et al. (2016: 340). Such 'nature-based spiritualities' have become widespread in the Netherlands, where they have become increasingly entangled with growing public concern about global deforestation, climate change and associated crises (Van De Donk et al., 2006; De Hart, 2014; Havik et al., 2015). The public's nature-related worldviews, spiritualities and practices have taken diverse forms (Van Den Born, 2008; Hedlund-de Witt, 2011). That specifically *forest* spirituality has been growing in Europe, has already been observed by Rössler (2005), Clark (2011), Govigli & Stara (2021) and others. Roux et al. (2022) even hypothesized a revival of forest spirituality ("re-spiritualization", 2022:1ff). Despite the growing body of knowledge about forest spiritual values in Europe, the evidence-base still shows considerable gaps and lacks a systematic overview.

1.4.4. Reconnection with nature, human well-being and pro-environmental behaviour

Nature-based spiritual values are increasingly recognized as important for human well-being; they can help "maintain and renew the human spirit" (Driver et al., 1999b:5) and even have 'life-changing' potential (Terhaar, 2005, 2009). Spirituality is especially important as it enhances the connection between humans and nature (Zylstra et al., 2014), which in turn is an important factor for improving human health and well-being (Kamitsis & Francis, 2013; Dadvand et al., 2023). The evidence for this relationship is growing, especially in high-income countries, but less so in medium- and low-income countries, nor is the causality well researched (Dadvand et al., 2023). Moreover, evidence is growing that human-nature connection also simulates pro-environmental behaviour (Frederickson & Anderson, 1999; Zylstra, 2019; Barragan-Jason et al., 2023), .while at the same time, inner reconnection with nature is increasingly emphasized in the current global/local discourse on planet-saving lifestyles (Pope Francis, 2015; Hedlund-de Witt, 2013). However, whether and how religious and spiritual traditions are intrinsically conducive to pro-conservation behaviour is still subject to ongoing debate, although there seems to be some consensus about the positive contribution of Indigenous and 'nature-based' spiritualities in this regard, albeit with many exceptions (Taylor et al., 2016).To summarize, although the importance of spirituality for nature connection, human well-being and pro-environmental behaviour is being increasingly recognized, the potential of nature and forest spirituality for improving health and behaviour is not yet fully understood (Chan et al., 2016; Clayton et al., 2017; Muradian, 2017; Dadvand et al., 2023).

1.4.5. Growing public demand for forest spirituality

Across Europe, growing public interest in spirituality has led to an expanding and diversifying demand for spiritual enrichment in general (Knippenberg, 2015; Heelas & Woodhead, 2005), and for experiences and practices in, or connected with, forests in particular. In the Netherlands, people are involved in forests in various ways. When individuals or groups have a vested interest in forest management policy, planning or implementation, I call them 'stakeholders' (after FSC, 2022). They participate in local voluntary silvicultural work (Mattijssen et al., 2017) or in forest-related planning consultations, they engage in dialogue and sometimes oppose tree felling and hunting (Buijs, 2009) and they visit the forest for a range of recreational purposes in increasing numbers (LNV & IPO, 2020). Knowledge about stakeholders' spiritual motivation for their activities in the forest is scarce, but there are signs that a growing number of visitors to forests and nature are seeking spiritual enrichment and relief from stress, and that was especially true during the COVID-19 pandemic (Pedroli & During, 2019, Pichlerová et al., 2021). In response, a new category of stakeholder is emerging, namely those who offer spiritual guidance and services in the form of nature coaching, meditation, forest bathing, outdoor therapies, shamanic ceremonies, natural burials and other spiritual practices in or near forest and nature areas. The nature of this increasing

'spiritual' forest use and its impact on foresters' management decisions in practice is as yet unknown.

1.4.6. Forest managers' responses to the rise of forest spirituality

Forest owners and managers are defined as "the main decision-makers regarding forest planning and management" by Torralba et al. (2020: 1). Whereas these authors use the term 'forest operators' as a shorthand, this dissertation applies the term 'forest managers' to the whole of Torralba's definition and uses 'foresters' when abbreviation is required for language flow. This is in line with other authors (e.g. Buijs & Lawrence, 2013; Hoogstra-Klein, 2013) who use the terms 'forest managers' and 'foresters' interchangeably without further definition. Furthermore, 'forest management' is understood as *"the entirety of human activities that guide the structure, composition and dynamics of the forest ecosystem in order to achieve the objectives of the owner and / or manager"* (Den Ouden et al., 2010:21, my translation). In the Anglophone context, 'forest management' covers all disciplines needed to realize forest management, including planning and policies (Helms, 1998). The Dutch terminological equivalent, '*bosbeheer*', can also be interpreted in a narrower sense to denote the planning and implementation of forest-related interventions in the field (Den Ouden et al., 2010). It is this interpretation that is best suited to my research.

Activities and objectives are nowadays mostly guided by the principles of sustainable forest management (SFM), "a dynamic and evolving concept [...] intended to maintain and enhance the economic, social and environmental values of all types of forests for the benefit of present and future generations" (UNGA, 2007: 2). Forest managers therefore have to engage not only in the ecological and economic components of forest management, but also in the social component. It is their responsibility to find suitable responses to the increased spiritual and other claims on forests by the public. Forest managers' deepest motivation for their work often lies in spiritual concerns (De Pater et al., 2008; Terhaar, 2009). That they are positively inclined to respond to spiritual demands was demonstrated by Torralba et al. (2020), who found a rise in 'spiritual enlightenment' as one of 16 categories of cultural ecosystem services offered by forest landowners throughout Europe. In the Netherlands, more and more private and public forest owners have opened their estates for retreats and meditative walks. Moreover, natural burial sites in forests are steadily gaining popularity (De Haas and De Vries, 2013; Nugteren, 2018; Tschebann, 2022). During the 2020-21 COVID pandemic, the massive influx of visitors to forest areas underlined not only the importance of forests for physical, psychological and spiritual restoration (Derks et al., 2020; Pichlerová et al., 2021; Weinbrenner et al., 2021), but also the vulnerability of forests to human ignorance and misbehaviour (Van Duinhoven, 2020). Foresters have to deal with these different behaviours and respond to the increasing claims from spiritual seekers in how they manage their forests. That they do so, sometimes actively, is occasionally reported in the national press (Van den Brand, 2011) and in one study by Verhoeven (2015), but evidence is scarce and fragmented. We do not know how spiritual values implicitly or

explicitly influence forest managers in their work and how they cope with pressures and what they may need in this respect in terms of knowledge and support.

1.4.7. Existing conceptual approaches for studying forest spirituality

Overarching systematic transdisciplinary approaches to assessing spiritual dimensions of forest management are rare and even rarer if these approaches are conceptually or theoretically robust. For example, spiritual values are only vaguely included in Ecosystem Services theory, which has been critiqued for its reductionist scientific bias and its inadequacy to capture spiritual values in a non-instrumentalist way (Díaz et al., 2015; Cooper et al., 2016; Muradian, 2017; Kirchhoff, 2018; Govigli & Bruzzese, 2023). Alternatives have been proposed to overcome these shortcomings, such as biocultural diversity (Elands et al., 2015) and the IPBES assessment of diverse values and the valuation of nature (Pascual et al., 2022; Raymond et al., 2023). These conceptual approaches are valuable, but too broad-based for obtaining detailed understanding of, specifically, spiritual values and their roles in forest management. Most of the models mention the place of spiritual values within their respective structures, but they do not fully conceptualize spirituality in relation to their content.

1.4.8. Problem Statement

Based on the best available knowledge, spiritual values are now well anchored in global forest-related policies, certification schemes and standards. However, their grounding in forest management practices remains largely unknown. In the Global South, the role and importance of spiritual practices and beliefs in forest management has been well-documented, although many studies demonstrate a predominantly ethnographic perspective and pay less attention to detailed forest management. As for the Global North in general and for Europe in particular, knowledge about spiritual values in forest management is growing, but the evidence base still has considerable gaps and lacks a systematic overview. A growing body of literature, mostly based in high-income countries, demonstrates the importance of spirituality for human-nature connections, human well-being and pro-environmental behaviour. However, the role of forest spirituality in nature connectedness and its potential for improving health and behaviour is not yet fully understood. Another line of enquiry shows that public interest in spirituality has been increasing in the Global North. Across Europe, and especially in the Netherlands, this trend has led to a growing and diversifying demand for spiritual enrichment, experiences and practices in forests. Spiritual demand is entangled with worldviews and other concerns about forests that motivate growing and diversifying citizens' demands and claims on forest management. Forest managers need to respond to these diversifying spiritual demands and claims. However, with the exception of scarce and fragmented evidence, we do not know how spiritual values influence forest managers in their work and how they cope with pressures and what forest managers may need in terms of knowledge and support. In order to study these questions

systematically, a suitable framework to conceptualize spiritual values in forest management had so far been lacking.

1.5. Research objective and research questions

The objective of this research is to better understand how forest spirituality is grounded in forest management and what the implications of this understanding are for the planning and practices of forest management.

To attain this objective, the first challenge of this dissertation is to find a workable and respectful conceptualization of forest spiritual values for empirical research. Workable in this respect means that the phenomena presenting themselves have to be researchable, that is, expressed in data, whilst at the same time, they have to be treated with respect, that is, represented in all their complexity without being reduced to data without context or mere numbers. This leads to the first research question:

Research Question 1: How can forest spirituality be investigated with due regard for its complex nature?

In endeavouring to answer the above question, a multi-dimensional conceptual framework was constructed for the empirical investigation of spiritual values in forest management. So, the next part of my study turns to forest management. Earlier, I described that while spiritual values have a place in global forest policies, their operationalization in sustainable forest management (SFM) schemes and standards is only marginal and their impact on forest management practices remains, therefore, unknown. To investigate this, I first consider forest management plans (FMPs) which are at the nexus of policies and practices. FMPs are directed by policies at local, national and global levels, and in turn operationalize these policies in prescriptions for concrete management practices in the field. They are therefore an important requirement in global certification schemes for SFM (FSC, 2023; PEFC, 2018). FMPs have been defined (in Vellema & Maas, 2003:1) as "*a description of decisions and activities to produce anticipated objectives with regard to use and conservation of forest in an area"*. FMPs do not have a universal structure, but vary widely in name, scope, scale, process and planning approaches. Management planning is increasingly informed by the perspectives of those involved (Van den Berg, 1999; De Bruin et al., 2015; Degnet et al., 2022), who might in turn represent wider stakeholders' (for example, tourists') perspectives. Perspectives are value-laden, with these values also including spiritual values that may be represented in various components of FMPs. Spiritual values can be explicitly named and described or implicitly embedded in texts using alternative wording. The conceptual framework allows different dimensions of spirituality in FMPs to be distinguished and the systematic evaluation of spiritual values against an equally systemized set of FMP components and sub-components. This dissertation therefore applies the framework to analyse FMPs guided by the second research question:

Research Question 2: How is forest spirituality articulated in forest management plans?

Forest management is more than making and executing plans. It is a field of activities, embedded in the forest as a material and non-material entity and processed by forest managers who intervene to realize objectives, often in negotiation with stakeholders within a certain socio-material environment. Forest managers have to take their own as well as stakeholders' multiple value sets into account to make their work effective and worthwhile (Buijs et al., 2011, Wiersum & Sands, 2013, see also Driver et al., 1999b). If, as Roux et al., (2022) hypothesize, forest spirituality is indeed on the rise, it should increasingly appear in these value sets. However with the exception of some fragmentary evidence (e.g. Torralba et al., 2020), there is as yet little empirical proof to indicate such a trend. Furthermore, detailed empirical evidence is lacking on how spiritual values are articulated in forest management practices, how they influence forest managers' work and what forest managers' professional development needs are in this respect. Conceptualization and understanding of the articulation of spiritual values in forest management practices may reveal evidence-informed trends and may add to the effectiveness and sustainability of these practices. This leads to the third research question:

Research Question 3: What is the significance of forest spirituality for forest management practices?

1.6. Research design

This dissertation presents a combination of conceptual modelling and empirical studies. The research design is visualized in Figure 1. Each of the research questions is addressed in a separate study as follows:

1. Construction of a conceptual framework for the empirical study of spiritual values in forest management (Chapter 2).
2. Empirical study of spiritual values in forest management plans in two locations, British Columbia and the Netherlands (Chapter 3).
3. Empirical study of spiritual values in forest management practices in the Netherlands (Chapter 4).

The findings of these studies are synthesized and the implications for forest management are presented in Chapter 5.

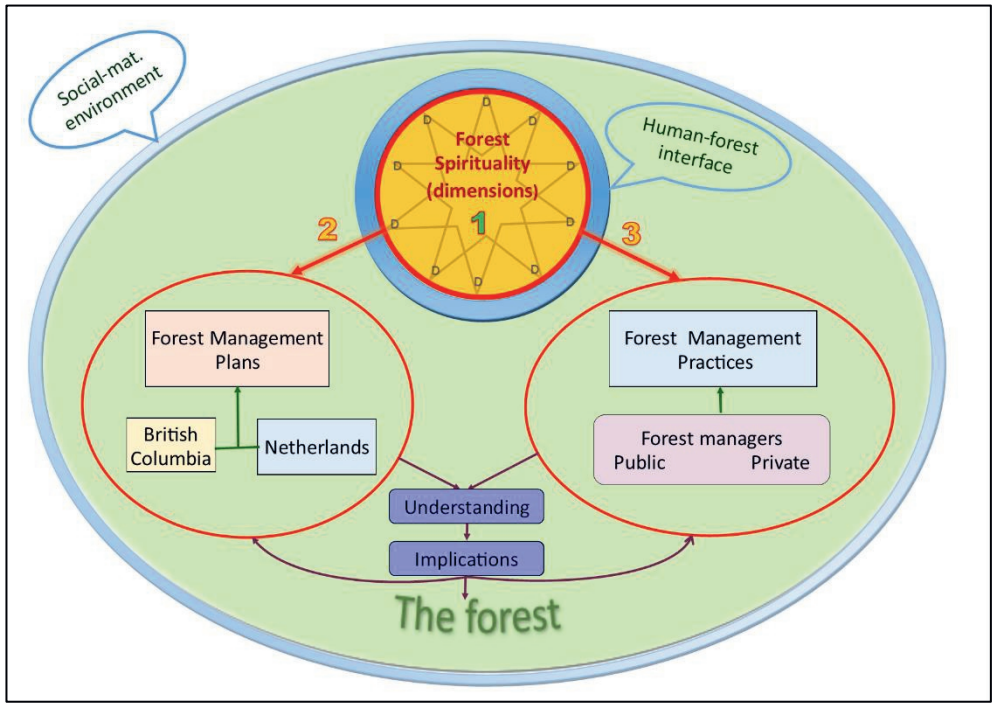

Figure 1.1. *Visualization of research design. The numbers represent the three research questions and corresponding studies. The blue boundaries indicate a fluent interface between forest, humans and society.*

1.7. The conceptual framework

The conceptual framework consists of three parts: 1) the theoretical approach underpinning the framework; 2) the components, i.e. the researchable units in terms of: a) spiritual values and b) elements of forest management; 3) the design, which is tailored to each specific study.

1.7.1. Theoretical approach

The theoretical approach is based on the Family Resemblances Approach (FRA) as discussed by Saler (2000 [1993]). Saler was the first to propose the FRA for the study of religions. He drew upon Alston's (1967) list of characteristics of 'religion' and Southwold's (1978) proposal – borrowed from biologists – to classify 'religions' by applying not a single characteristic, but a combination of characteristics. He finally

moved to Wittgenstein's use of 'family resemblances' to classify phenomena based on the concept of 'family likeness' (p. 195). In Wittgenstein's words: *"What a concept-word indicates is certainly a kinship between objects, but this kinship need not be the sharing of a common property or constituent. It may connect the objects like the links of a chain, so that one is linked to another by intermediary links. Two neighbouring members may have common features and be similar to each other, while distant ones belong to the same family without any longer having anything in common. Indeed, even if a feature is common to all members of the family, it need not be the feature that defines the concept*". (Philosophical Grammar 35 in Saler, 2000:196). Saler proposed the family resemblance approach to the study of religion on this basis: *"In the approach recommended here, there are no clear boundaries drawn about religion. Rather, elements that we may apperceive as 'religious' are found in phenomena that numbers of us, for a variety of reasons, may not be prepared to dub religions. But if our ultimate purpose as scholars is to say interesting things about human beings rather than about religions and religion, appreciation of the pervasiveness of religious elements in human life is far more important than any contrivance for bounding religion"* (Saler, 2000:225). Taylor (2007, 2010) and others (e.g. Crews, 2019) followed Saler in proposing the FRA as a means of studying religion and religious phenomena. I found in Saler's interpretation of the FRA a suitable theoretical foundation for the construction of the conceptual framework. It accommodates many different conceptualizations of 'spirituality' (originally 'religion', but I adapted the term) and enables equal and unbiased discussion of all spiritual traditions – including those that attribute agency to non-human persons. The details of the FRA are discussed in Chapter 2.

1.7.2. Spiritual dimensions

The next step focusses on finding the building blocks, the empirical components. These components can be divided in two groups: 1) dimensions of spiritual values (or 'spiritual dimensions'); and 2) elements of forest management. As for spiritual values, Saler (2009) cursorily indicated some elements, but they were not very practicable. Other lists of attributes or characteristics of religion were published by Alston (1967), Southwold (1978) and Taylor (2007). The best list for our purpose – not too long while comprising all the necessary traits – was the list of dimensions of religion theorized by Ninian Smart (1996, 2002). Smart grounded religious studies on a cross-cultural and non-essentialist basis, much in line with the FRA (1973; Harrison, 2006:151, note 31). He distinguished seven dimensions of religion, respectively: 1) the practical and ritual dimension; 2) the experiential and emotional dimension; 3) the narrative and mythical dimension; 4) the doctrinal and philosophical dimension; 5) the ethical and legal dimension; 6) the social and institutional dimension; and 7) the material dimension. Smart's order of these dimensions was 'random' (Smart, 1996:10) and varied in his publications (Smart, 1996, 2002). Consistent with the FRA, he posed that religious and spiritual phenomena could show some, many or all dimensions. They could be expressed to varying degrees of clarity, and some phenomena could feature in more than one dimension. And while Smart focused on 'religions' in a broad sense, his categorization also served to

accommodate the various aspects of forest spirituality. Some modifications were made to do justice to the specific characteristics of forest spirituality. For instance, I divide the experiential-emotional dimension into four sub-dimensions, each representing a distinct type of experience. A full description of the dimensions is given in Chapter 2.

1.7.3. Management elements and framework design

The second group of dimensions are the forest management elements: identifiable parts of forest management plans, and practices that are present in forest management plans or referred to by the forest managers. Other study-specific elements can be added as required. For the study of spiritual values in forest management plans (Chapter 2), management elements were inductively found to occur in three distinct plan components: 1) 'Principles', i.e. descriptions of the area and its use history, actors involved and details about the planning process and, occasionally, guiding policies; 2) 'Objectives', i.e. sections g direction where to go: vision, strategy, objectives, plans, problems and, sometimes, zoning; 3) 'Operations', i.e. the concrete field interventions prescribed in the plans. This stratification enabled analysis of the level of concreteness of operationalization of spiritual values. For the management practices study, management elements were inductively elicited from the interview data (see below). These elements partly overlap with the elements in the forest management plans, but also revealed more practices. The framework design is simply the combination of both the spiritual dimensions and forest management elements in a table. The units in this group are tailored to the research objectives of each study and are discussed below.

1.8. Methodology and methods applied in the empirical studies

1.8.1. Methodological approach

The two empirical studies' explorative character justifies a cross-sectional design (Kumar, 2014) that combines qualitative with quantitative methods with the emphasis on the former. The research is positioned within a constructivist-interpretivist research paradigm acknowledging that humans' knowledge of reality is a social construction. This paradigm suits research seeking explanations, not from an 'objective' point of view, but within the frames of reference of all the actors involved. It also required me as a researcher to critically reflect on my own interpretation of the data during the process (Schwartz-Shea & Yanow, 2012; Ponelis, 2015). The constructivist-interpretivist perspective suits the two studies, as both are inevitably contingent on the researcher's perspective and interpretation. As for forest management plans, one challenge was what I call 'terminological packaging': the 'wrapping' of spiritual values in a 'package' of broader terms or phrases that 'hide' spiritual values by combining them with, or concealing them behind, other values. This occurs in policy documents, research reports

and, as we saw in 1.3.7, in conceptual policy frameworks. Forest management plans, too, are rarely explicit about spiritual values, although they frequently contain value statements. I therefore not only examine explicit, but also implicit, references to spiritual dimensions, analogous to the way in which Jansen et al. (2016: 92ff) trace "religious subtexts" in Dutch policy communication. These authors argue that "views on nature are mostly conceived as socio-cultural constructs" which "function as frames and provide an interpretive and reflective context for our experiences with nature" (2016: 92). They use this approach to detect "religious subtexts", i.e. expressions of the visible reality of nature which also carry deeper, spiritual layers of meaning. They thereby distinguish 'surface frames', functioning at the level of daily language, and 'deep frames', which articulate underlying worldviews. I discuss this approach in more detail in Chapter 2. In my thesis, I not only look for pre-defined spiritual experiences or worldviews in these deep frames, but for all expressions that connote one or more of the ten dimensions of spirituality as they appear in the texts.

1.8.2. Selection of Research Areas

The two empirical studies (Chapters 3 and 4) have been located in two research areas: British Columbia (Canada) for Research Question 2, and the Netherlands for Research Questions 2 and 3. Both locations are situated in the Global North and present an overall Western-style policy and governance environment. Forestry in both locations has in past centuries been regulated under 'scientific' models of management, which include formal planning by professionals. However, in both locations planning processes are gradually opening to collaborative arrangements with other stakeholders and interested parties.

British Columbia (BC) has been selected for the study of forest management plans (FMPs) because some of these plans show explicit references to spiritual elements, apparently influenced by First Nations who are gradually regaining authority over land and forests (Smith, 2013). This fitted one of my overall selection criteria, namely to seek planning areas where Indigenous or 'nature-based' spiritual traditions reside, as these two categories of traditions were evaluated in literature as conducive to sustainable behaviour, contrary to other religious traditions (Taylor et al. (2016), (see 1.4.4). Another advantage was that sufficient forest management plans from British Columbia were available on the Internet[2]. I also intended to select this location for the study into forest management practices, but this did not materialize due to COVID restrictions and personal constraints. Instead, I use literature to contextualize my findings and conclusions (see Chapter 3).

[2] https://www2.gov.bc.ca/gov/content/industry/crown-land-water/land-use-planning/regions [Accessed 13 November 2023].

The Netherlands has been selected as the second location for the management plans study and the study of forest management practices. As described in Section 1.4.3, nature-based spiritualities have been observed gaining ground in Dutch society, which made this location a suitable counterpoint for the British Columbian location. For the study into forest management practices, the Netherlands was a logical choice, because of easy access for Dutch interviewers also during the COVID period.

British Columbia

British Columbia is vast, with an extremely low population density (4.9 million inhabitants (2022) in an area of 944,735 km^2 or 5.02 per km^2 [3]. Its geography ranges from coastal to mountainous, with large variations in climate, vegetation and biodiversity[4]. Forests are predominantly coniferous and cover 57 million hectares (hereafter: ha) or 60% of the province's surface[5]. Logging, timber processing and wood exports are an important part of the province's economy[6]. Only 5% of the forest is privately owned, the rest (95%) belongs to the government. When the forest industry intensified in the 1990s, it gave rise to heated conflicts between environmentalists, First Nations and logging companies involving environmental concerns, land rights and resource use ethics (Riddell, 2005; Dale, 2013). Towards the turn of the millennium, modern collaborative approaches were deployed in endeavours to settle these conflicts. This worked in the end, although there were occasional flare-ups (Brownstein, 2021; Wood, 2021). Against this background, the Land Use Resource Plans selected for this study were drawn up from the early 2000s onwards with varying participation by First Nations, and with reasonable success (Passelac-Ross, 2010; Dale, 2013; Devisscher et al., 2021). The plans were also made within the context of the nationwide reconciliation process that gained momentum around, 2015 to redress the legacy of a century's cultural genocide of First Nations (TRC, 2015). In British Columbia, this currently translates into efforts for improved representation of First Nations in planning processes, and the recognition and redistribution of forest and land rights to them. These processes seem hopeful, but still have a long way to go (Nikolakis, 2022). Another forest-related source of contention is the status of old-growth forests, occupying an estimated 13.2 million ha. One third (4.4 million ha) lie in protected areas, but the

[3] https://www.canadapopulation.net/british-columbia-population/ [Accessed 13 November 2023].
[4] Brittanica, https://www-britannica-com.ezproxy.library.wur.nl/ [Accessed] 13 November 2023].
[5] https://www.theglobaleducationproject.org/earth/global-ecology/forests-of-british-columbia [Accessed 13 November 2023].
[6] https://www2.gov.bc.ca/gov/content/data/statistics/economy/bc-economic-accounts-gdp [Accessed 13 November 2023].

remainder (8.8 million ha) does not (Gorley & Merkel, 2020), which makes the forests vulnerable to timber harvesting interests. Environmentalist organizations and First Nations have long campaigned for their conservation[7]. In 2019 the Government of BC changed its policies and promised to defer the exploitation of 2.6 million ha of the "most-at-risk old-growth forest" and provide funds for their protection[8]. This was received with cautious appreciation by the NGO community and First Nations (Owen, 2022; Ancient Forest Alliance, 2023).

The Netherlands

The Netherlands (European part, see footnote 1) covers 41,850 km^2 and is among the world's most densely populated countries (17.9 million people[9] on 33,839 km^2 of land area or 416 per km^2). A large and increasing part of the population (16.4 million[10]) lives in urban areas, most of them in the Western part of the country. The country is predominantly flat with 26% of its area and 21% of its population below sea level. The south-eastern half is higher and also flat with occasional glacial hills. Forests in the Netherlands cover 365,000 ha or 11% of the country's land area and consist of coniferous and deciduous forests. Almost half of the forests are owned by national and local government, another third is private property, and 20% is owned by large nature managing organizations. Most of the national forest (94,000 ha) is managed by the State Forest Service, Staatsbosbeheer. The largest nature conservation organization is Natuurmonumenten, which owns 30,000 ha of forest (Schelhaas et al., 2022). The country only produces 8.5% of its domestic timber consumption itself (Oldenburger, 2019) and depends heavily on imports. Most forests are managed for multifunctional purposes, combining nature conservation for biodiversity and climate purposes with recreation, nature experience and responsible resource use (Natuurmonumenten, 2022; Staatsbosbeheer, 2023). Most forests are open to the public and recreational pressure is increasing. Citizens are also more and more active as volunteers and make up a large part of the workforce at Staatsbosbeheer and the other nature management organizations (Staatsbosbeheer, 2023; Natuurmonumenten, 2022). Citizens' involvement in forest *governance* has long been at a low level (Van Bommel et al., 2008; Buijs et al., 2011), but this has been changing in the last decade. Several debates have stirred public emotion: tree felling perceived as excessive, 'rewilding' projects with large herbivores observed to be starving in winter and the resettlement of the wolf in Dutch forests, occasionally attacking sheep. These debates are compounded with threats to

[7] https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/old-growth-forests [Accessed 14 November 2023].

[8] Government of British Columbia, Old Growth Forests.https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/old-growth-forests [Accessed 14 November 2023].

[9] As per October 2023. https://opendata.cbs.nl/#/CBS/nl/dataset/83482NED/table?ts=1696324924014 [Accessed 13 November 2023].

[10] As per 2022. https://www.macrotrends.net/countries/NLD/netherlands/urban-population [Accessed 14 November 2023].

biodiversity, such as nitrogen deposition, droughts caused by climate change, invasive exotic species and spatial fragmentation caused by building projects. All these issues represent an increasingly complex context for forest managers.

1.8.3. Data collection

For the forest management plan study, 20 plans were selected by cluster sampling (Kumar, 2014: 240), 10 plans in each study area. Criteria for selection in both areas were: ownership or tenure (in BC: First Nation tenure or involvement; in the Netherlands: an even spread across ownership), a reasonably recent time frame, a dominance of forests in the plans and geographical coverage. All plans in British Columbia were published on the Internet, most by the Government of British Columbia and some by First Nations. In the Netherlands, FMPs were obtained from Staatsbosbeheer, Natuurmonumenten and forest-owning municipalities as pdfs or as published on the Internet. An overview of the plans is presented in Table 2.1 in Chapter 2.

For the study of forest management practices, data were collected by students and myself by interviewing forest managers selected by purposive sampling as well as snowball sampling. These sampling methods were preferred above random selection as the research questions specifically ask for types and roles of spirituality in relation to forest management. We did not sample for the spreading of forest spirituality over the total population of foresters or for proof of a rising trend across the Netherlands. The most important criterion for selection was the participants' willingness to talk in depth about the subject and share as much information as possible. A total of 25 foresters were selected (10 female, 14 male and one unspecified). Out of this group, 16 foresters – here labelled 'public foresters' – were formally employed by large nature management organizations, 11 were private estate owners, 3 were managers of natural burial sites and 2 were former forest managers who had switched to spiritual coaching. All were competent adults who gave prior informed consent for the interview and use of the results. Table 3.1. in Chapter 3 presents an overview of interview participants. In addition, at the National Area Managers' Day on 23 September 2022, data were collected during a 45 minutes' workshop on Spiritual Values in Forest Management, which was attended by approximately 60 foresters. These data were collected by Mentimeter questions and a brief questionnaire (see Chapter 4, Section 4.3.3 and Appendices B and C). As foresters did mention an increase in spiritual activities, we used the workshop as an opportunity to probe their learning needs in this respect. The workshop also served to feed back the preliminary results to the interview participants. Other feedback actions with social impact were the publication of the preliminary results in a Dutch magazine for professionals in the field of nature, forest and landscape (De Pater et al., 2023a) and a presentation to the Royal Netherlands Forestry Association (KNBV) on 3 November 2023. Finally, data collection was complemented by field visits and interviews with three professionals in forest spirituality to provide background and contextual information.

1.8.4. Data analysis and reliability check

In both empirical studies, data analysis was based on constructivist grounded theory, which allowed a systematic qualitative (and partly quantitative) interpretation and analysis of the data (Johnson, 2014; Mills et al., 2017; Chun Tie et al., 2019). The constructivist perspective especially suited research on FMP texts, which are inevitably contingent on the researcher's perspective and interpretation. Often, FMPs do not explicitly mention spiritual values, although they do frequently contain value statements. I therefore examined not only explicit, but also implicit, references to spiritual dimensions analogous to Jansen's tracing of "religious sub-texts" (Jansen, 2017: 14, 180) in Dutch policy communication. In the interviews, spiritual values were more explicitly addressed, although this also depended on the interaction between the researcher and the participant. Interpretation of both types of data is in any case a subjective process, but systematizing the process according to grounded theory helped to make the interpretative choices for coding as consistent as possible. With the aid of Atlas.ti[11], I coded the data in three rounds, respectively: initial, focused and theoretical coding (Chun Tie et al., 2019). These rounds and their outcomes are discussed in detail in Chapters 3 and 4.

To increase the consistency of my interpretations, both studies include a reliability check involving an independent researcher. Random samples of texts were re-coded by this researcher and compared with the original coding. In both cases the results demonstrated approx. 80% concurrence with the original coding.

1.9. Outline of the dissertation

In this section I briefly describe the structure of this dissertation, how the chapters answer the research questions and their methodological basis.

Chapter 2 addresses the first research question and describes the construction of the conceptual framework for the empirical study of forest spirituality. It explains the theoretical foundations derived from religious scholarship, the 'family resemblances approach' and the 'seven dimensions of religion' posited by Smart (1996; 2002). Building on these foundations, the chapter proposes a framework comprising 10 'dimensions' structuring spiritual phenomena relevant to forest management for systematic study. Each dimension is characterized by illustrative examples from literature. The framework is designed to accommodate the various ontologies and epistemologies connected to forest spirituality globally, serving as an adaptable tool for

[11] www.atlasti.com

both qualitative and quantitative research on various aspects of the interplay between spiritual values and forest management and conservation.

Chapter 3 describes how this multi-dimensional conceptual framework was applied to investigate the articulation of spiritual values in forest management plans. To this end, 10 plans from British Columbia (Canada) and 10 plans from the Netherlands were investigated. For both geographical locations, the chapter elicits and compares the spiritual dimensions represented in the underlying principles, objectives and operational sections of forest management plans. The widespread but often concealed occurrence of spiritual dimensions in the plans suggests that spiritual values are essential elements of sustainable forest policy and management; they appear not only in the 'abstract' (principles and objectives) sections of the plans, but also in operational prescriptions. The articulations of the spiritual values identified can be grouped in three thematic clusters: '*Nature experience*', '*Spiritual use*' and *'History'*.

Reflecting on these findings, the chapter concludes that: 1) the experiential dimensions of forest spirituality are the most significant dimension in both locations; 2) forest spirituality is also significant in people's 'wise' use of forests; 3) forest spirituality is best accommodated in forest management approaches that are inclusive and holistic; 4) history may affect spiritual relationships with land and forest positively or negatively, the latter pointing at a 'dark side' of forest spirituality that should not be neglected; and 5) forest spirituality is not the exclusive domain for Indigenous peoples, but also for the Global North and in contexts with non-Indigenous populations.

Chapter 4 presents the study of forest management practices in the Netherlands. I applied the conceptual framework with 10 spiritual dimensions to qualitatively explore the roles of these dimensions in practical forest management. Data were collected by interviewing public and private foresters across the Netherlands and analyzed following a constructivist grounded theory approach. As a result, I found four themes in which forest spirituality is articulated in management practices. Firstly, forests are being increasingly used for ritual practices aimed at spiritual enrichment and health with different consequences for public and private forest management. Secondly, ontological and relational considerations affect several forest management practices, mainly diverging views on tree felling and educational programmes aimed at nature connectedness. Thirdly, forest spirituality is expressed in local legends and historical monuments deployed to raise the public's interest in forests. Fourthly, ineffabale aspects of spirituality emerge in references to unspecified spiritual experiences and occasional cases of intuitive forest management.

I conclude that forest spirituality – entangled with broader 'ecospiritual' tendencies in society – is not only significant for nature experience but also – increasingly – for ritual practices in forests, for nature connection and healing, and for forest use, such as tree planting and felling. Public foresters in particular have to reconcile their management with increasing 'spiritual' claims by an increasingly heterogenous public. In order to cope with these processes, research and learning needs were identified.

Chapter 5 presents the key findings resulting from the three studies and discusses how they answer the research questions. I discuss the experiences with the conceptual framework obtained so far, and assess its suitability for further use. I also reflect on my own positionality and performance in this research. I conclude by discussing the consequences of my findings for forest management, research, policy, and education. I end by suggesting a speculative learning model for forest managers to integrate forest spirituality in new forms of forest management.

CHAPTER 2

Spirituality in forest management: a conceptual framework for empirical research

Abstract

International forest policies are increasingly recognizing spiritual values as criteria for sustainable forest management. However, knowledge on how spiritual values are articulated in practice is scarce. Because most evidence remains anecdotal, the study of spiritual values in forest management remains unsystematized and under-theorized. Research is complicated by the widely diverging interpretations of the concept of spirituality in relation to forests. Drawing upon Saler's family resemblances approach (2000 [1993]) and the dimensions of religion posed by Smart (1996, 2002), a framework with ten dimensions is proposed. The framework structures spiritual phenomena relevant to forest management so that they can be studied systematically. The framework attempts to accommodate the various ontologies and epistemologies connected to spirituality in forest management. We discuss pros and cons of the framework and make recommendations for its application in the analysis of forest management plans and practices.

Keywords

Spiritual values; spirituality; forests; sustainable forest management; family resemblance approach; dimensions of religion; nature experience

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2.1. Introduction

Major global forest-related policies and strategies include spiritual values as part of the concept of sustainable forest management often in combination with social and/or cultural values (FSC, 2023; PEFC, 2018; MCPFC, 2002; IUFRO, 2007). Herein, we raise the question how spiritual values are translated into the practice of forest management and what problems are encountered in doing so. In order to help answer this question this study presents a conceptual framework to study spiritual phenomena relevant to forest management. Driver et al. (1999a) discussed the implications of including spiritual values in the management of public lands in the United States. We share their conclusion that in order to accommodate the diversifying needs of society, land managers would have to recognize users' deeper spiritual values and incorporate them in management practices (List & Brown, 1999). Driver et al. define spiritual values to indicate 'hard-to define nature-based values that help maintain and renew the human spirit' (Driver et al., 1999b: 5), and characterize them as 'hard to measure', 'intangible', 'ethereal', or 'psychologically deep' values associated with land. This article adopts Driver's definition and the characteristics mentioned, with the understanding that non-human spirits are included.

Over the past twenty years much has changed in terms of recognising the importance of spiritual values in the conservation of forests, nature and biodiversity. Even the postmodern sciences which study this phenomenon in practice have seen a considerable paradigm shift; the 'ontological turn' (Holbraad & Pedersen, 2017). Globalization has led to growing interaction between interest groups from different parts of the world who have different perspectives on nature and forests (Wiersum and Sands, 2013). As a consequence, forest managers are confronted with increasingly diverse demands from an ever-changing society. In many countries, forest management has evolved from formal, centralized management executed by professionals into a diverse range of participatory management arrangements involving a variety of stakeholders, especially local communities and Indigenous people (Gilmour, 2016). Citizens' direct or indirect influence on forestry practices is growing and ranges from voluntary co-operation in sylvicultural work (Mattijsen et al., 2017) to activist opposition against tree cutting or hunting. Spiritual values informed by deep-seated worldviews - Indigenous, Western nature-based, mainstream religious, or secular - are at the core of people's underlying concerns for forests (De Pater et al., 2008; Verschuuren et al., 2021; Taylor, 2010a; Terhaar, 2009). Divergence of worldviews is therefore often at the root of forest conflicts (Buijs, 2009; Redmond, 1999; Satterfield, 2002). While awareness of diverging worldviews could mitigate such conflicts (Howitt & Suchet-Pearson, 2006) the nature and role of worldviews - including spiritual values - in citizen-foresters' interactions remains insufficiently understood (Driver & Ajzen, 1999; Lewis & Sheppard, 2005; Konijnendijk, 2018).

Indigenous peoples have used their growing political influence to have cultural and spiritual values incorporated in the conceptualization of sustainable forest management

within the above-mentioned global policies and certification schemes. Despite that there is little systematic knowledge about how spiritual values have informed practices of sustainable forest management (see, for instance, Agnoletti & Santoro, 2015) progress has been made in three related areas. Firstly, there is a growing body of literature that conceptualises cultural and spiritual values and looks at their role in protected areas and conservation management (Harmon & Putney, 2010; Verschuuren & Brown, 2019; Verschuuren et al., 2021). Secondly, the field of Traditional Forest-Related Knowledge of which spiritual values are an important part has progressed (Trosper & Parrotta, 2012). Thirdly, participatory forest management arrangements with local and indigenous peoples, such as community-based and social forestry, have expanded considerably over time (Gilmour, 2016). These three fields offer some empirical evidence demonstrating the incorporation of spiritual values in forest conservation and management. However, the evidence derived from the above areas remains anecdotal, specifically in relation to forest management. Consequently, the study of spiritual values in forest management remains unsystematized and under-theorized.

Current research displays several notable knowledge gaps. Firstly, forest managers' perspectives on spiritual values have, on the whole, been less researched than users' perspectives, at least in the West. Exceptions are a large foresters' oral history project in Finland (Paaskoski, 2010), a study of foresters' and users' spiritual values in the USA (Terhaar, 2009) and a small study of foresters' spiritual concerns in the Netherlands (De Pater et al., 2008). In collaborative forms of forest management, spiritual values are sometimes factored in, but often in combination with cultural, social or economic factors (Bulkan, 2016; Gilmour, 2016).

Secondly, most empirical studies focused on spiritual experiences in nature by users and to some extent on the consequences for changes in behaviour and ethics. These studies predominantly cover the Western world and revealed a positive though often complex relationship between spiritual experiences and nature-orientated activities (Hedlund-de Witt, 2011; Heintzman, 2009, 2011; Muhar et al., 2017). This field shows several knowledge gaps. For one, only part of this research focused on forests. Furthermore, while there is increasing proof of the restorative effects of nature on human health (for instance, Summers & Vivian, 2018), there is insufficient focus on the role of spiritual experiences in nature on health (Buzzell & Chalquist, 2009). Thirdly, although place attachment and place identity are emerging as important factors underlying forest management, the spiritual roots of people's connection with land are under-researched (Hay, 1998; Lewis & Sheppard, 2005; Roberts, 1999). In general, while human-nature connections are increasingly recognized as conducive to pro-conservation behaviour, the role of spirituality in human-nature connections is still poorly understood (Zylstra et al., 2014).

Thirdly, across Europe, growing public interest in spirituality has led to a growing and diversifying market for spiritual practices (Knippenberg, 2015; Heelas & Woodhead, 2005). For example, growing numbers of private and public forest owners open their

estates for retreats, meditative walks and natural burial sites in forests are steadily gaining popularity (Nugteren, 2018; Pedroli & During, 2019). Demands on forests are also changing with the growing ethnic diversity and concomitant diversity in worldviews. Urban greenspace worldwide is shared by a growing diversity of migrant and non-migrant groups with different requirements for their spiritual needs (Byrne & Goodall, 2013). The expansion and diversification of these spiritually driven demands pose specific requirements to the management of forests. Forest managers need to reconcile these demands in their work and acquire new knowledge about multiple forest-related worldviews and intercultural dialogue (Jay et al., 2012). Conceptual research on spiritual governance of sacred forests and landscape elements (Studley & Horsley, 2019) could inspire research on its merits for spirituality inclusive forest management arrangements.

In order to facilitate knowledge creation and sharing on spirituality inclusive forest management the above-mentioned knowledge gaps have to be investigated. This requires a conceptual framework that combines the identification of relevant spiritual values across the appropriate practices of forest management such as management plans, management strategies, field interventions and policies. Two recent initiatives support this idea. IUCN developed a set of best practice guidelines for the management of 'cultural and spiritual significance of nature based on a framework of cultural and spiritual values (Verschuuren et al., 2021). In addition, UNESCO hosts the Initiative on Heritage of Religious Interest which involves preparing guidelines for the management of religious elements in natural, mixed and cultural World Heritage Sites (UNESCO, n.d.). These cases demonstrate that efforts to develop practicable approaches already exist, but they do not guarantee a systematic review of scientific literature and method with a focus on forests. Other value assessment frameworks are either too broad or too specific. For instance, Zylstra's four-quadrant model (Zylstra et al., 2018) serves well as a meta-framework for the whole of reality. Heintzman's model for nature-based spiritual experiences (2009) works well for studying the specific process of spiritual experience in recreation. A conceptual framework to study not only recreation but the full range of spiritual phenomena relevant to forest management, however, does not yet exist.

2.2. Conceptual framework: theoretical approach

We propose a conceptual framework for studying spiritual values in forest management using a theoretical approach that recognizes the complexity of the subject while yielding a manageable tool for analysis. To construct such a framework, we discuss, consecutively, its theoretical approach, components, and design. Components are researchable units - in this case phenomena commonly attributed with spiritual values such as sacred trees, ceremonial places or forest-related myths on the one hand and elements of forest management such as management objectives, zoning, or interventions, on the other hand.

The theoretical approach underpins the selection and placing of components in the framework. We believe that a 'family resemblances approach' (FRA) is adequate for this purpose. The FRA was first adopted by Saler (2000 [1993]) as an approach to study a wide range of religious phenomena on the basis of multiple characteristics without emphasizing definitional boundaries. It was proven useful by other authors (for instance, Taylor, 2010a; 2016; Crews, 2019: 350) and even underpinned the editorial scope of this journal (Taylor, 2007). While Saler and Taylor use the term 'religion', we will apply the FRA to 'spirituality' instead. The FRA is useful since it allows many different conceptualizations of 'spirituality', as we saw above. Most conceptualizations are somehow engaged with a non-material element that is hard to define and is expressed in many different forms: as transcendental, 'supernatural' beings, a 'higher power', 'Spirit' (Emmons, 2003: 93); as a this-worldly divinity, for instance, Otto's 'numinous' (1958 [1917]); or as a sacrality in one's inner self, the goal of one's 'mystical' inward quest (Smart 1973, 1996, 2002). All forms, especially immanentistic ones, are manifest in nature-related spirituality: nature as imbued with 'divine immanentism' (McFague, 2000: 31ff), 'the Goddess Earth' (Harvey, 2006: 85ff), 'spirit power' (Anderson, 1996 :62), 'ch'i' (Anderson, 1996: 16ff) or 'extraordinary forces' (Taylor, 2007: 15). Scholars have proposed various umbrella terms to capture this variety of notions without unduly bringing in a theistic or otherwise ontological bias: the Absolute (Waaijman, 2001: 1), Paul Tillich's 'Ultimate Concern' (Saler, 2000 [1993]: 105ff; Emmons, 2003: 96), 'the ultimate' (Carey, 2018), or simply 'focus' (Smart, 1973: 67ff; 1996: 9).

The advantage of the FRA is that one does not have to apply a sharp definition to each term as long as the above-mentioned 'hard-to-define' core (Driver et al., 1999) is somehow present. The requirement of such a core follows from the fact that even the FRA requires boundaries (see also Taylor, 2010b) to enable a robust framework. When, for instance, is a nature experience 'spiritual' and when is it only superficially pleasant? We wish to include as many spiritual phenomena as possible, but also distinguish them from non-spiritual phenomena as far as possible. The boundary will remain blurred, but we agree with Heinzman (2009) and others that in practice it is often the practitioners themselves who identify its nature.

The FRA also enables accommodation of all spiritual traditions on an equal basis. It is important to recognize the broad ontological diversity underlying spiritual traditions among managers of forests worldwide, especially since they are often intermingled with unequal power balances in governance (Timko et al., 2020). For the framework to be applicable as broadly as possible, its construction should not be tainted by preferencing some traditions above others, and certainly not by the Eurocentric bias that religious scholarship has long sought to cast off (Saler, 2000 [1993]; Von Stuckrad, 2003). Instead, we take an open view and recognize whatever ontological perspectives are professed by those engaged in forest management. A case in point are ontologies attributing agency to non-human persons, for instance in the governance of Indigenous sacred sites ('spiritual governance' – Verschuuren & Brown, 2019: 300ff). Such and other ontologies will all be accommodated in the proposed conceptual framework.

2.3. Conceptual framework: spiritual values

Components for the conceptual framework can be divided in two groups: dimensions of spiritual values and elements of forest management. As for spiritual values, various lists of attributes or characteristics exist that served as inspiration (Alston, 1967 and Southwold, 1978; Taylor, 2007). The best list for our purpose – not too long while comprising all necessary traits - is the list of dimensions of religion theorized by Ninian Smart (1996, 2002). Smart grounded religious studies on a cross-cultural and non-essentialist basis, much in line with the FRA (1973; Harrison, 2006: 151, note 31). He distinguished seven dimensions of religion, respectively: 1) the practical and ritual dimension; 2) the experiential and emotional dimension; 3) the narrative and mythical dimension; 4 the doctrinal and philosophical dimension; 5) the ethical and legal dimension; 6) the social and institutional dimension; and 7) the material dimension. Smart's ordering of these dimensions was 'random' (Smart, 1996:10) and varied in his publications (Smart, 1996; 2002). Consistent with the FRA, he posed that religious and spiritual phenomena could show some, many, or all dimensions. They could be expressed to varying degrees of clarity, and some phenomena could feature in more than one dimension.

While Smart focused on religions in a broad sense, his dimensional division also serves our more specific purpose to accommodate spiritual values related to forests in our conceptual framework. We therefore used Smart's dimensions as a starting point. Each dimension was examined as to how well it accommodated spiritual phenomena related to forest management. Most dimensions were adopted unchanged, some dimensions had to be adapted. Table 2.1 presents the resulting dimensions. In order to clarify the relation of each dimension with forests and nature, we assembled examples of forest-related spiritual phenomena, which could be roughly divided into theoretical and practical examples. All phenomena were placed in the table next to the best corresponding dimension, to serve as examples for the discussion below. These examples are not exhaustive and not meant as default. The dimensions of forest-related spiritual values are discussed here step by step. One or two typical examples are highlighted for each dimension; other examples are noted with keywords in the table.

Firstly, the experiential and emotional dimension encompasses all people's spiritual experiences in nature. Nature was identified as especially conducive to spiritual experiences by James (2002 [1902]), Waaijman (2001), De Pater et al. (2008), Taylor (2010a), Hedlund-de Witt (2013) and De Hart (2014). Nature-induced spiritual experiences take many forms and are often expressed as a flow that may lead to deeper encounters, self-realization and meaning-making (Van Trigt et al., 2003; De Pater et al., 2008; Terhaar, 2009; Havik et al., 2015; Zylstra, 2019). This process may be pursued, with possible pitfalls along the way (De Pater, 2015; Hedlund-de Witt, 2011; Roncken, 2018).

So far, we can distinguish four specific experiential sub-dimensions[12]. The *Experiential-Aesthetic* dimension (1a) encompasses the experience of self-transcending awe and sublimity, often through perceiving the beauty, grandeur or even menace emanating from forests and nature (Brady, 2013; Roncken, 2018). Wilderness and forests were found to be conducive to fascinating aesthetic experiences which many visitors described as 'spiritual' or 'transcendent' (Frederickson & Anderson, 1999; Williams & Harvey, 2001).

The *Experiential-Restorative* dimension (1b) contains the experience of the "refreshing quality of the forest, the benefits of peace and quiet, a sense of renewed energy and activity" (Williams & Harvey, 2001: 255). These and similar features were often mentioned as beneficial effects of forests and nature on people's physical and mental health (Buzzell & Chalquist, 2009, Summers & Vivian, 2018), although the scientific underpinning is still thin (Van den Berg, 2017). It is difficult to single out the spiritual component in these studies; however, Williams & Harvey (2001) found a strong relation between transcendent experiences in wildernesses and psychological restoration. Kamitsis & Francis (2013) found evidence that spirituality can significantly mediate between one's experience in nature and the positive health effects derived from it. Heintzman (2009) found that 'leisure-spiritual coping' (p. 84) alleviated life stress. This sub-dimension is exemplified in the recently popularized practice of forest bathing or shinrin-yoku in Japan and the West: meditative forest walking to restore physical, mental, and spiritual health (Hansen et al., 2017; Li, 2018). Vision quests, that is ritualized wilderness visits to harmonize mind and spirit (Hernandez, 2005: 202ff) are another example.

The *Experiential-Relational* dimension (1c) comprises experiences of deep connectedness with the forest, trees or the land in general. Connectedness can be experienced as deep feelings of oneness with nature in general or with elements of nature (such as trees) in particular; it can also evoke deep feelings of connection with the wider landscape or the land itself. These feelings, generally conceptualized as 'sense of place' or 'place attachment' (Muhar et al., 2017; Raymond et al., 2017), may generate spiritual meaning and contribute to individual and collective well-being and identity (Hay, 1998). Connectedness with nature and forests has also been recognized as an important motivating and transformative factor for pro-environmental behaviour (Garfield et al., 2014; Hedlund-de Witt, 2011; Zylstra et al., 2014).

The *Experiential-Life Force* dimension (1d) encompasses people's intuitive sensing of subtle, life/vital energies in forests, trees or landscapes. This is related to the Chinese concept of *fengshui* (Parkes, 2003), its Western counterpart, geomancy (York, 2005) and many Animistic traditions worldwide (Sponsel, 2012). Central to this concept is the notion of "lifeforces" (Taylor, 201a: 15) that come under various names (Chinese: *qi,* Japanese: *ki,* Indian: *prana,* Polynesian: *mana,* etc.) and run through Earth and its human

[12] I changed the numbering in later chapters.

and non-human inhabitants in certain patterns. Ivakhiv (2005) described this domain as *"Earth Mysteries: an umbrella designation covering a variety of speculative studies and theories regarding the alleged powers of the Earth; mysterious energies that are thought to be found at particular [sacred] sites"* (2005: 525). Our framework is not aimed at analysing these energies themselves, but at investigating how people perceive them and may act on them. Examples are practices which aim to communicate with the subtle energies of trees (Kooistra, 2003) or connect with the lifeforces of landscapes, forests, cities and even farms and companies in order to restore and enhance their energetic balance (Andeweg, 2011; De Pater, 2005a, 2005b; Pogačnik, 2007).

Secondly, the *Practical-Ritual* dimension includes formal or less formal actions often aimed at 'developing spiritual awareness or ethical insight' (Smart, 2002: 14-15). Forests can be the stage of rituals, whereas rituals on behalf of forests may also be performed elsewhere. Examples are manifold. Some examples include: tree worship (Jones & Cloke, 2002, Nugteren, 2005); shamanistic and neo-shamanistic rituals performed in forests (Freidel et al., 2001; Reichel, 1992, Znamenski, 2007), often in connection with healing (Barbira-Freedman, 1999; Bill, 1999); bird augury for decisions on shifting cultivation (Dove, 1999); and tree planting as a sacred deed (Daneel, 2001). Natural burials are a case in point; they are closely connected with beliefs about death and recycling of life, have been practised since ancient times and have recently gained ground in Europe, inspired by environmental concerns (Nugteren, 2018). These and other ritual practices always channel emotions and experiences, strongly linking this dimension with the experiential one. They are also often closely related to myths, narratives, and ethics.

Thirdly, the *Mythical-Narrative* dimension covers vital stories – myths, legends, histories, oral or written, often handed down from generation to generation, or "*given to people in some special/holy way, from some special/sacred place, for some special/holy purpose*" (Taylor, 2007: 17). They may tell us about the origin and features of creation, people's place on earth, saints and heroes, and so on. Storytelling helps to comfort and inspire followers. A salient example is the reciting of the *Bhagavad Katha* – stories about Lord Krishna in the forest – to encourage women of the Chipko movement in their resistance to logging in Northern India (James, 2000). Natural symbols and life-marking events as mentioned by Taylor (ibid.) can also be placed within this dimension. This dimension is another strong channel for experiences and emotions and is closely related to the ritual dimension.

Fourthly, the *Philosophical* dimension harbours the intellectual underpinning of the experiences, rituals and narratives grouped in the former dimensions. In relation to nature and forest, this dimension encompasses people's views and understanding of the cosmos and the world, in other words: worldviews and ontologies. Examples are, inter alia, visions of 'division of the world into sacred and profane objects or domains or spaces' (Taylor, 2007: 15) and of 'earthly and/or otherworldly destruction and [healing]' (Taylor, 2007:16). This dimension also includes environmental philosophy, in the sense that people try to make sense of spiritual experiences in nature by reasoning and theorizing. An example is Wilson & Kellert's biophilia hypothesis (Kellert & Wilson,

1993), which poses that people's love for nature is anchored in human genes in the interest of human evolutionary fitness.

Fifthly, the *Ethical* dimension follows closely on from the previous one and includes environmental ethics, 'green' lifestyles and injunctions to plant trees, conserve 'sacred' sites or other action. This dimension is theoretically distinct from the philosophical dimension, which remains in the domain of abstract reasoning, while the ethical dimension includes the encouragement of action. However, when we look at practical examples, this distinction fades: most examples in Table 1.1 carry a behavioural element, whether or not rooted in distinct philosophies. An example of the intricate relations between philosophy and ethics is the Gvi'ilas philosophical-ethical system of the Heiltsuk Nation in Canada. To quote Marilyn Slett, Chief of the Heiltsuk Nation, "*[o]ur* Gvi'ilas*, the laws of our ancestors [is] the paramount principle to guide all resource use and environmental management*. Gvi'ilas *refers to our "power" or authority over all matters that affect our lives. It is a complex and comprehensive system of laws that embodies values,* beliefs, teachings, principles, practices*, and consequences. Inherent in this is the understanding that all things are connected and that unity is important to maintain*." (Parks Canada, 2021).

Sixthly, the *Social-Institutional* dimension refers to the ways that the above-mentioned dimensions are embedded in social structures, whether they are local communities, tribal councils, or religious organizations such as the Buddhist sangha, mosques or churches. They may organize and institutionalize 'green' initiatives in many forms: from tree-planting around village churches to mobilization of faith leaders against rainforest destruction (Interfaith Rainforest Initiative n.d.). Spiritual leaders can play an important role in encouraging 'green' initiatives. Examples are Patriarch Bartholomew I of Constantinople who undertook numerous environmental actions (Sponsel, 2012), Pope Francis (2015) who wrote the Papal Encyclical letter on the environment *Laudato Sí'* and the Interfaith Rainforest Initiative, a multi-faith alliance to mobilize faith-based leadership for rainforest conservation (Interfaith Rainforest Initiative n.d.). Environmental education and communication are also part of this dimension. Taylor rightly pointed at the link with the narrative dimension: 'narrative cosmogonies and cosmologies which are not empirically demonstrable but are strongly reinforced through education, reinforcement/reward, penalties for deviance, and other social means' (Taylor, 2007: 17).

Finally, the *Material-Spiritual* dimension encompasses all material 'incarnation' (Smart, 2002: 21) of spirituality such as temples, graves, spiritually inspired art and sacred materials. Examples are totem poles and sacred medicines provided by forests, but also larger natural phenomena linked to 'place': sacred trees, forests, rivers, mountains and other 'sacred landmarks'. We cannot see this dimension in isolation from other dimensions, especially the ritual-practical dimension. For example, Langdon (2017) described sacred plants in relation to neo-shamanic networks that associate sacred plants with primordial knowledge and agency. This dimension also has strong links with the narrative and philosophical dimensions.

In line with the FRA, a spiritual phenomenon may carry one or more dimensions, and not all dimensions need to be present in one phenomenon. For example, performing a ritual may evoke an emotional-spiritual experience, may be accompanied by certain myths, and perhaps instigate certain ethical behaviour; this might be done with or without an organizational setting or prominent material attributes. However, there will always be a 'grey zone' in the detailed identification of dimensions in a specific phenomenon.

Table 2.1. *Dimensions of spirituality and their relations with forests*

Dimension of Spirituality	**Sub-dimension / Relation with Forest & Nature (in theory)[1]**	**Relation with Forest & Nature (in practice)[1]**
1. Experiential/ Emotional	1a. Aesthetic: The Sublime, Beauty, Awe, Fear, the Numinous	• Wilderness experience • Forests in art • 'Dark forest'
	1b. Restorative: tranquillity, rest, contact with inner self, 'spiritual' healing in nature	• Forest retreats • Vision quests • Ecotherapy • *Shinrin yoku* (forest bathing)
	1c. Relational: Connection (with the surrounding world or with the 'ultimate'), Sense of Place, Meaning of life	• Education (e.g. *Natuurwijs,* children's education in NL) • Forest career choice as a vocation • Finding meaning through nature walks
	1d. "Lifeforce"/ "vital energy" in forests and trees	• Feng shui • Geomancy • Ley lines • Restoring the energetical balance of forests & nature
2. Practical-Ritual	• Forests & trees as locus / object of ritual practice • Ancestral forests/trees	• Tree worship • Healing trees • Shamanism • Vedic rituals • Forest monks (SE Asia) • Animal/bird rituals & augury • Natural burials
3. Mythical-Narrative	• Creation & cosmology • Forest & tree symbolism • Mythical foundation of sacred sites • The Universe Story	• Tree symbolism & stories • Myriads of creation & nature Spirit stories *Linked to (2): rituals to bring narratives & myths to life*

4. Philosophical	• Environmental theology
	• Env'l philosophy, e.g. biophilia
	• Worldviews
	• *Gvi'ilas* eco-spiritual ethical system (Heiltsuk Nation)
	• Views on nature, e.g.
	  – Deep Ecology
	  – Nature-based spiritualities, e.g. druidism, wicca
	• Animism
		• Traditional ecological knowledge
		• Respect for & hence no exploitation of old-growth forest
		• Selective felling instead of clearcut on spiritual motives
		• Taboos on sacred sites
		• Chipko movement, India
		• Movements for Indigenous peoples' rights to land and resources
		• Plantation movements, e.g. Earth Keepers, Zimbabwe
		• Spiritual values of forests in sustainable forest mgt. certification schemes
		• *Gviílas* eco-spiritual pratices (Heiltsuk Nation, BC Canada)

5. Ethical	• Rules for access & use of sacred forests & trees • Arthashastra (Hindu books on agriculture & forestry) • Injunctions to conservation, tree planting, restoration • (to a wider extent) religious food laws	
6. Social-Institutional	• (Underlying) drivers of Community & Social Forestry and conservation movements • Charismatic leadership	• Interfaith Rainforest Initiative • Spiritually inspired forest restoration, e.g. Trees for Life, Scotland • Faith-based env'l movements, eg Franciscan Env'l. Project (NL) • Pilgrimages to sacred nat'l sites • 'Spiritual governance' of sacred sites
7. Spiritual-Material	• Sacred forests, rivers, mountains, etc. • Forests as provider of sacred materials	• Sacred trees and sites • Sacred (forest) plants for healing and food • Osun-Oshogbo Sacred Forest, Nigeria (and many others) • Totem poles & other sacred objects

[1] Examples, not exhaustive

2.4. Conceptual framework: management elements and design

Forest management can be defined as implementation of planned interventions to produce anticipated objectives with regard to use and conservation of forests in an area (after Vellema & Maas, 2003). Forest management interventions are governed at different geographical and administrative levels from national policies to sub-national strategies, from centralized to decentralized and participatory (Arts & Visseren-

Hamakers, 2012). Levels, scales and modes of implementation vary widely per country and region (FAO, 2023). In order to examine how spiritual values feature in these different conditions, the conceptual framework needs to contain a set of management elements relevant to the research questions posed. Management elements could be derived from forestry guidelines such as the *FAO Sustainable Forest Management Toolbox* (FAO, 2023) or conservation guidance such as Wild & McLeod (2008) on sacred natural sites and Verschuuren et al., (2021) on the cultural and spiritual significance of nature. In the absence of such, material management elements must be defined according to the situation. If the question is how policies addressing spiritual values are translated into practice, management elements may be combined with governance elements ranging from abstract to concrete levels, for instance, policies, strategies, regional plans, field-level plans, zoning and perhaps specific measures. If the question is about field-level management practices, elements could be detailed zoning, protection, restoration measures, integrated use, recreation management, communication, monitoring and evaluation.

As for the design of the conceptual framework, its components, the spiritual dimensions and forest management elements can be combined in a matrix for analysis. Columns could represent spiritual dimensions and rows could represent management elements or other units which can be modified according to the research needs. Such a matrix can serve qualitative and quantitative analyses of documents, interviews and other sources.

2.5. Conclusion and discussion

This conceptual framework accommodates spiritual values relevant to sustainable forest management and operationalizes them for research. The development and deployment of the conceptual framework presented in this article forms the first step in a research project investigating spiritual values in forest management plans and their role in practices of forest management. Initial testing showed that the framework was suitable for studying spiritual values in several Dutch forest management situations, but it needs to be further tested for feedback and adaptation for further use.

The proposed framework has been currently tested for its applicability in empirical studies into how spiritual values affect forest management practices. The framework may help to answer broader questions across dimensions but can also be adapted to study specific dimensions or management elements. It will be useful to study spirituality and management across cultural, religious, and geographic regions without prior biases about the cultures concerned. It is also useful to study how spirituality relates to forest management, from policy documents to field implementation. This would contribute to improved knowledge on how spiritual values are translated into the practice of forest management and what problems are encountered in doing so. The framework could

also help to systematize evidence on the role of spiritual values in the management of sacred groves, community forests and traditional forest-related knowledge and contribute to theorizing these fields. Identifying management elements that fit the framework would help operationalize forest managers' perspectives in empiric research. The framework can accommodate various stakeholders and even non-human actors as to elicit the role of spirituality in their perspectives and interactions with the forests. As the framework lays out all relevant dimensions of spirituality, under-researched aspects or upcoming topics for research can be added as part of this systematic approach and consequently evaluated on their suitability for further research. In particular, the framework could be used for further eliciting the role of spiritual experiences in people's connection with nature, land and sense of place. It could also be applied to clarify how spirituality works in nature-induced health restoration. In relation to spiritual experiences, the role of rituals and narratives could also be evaluated for their applicability in sustainable forest management. In a broader sense, the framework could help to investigate the role and importance of worldviews (ontologies and epistemologies) relevant to forest management.

The framework may also contribute to the widely ramified debate on whether and how spiritualities and religions are beneficial or detrimental to nature conservation (see, for instance, Nugteren, 2005; Satterfield, 2002; Snodgrass & Tiedje, 2008; Taylor, 2010b; Taylor et al., 2016). Ever since Lynn White's famous essay placed Christianity at the root of today's environmental crisis, this debate has known champions as well as sceptics and adversaries of the thesis that religions are conducive to environmental care (Choné 2017; Grim & Tucker, 2014; White, 1967). While Taylor et al. (2016) cautiously concluded that this is rarely the case, they also point out that more research is needed. The framework may contribute to one of the fundamental questions underlying this debate, namely, how to conceptualize spirituality and spiritual values from the perspective of those engaged with forest management.

There are also obvious sensitivities and limits. Firstly, the framework is not cast in stone, but may be thoughtfully adapted to a particular scope of research. Spiritual values are, in a sense, living things, which cannot and should not be reduced into a singular paradigm. Many scholarly endeavours to find a satisfactory conceptualization of religion and spirituality were precisely to avoid such a narrow reductionist straitjacket (Smart, 1973: 32). Following Smart's advice for the scientific study of religious phenomena (1973: 49-73), the proposed dimensions should therefore be treated flexibly, carefully and respectfully.

Secondly, the scope of the framework applies to spiritual values in relation to forest management. However, we recognize that spirituality is always embedded in broader domains, such as socio-cultural settings, governance and power structures, which should be taken into consideration. When the research scope is extended to those domains, broader frameworks such as the Millennium Ecosystem Assessment Conceptual Framework (MEA, 2005) and the IPBES Conceptual Framework (Pascual et al., 2017) are likely to be more suitable.

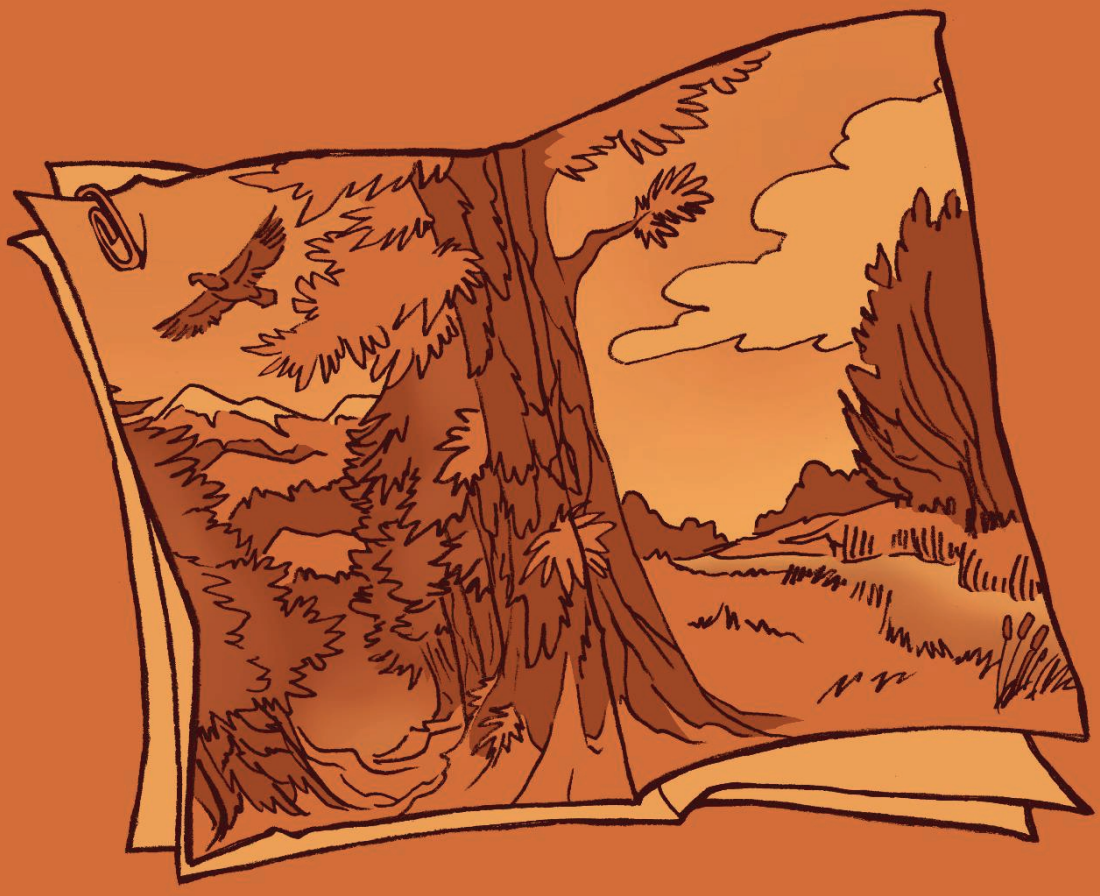
Thirdly, the boundary between spiritual and the non-spiritual remains a grey area in the framework. When does an intervention in the forest affect a spiritual dimension? Action is determined by a combination of motives, but ontologies play a role too. Most European managers will agree that interventions in the forest do not need to be *directly* spiritually laden and that they can also *indirectly* shape the conditions to facilitate spiritual experiences. For instance, cutting a corridor through the forest to create a sightline to enhance visitors aesthetic experiences may also induce the spiritual. Indigenous managers, for whom land and forests are imbued with spirits acting as agents of governance on a par with humans, will see all interventions as spiritually laden (Redmond, 1999). In general, for a phenomenon to be included in the framework, it should at least somehow refer to spiritual value within the practitioner's horizon, even if it is not explicitly named.

Fourthly, a problem presents itself when spiritual values are included in a package combining other non-material values. Empirical researchers found that people might be 'reluctant to express them [in public] for fear of social embarrassment or shame' (Cooper et al., 2016: 223; see also Van Trigt, Van Koppen, & Schanz, 2003). Packaging also occurs in forest policy papers, management plans and other literature, and expressed in a variation of terms and phrases to denote the non-material aspects of forests. When addressing the subject, they often combine cultural and spiritual values in one breath. While from cultural heritage perspectives, cultural values would include spiritual values, IUCN has consistently refrained from conflating the cultural and the spiritual in their terminology. They present these terms separately in order to denote the importance—and distinctiveness—of the spiritual dimension of nature to Indigenous people's cultures, as well as the importance of "*some people's religious experiences, and even secular-spiritual encounters with nature*" (Brown & Verschuuren, 2019: 5; see also Zylstra et al., 2018). Others denoted spiritual values as non-material and socio-cultural (MCPFE, 2002) or cultural-historical, cultural heritage, aesthetic/spiritual (Edwards et al., 2016) and social. In relation to the natural world, we also find package terms such as 'cultural landscapes', 'cultural ecosystems services', 'cultural benefits', and/or 'collective' or 'shared values about ecosystems' (Edwards et al., 2016; Church et al., 2014). Whereas many proponents of the concept of 'biocultural diversity' (Elands & Van Koppen, 2012; Edwards et al., 2016; Pretty et al., 2009) explicitly included spiritual values or related terms in their definition and descriptions, other publications on biocultural values (or diversity or heritage) keep spiritual values more or less obscure (for instance, Mafi, 2007). The same can be said about the concept of relational values which Chan et al. (2016) proposed as a way to address the non-material dimensions of ecosystem services. Useful as they are to stage such dimensions on the policy level, spiritual values are structurally absent from this concept and are, at most, implicitly present in cultural values. In view of all this conceptual packaging, the question is how to unravel it to explore whatever spiritual values may or may not be inside.

One pathway to solve this problem is to apply framing theory, as done by Jansen et al. (2016). They used the term 'religious subtexts' (2016: 92ff.) to denote expressions of the visible reality of nature that also carry references to deeper, in this case religious (or spiritual), layers of meaning. They explained that when people described a Dutch nature area as a place of tranquillity, for instance, it could be understood literally, but also as a condition for an environment where people could recharge, purify, be reborn and feel as if they are in paradise. These subtexts would be the results of the Interplay between 'surface frames'—functioning at the level of daily language—and 'deep frames'—articulating underlying worldviews. Deep frames could be articulated in supporting narratives and at the same time provide an interpretive context for spiritual experiences in nature. Articulation and interpretation can go two ways. Jansen et al. (2016) observed that a reciprocal relationship existed between someone's experience of nature and the interpretation of this experience. Applying frames in this interpretive way may help researchers unpack spiritual values of forests. A similar pathway is presented in Boyatzis' (1998) approach to thematic content analysis. Boyatzis distinguishes 'latent' versus 'manifest' texts (1998: 4), much in the same way as Jansen categorizes his frames. Depending on the research questions, the two approaches may be used separately or in combination.

Finally, the question may be asked whether the framework is better suited for qualitative or for quantitative research. The obvious answer is both. Both types of research are reported in the literature, although good quantitative studies appear to be scarce (Taylor et al., 2016). A related question is that of the measurability of spiritual values. There is an overall consensus that expressing spiritual values in terms of benefits, ecosystem services or deliverables is undesirable (Cooper et al., 2016) and expressing them in financial terms is altogether impossible (Bulkan, 2016). Yet sociological research has designed various scales for measuring certain aspects of spirituality, for instance, the 'oneness belief scale' and its 'spiritual sub-scale' proposed by Garfield et al. (2014) to investigate relations between mysticism and environmental behaviour. Although our framework does not dictate a method, it may help to place the measurability of spirituality and related questions in perspective.

We may conclude that, while spiritual values are complex, vaguely demarcated and often concealed in other and broader concepts, this framework offers a broadly applicable structure to study the role of spiritual values in forest and nature management in depth. It may thus help to increase our practical and theoretical understanding about this often overlooked aspect of sustainable forest management.



CHAPTER 3

Spiritual values in forest management plans in British Columbia and the Netherlands

Abstract

Spiritual values are part of major global forest-related policies and strategies for sustainable forest management. Despite ongoing research and current debates, the significance of spiritual values in sustainable forest management in the Global North remains under-theorized. As forest management plans represent an important nexus between policies and practices, this study clarifies the significance of spiritual values in forest management plans. We applied a conceptual framework with nine 'dimensions of spirituality' to investigate ten plans from British Columbia (Canada) and ten plans from the Netherlands, deploying qualitative analysis through descriptive coding in Atlas.ti. We elicited and compared the spiritual dimensions represented in the underlying principles, objectives and operational sections of forest management plans for both geographical locations. Their widespread occurrence suggests that spiritual values are considered essential elements of sustainable forest policy and management in the Global North, also in contexts with non-Indigenous populations. We grouped the articulations of the spiritual dimensions in forest management plans into three themes: *'Nature experience', 'Spiritual use'* and *'History'*. A comparison of the spiritual dimensions across these themes and geographical locations yields the following insights: 1) spiritual values of forests are not only articulated in the strategic sections of forest management plans, but also in operational sections; 2) in management planning, forest spirituality is not only strongly related to experience, but also to the ('wise') use of forests and to forest-related history; 3) spiritual values are better operationalized in adaptive forms of management planning than in formal 'technical' planning structures. This offers new ways of understanding the role of spirituality in forests management plans and contributes new insights to current debates in forest science.

Keywords

Spiritual values, Forest management, Indigenous spirituality, Nature conservation, Nature-based spirituality, British Columbia, The Netherlands

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3.1. Introduction

In this study we aim to understand the occurrence and role of spiritual values in forest management plans (FMPs) in the Global North. While this topic appears to be understudied it has increasingly emerged in forest policy and practice (see Section 3.1.1. below). We systematically analyzed 10 British Columbian and 10 Dutch FMPs using the conceptual framework of De Pater et al. (2021), specifically developed for empirical research in forest and nature-based spirituality[13]. We adopted the framework's initial conceptualization of spiritual values as 'hard-to-define nature-based values that help maintain and renew the human and non-human spirit' (De Pater et al., 2021). The multidisciplinary theoretical foundations of the conceptual framework facilitate the identification of different dimensions of spiritual values in forest management plans, even when these spiritual values are entangled with 'cultural' or other 'intangible' values. 'Cultural' values are typically defined as encompassing material, intellectual, emotional or other values besides spiritual values (MEA, 2005; Persic & Martin, 2008). Such entanglement may be useful in strategic or policy debates when the aim is to position spiritual values within the broader package; however, it creates confusion when in-depth research into the nature of spiritual values is required (De Pater et al., 2021). In this study, we therefore focus exclusively on spiritual values.

3.1.1. Rationale

Spirituality has been an important driver for Indigenous People and Local Communities (IPLC) to increase their influence on such major global policy platforms affecting forests as the Convention on Biodiversity (CBD, 2020), the International Platform on Biodiversity and Ecosystem Services (Díaz et al., 2015) and the UN Framework Convention on Climate Change (UNFCCC, 2021). In these fora, IPLC have evolved from being 'victims' of the environmental crisis (they make up one third of the world's rural poor, Forest Peoples Program, 2020) to 'experts' on biodiversity and forests. IPLC's territories cover approximately 30% of the world's surface and include high levels of biodiversity (Trewin et al., 2022). Their traditional knowledge and spirituality is increasingly recognized for their potential to contribute to solutions for the biodiversity and climate crisis (Pascual et al., 2022). As for forestry, this recognition coincided with the development of 'sustainable forest management', which requires an equal balancing of economic, ecological and social aspects in the management of all forests worldwide (UNGA, 2007). When global certification schemes for sustainable forest management (SFM) such as FSC (2022) and PEFC (2018) were established, spiritual – and cultural – values were incorporated in their criteria and indicators. Likewise, cultural and spiritual values were

[13] We here conceptualize 'spiritual values' as identifiable attributes of 'spirituality' (after Heintzman, 2009), but use the terms interchangeably in this paper for the sake of legibility.

adopted in the standards for SFM of IUFRO (2007) and MCPFE (2002). However, such schemes and standards refer only marginally to the implementation of spiritual and cultural values and as a consequence, their impact on forest management practices remains unknown. Our study aims at providing insights into this matter.

Overarching systematic transdisciplinary approaches to assessing spiritual dimensions of forest management are rare and even more rarely are these approaches conceptually or theoretically robust. For example, spiritual values are included in Ecosystem Services theory which has been critiqued for its rational scientific bias and its inadequacy to capture spiritual values in a non-instrumentalist way (Cooper et al, 2016; Díaz et al., 2015; Laband, 2013; Muradian, 2017). Alternatives have been proposed to overcome these shortcomings, such as biocultural diversity (Elands et al., 2015) and the IPBES approach for assessing 'Nature's contributions to People' (Pascual et al., 2022). These conceptual approaches are valuable, but not suited to systematically identifying spiritual values and understanding their specific role in forest management as we do in this article.

In the Global South, the role of spiritual practices and beliefs of IPLC has been well-documented in Traditional Forest-Related Knowledge (Parrotta & Trosper, 2012) and collaborative and participatory forms of forest management (Bulkan, 2016; Gilmour, 2016; Razafindratsima et al., 2021; Wiersum & Sands, 2013). Most studies in the Global South emphasize the importance of addressing spiritual values for several reasons: a) spiritual values are inherent in people's relationship with land, identity and knowledge (Constant & Taylor, 2020); b) they potentially make management more effective in terms of enhanced products, services, well-being or poverty relief (Jagger et al., 2022; Mavhura & Mushure, 2019); or c) they might prevent or mitigate potential or actual management conflicts arising from different worldviews (Allison, 2017; Rutte, 2011; Shanley et al., 2012). However, many studies are case-specific with limited validity and they often adopt a monodisciplinary ethnographic perspective. Most studies tend to pay more attention to spiritual and social patterns than to detailed forest management practices interacting with these patterns. Our approach combines forest management plan components and spiritual dimensions within one analytical system. Future studies in the South may benefit from this approach as well.

Research and guidance on the spiritual significance of nature in conservation management has recently consolidated its focus beyond the Global South and the role of Indigenous peoples to include religious groups and the general public in the Global North (Verschuuren & Brown, 2019; Verschuuren et al., 2021). The work done so far signals a trend of spirituality emerging at the crossroads of several research lines in human-nature relations. Firstly, the Global North has witnessed a growing public interest in spirituality in general, and a rise in "*nature-based spiritualities*" (Taylor et al., 2016: 340) in particular. Some research has been done into the public's nature-related worldviews, spiritualities and practices (Hedlund-de Witt, 2011). In this line, whether and how spiritual traditions are intrinsically conducive to pro-conservation behaviour is subject to ongoing debate, although there seems to be some consensus about the

positive contribution of Indigenous spiritualities and 'nature-based' spiritualities in this regard (Taylor et al., 2016). In the same vein, evidence is rising that spiritual experiences in nature enhance people's connection to nature and, hence, pro-environmental behaviour (Frederickson & Anderson, 1999; Zylstra, 2019). While these theories need further testing in practice, our study inquires how these practices work in the specific case of forest management.

As forest managers in the North are faced with increasingly diverse societal demands including spiritual experience and enrichment (Torralba et al., 2021), forest management schemes respond by combining a traditionally technical/ecological focus with more people-orientated forest management approaches (Focacci et al., 2017; Miller & Nadeau, 2017). Forest managers encounter a growing and diversifying array of spiritual practices in nature, such as meditation retreats, 'forest bathing' and natural burial sites (Pedroli & During, 2019). During the 2020-21 COVID pandemic, the massive influx of visitors into forest areas underlined not only the importance of forests for physical, psychological and spiritual restoration (Pichlerová et al., 2021; Weinbrenner et al., 2021), but also the vulnerability of forests to human ignorance and misbehaviour (Van Duinhoven, 2020). Forest managers will need to be better equipped to deal with these different behaviours in their management. This requires capacity development based on recognizing and understanding underlying worldviews and spiritual values. So far, this capacity has remained underdeveloped.

In sum, the significance of spiritual values for forest management in the Global North is still largely unknown (De Pater et al., 2008; Hammond & Judy, 1999). Understanding this significance enables us to ask questions about how spiritual values can or should influence forest management. The resulting insights will likely help make forest management more "effective, inclusive and equitable" (Brown & Verschuuren, 2019:6) and, ultimately, more sustainable.

3.1.2. Research focus, objective and research questions

Forest management practices in the field are directed by policies at local, national and global levels. The nexus between policies and practices are FMPs. The objective of this study is therefore to understand the significance of spiritual values in FMPs. FMPs have been defined (in Vellema & Maas, 2003:1) as "a description of decisions and activities to produce anticipated objectives with regard to use and conservation of forest in an area". They are, for instance, required in global certification schemes that apply to all forest types worldwide (FSC, 2023; PEFC, 2018). FMPs vary widely in name, scope, scale, process and planning approaches. They do not have a universal structure, but usually contain three categories of information, hereafter termed 'Components': 1) the broader context and vision in which management is constructed from knowledge, policy discourses and interactions with stakeholders, here labelled 'Principles'; 2) objectives and directions derived from these principles, here labelled 'Objectives'; and 3)

prescriptions, measures and interventions to put the objectives into practice, here labelled 'Operationalization'.

FMPs are informed by the perspectives of those involved (Van den Berg, 1999), who might in turn represent wider stakeholders' (for example, tourists') perspectives. Perspectives are value-laden, with these values also including spiritual values that may be represented in various components of FMPs. They can be explicitly named and described or implicitly embedded in texts using alternate wording. Investigating the significance of spiritual values as part of FMP components is therefore complex. It requires an understanding of spirituality and its significance in practice. Moreover, conscious deliberation of spiritual values in forest management is still in its infancy as theoretical foundation-building has hardly begun. In this study we apply the first conceptual framework to do this, developed by De Pater et al. (2021). It enables distinguishing different dimensions of spirituality and their systematic evaluation against an equally systemized set of FMP components and sub-components.

In the first place, the selection of suitable geographical locations of FMPs was informed by the above-mentioned insight that, unlike other spiritual traditions, Indigenous and 'nature-based' spiritualities are conducive to sustainable behaviour (Taylor et al., 2016). We therefore focus on these spiritualities. Secondly, the locations would have to be covered by a sufficient number of accessible FMPs for our analysis. We found two geographical locations that met these criteria and which had other advantages as well: 1) British Columbia (BC), Canada, where First Nations are gradually regaining authority over land and forests (Smith, 2013); and 2) The Netherlands (NL), where nature-based spiritualities have gained some ground in society (Bernts & Berghuijs, 2016). An initial exploration of management plans from these areas also revealed that many BC plans showed explicit references to spirituality, whereas the NL plans showed few such references, which thus poses the challenge of finding implicit references to spirituality, if any.

The two locations differ in many respects. Forests in BC (predominantly coniferous) cover 57 million ha or 60% of the province's surface[14], while the Dutch forests only cover 364,000 ha or 11% of the country's land area with coniferous and deciduous forests (Schelhaas et al., 2022). In BC, logging, timber processing and exports are an

[14] https://www.theglobaleducationproject.org/earth/global-ecology/forests-of-british-columbia retrieved/accessed on 29 November 2022.

important pillar of the province's economy[15], whereas the Netherlands depends heavily on imports as the Dutch only produce 8.5% of their timber consumption domestically (Oldenburger, 2019). In addition, population density in BC is extremely low (4.9 million inhabitants[16] in an area of 944,735 km^2 [17]), while the Netherlands is among the world's most densely populated countries (17.8 million people on 33,839 km^2 [18]). Other differences involve geography, climate and history. However, there are similarities as well. Both locations are situated in the Global North and present an overall Western-style policy environment. Forestry in both locations has largely been regulated under 'scientific' models of management, which include formal planning by professionals. However, in both locations planning processes are gradually opening up to collaborative arrangements with other stakeholders and interested parties. First Nations have been increasingly involved in the establishment of Land and Resource Use Management Plans (Dale, 2013; Devisscher et al., 2021); in the Netherlands, the involvement of citizens in management planning and implementation is now common practice, although their limited influence in forest governance has long been criticized (Buijs et al., 2011; Van Bommel et al., 2008; Wiersum, 2002). By juxtaposing these two extremely different areas – in terms of forest cover, population density and diversity, urbanization, and history – we could analyse how spirituality works in FMPs in both settings and draw lessons from commonalities and differences between the two.

In order to reach our objective, i.e. to understand the presence, content and role of spiritual values in forest management plans in the Global North, this paper is guided by the following research questions:

1) How, if at all, are spiritual values represented in FMPs in BC and NL?
2) When present, what role do spiritual values play in the various components of FMPs in BC and NL? and
3) With respect to these two questions, how do the FMPs from BC and NL compare and what conclusions can be drawn from this comparison?

In the next sections, we concentrate on uncovering the types of spiritual values represented in the underlying principles and objectives of FMPs. We then analyse how spiritual values appear in the operational components of FMPs and draw conclusions from comparing spiritual values in FMPs between BC and NL. This leads to a discussion on three themes we elicited: nature experience, spiritual use and history. Because this is

[15] https://www2.gov.bc.ca/gov/content/data/statistics/economy/bc-economic-accounts-gdp retrieved/accessed on 29 November 2022.
[16] https://www.canadapopulation.net/british-columbia-population/ retrieved/accessed on 29 November 2022.
[17] https://www.worldatlas.com/maps/canada/british-columbia retrieved/accessed on 29 November 2022.
[18] https://www.worldatlas.com/maps/netherlands retrieved/accessed on 29 November 2022.

the first time the conceptual framework has been applied to FMPs, we reflect on this conceptual model and the positionality of the researcher before drawing conclusions.

3.2. Methodology and methods

3.2.1. Methodology

The explorative character of the study justified a cross-sectional study design (Kumar, 2014) that combines qualitative and quantitative methods. Primary data were collected from FMPs through the application of a constructivist grounded theory approach (Chun Tie et al., 2019; Johnson, 2014). The constructivist perspective suits research on FMP texts, which are inevitably contingent on the researcher's perspective and interpretation. Often, FMPs do not explicitly mention spiritual values, although they do frequently contain value statements. We therefore not only examined explicit but also implicit references to spiritual dimensions, analogous to Jansen's tracing of "religious sub-texts" (Jansen, 2017: 14, 180) in Dutch policy communication. As for analysis, methodical steps derived from grounded theory were applied (see Section 3.2.4), which allowed a systematic qualitative (and, partly, quantitative) interpretation and analysis of the data (Mills et al., 2017).

3.2.2. Conceptual framework

In order to investigate spiritual forest-based values, we applied the conceptual framework by De Pater et al. (2021), in which spiritual values are expressed in nine dimensions. Phenomena may express one, more or all dimensions in different intensities. For this study, we identified the following dimensions:

D0. *Experiential-Unspecified* (unspecified spiritual experience in nature)
D1. *Experiential-Aesthetic* dimension (experience of self-transcending awe and sublimity)
D2. *Experiential-Relational* dimension (deep connectedness with the forest, trees, or the land in general)
D3. *Experiential-Restorative* dimension (experience of refreshment and renewed energy)
D4. *Experiential-Life Force* dimension (intuitive sensing of subtle, life/vital energies in forests, trees, or landscapes)
D5. *Practical-Ritual* dimension (formal or less formal actions often aimed at developing spiritual awareness or ethical insight in or for forests)
D6. *Mythical-Narrative* dimension (vital stories – myths, legends, histories, oral or written, about creation, one's place on earth, saints and heroes, etc.)
D7. *Philosophical-Ethical* dimension (intellectual underpinning of experiences, rituals, narratives and ensuing ethics and behaviour)

D8. *Material-Spiritual* dimension (physical phenomena with spiritual significance, here limited to movable items and buildings as, in fact, the whole landscape has a material dimension).

These dimensions represent the different types of spiritual values which we identified in the three components of FMPs: 1) Principles, 2) Objectives and 3) Operations. During the analysis, other units relevant to the analysis were identified inductively: attributes to the spiritual dimensions, clusters and major clusters of relevant concepts, and themes based on the major clusters. These are explained in Section 3.2.3. An explanation of terms is presented in Appendix 3.A and all units are described in detail in Appendix 3.B.

3.2.3. Methods

Twenty FMPs were selected by cluster sampling (Kumar, 2014: 240), ten plans in/for each study area. Criteria for selection in both areas were: ownership or tenure (in BC: First Nation tenure or involvement, in the Netherlands: an even spread across ownership, see below); a more or less recent time frame; a dominance of forests in the plans; and geographical coverage. A list of selected FMPs is presented in Table 3.1. and the locations are presented in Figures 3.1 and 3.2. Considering that data saturation is not only dependent on sample size, but also on the depth of data (Fusch & Ness, 2015), data saturation was here reached when the researchers inter-subjectively agreed that adding additional plans for analysis would not yield any new insights as patterns started repeating themselves.

Plans in British Columbia were retrieved from various websites listing management plans for forests with some form of Aboriginal tenure or resource rights and were selected on the basis of an even distribution over the province's forest areas. Most forest management plans in BC have been published on the Internet, both by the Government of British Columbia and sometimes by First Nations. In the latter case, plan texts explained the process of establishment inputs by communities and referred to websites for implementation and progress. Some plans did not state an implementation period, but did foresee further phases in implementation or exploration, or prescribed adaptive management with corresponding monitoring structures. Many plans stated they would not hinder on-going treaty processes between First Nations and the BC Government.

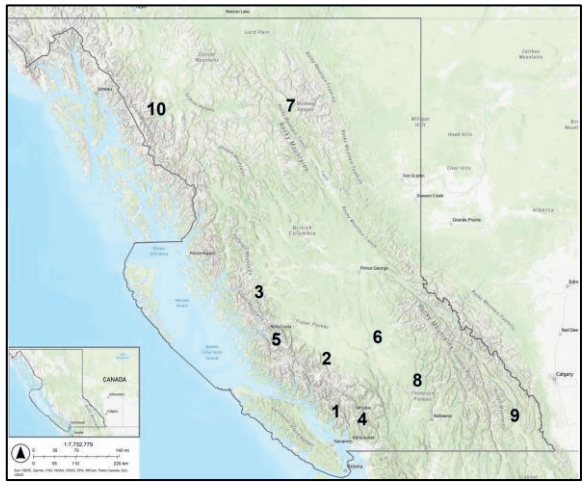

Figure 3.1. *Location of BC plans*

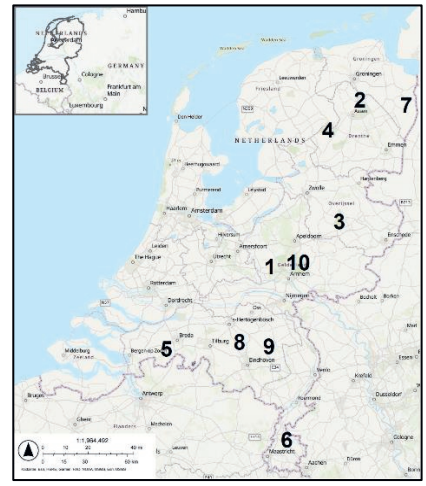

Figure 3.2*. Location of NL plans*

Table 3.1. *Forest Management Plans sampled*

	Title/unit	**Author/owner**	**Total Area**	**Period/ remarks**
BC, Canada				
B01	Xay Temíxw Land Use Plan 1st Draft 2001 (first phase)	Squamish Nation Land and Resource Committee	673,540 ha	n.a.
B02	Sea-to-Sky LRMP 2008	BC Min. of Agr. And Lands & First Nations	1,091,000 ha.	n.a.
B03	Great Bear Rainforest Order 2016	BC Province, Ministry of Forests, Lands and Natural Resource Operations	3,108,876 ha.	Till 31 March 2025
B04	Say Nuth Khaw Yum / Indian Arm Provincial Park Mgt. Plan 2010	Collaboration between TsleilWaututh Nation and Say Nuth Khaw Yum / Indian Arm Provincial Park Mgt. Board (BC Prov.)	6,821 ha.	10-20 years
B05	Heiltsuk Land Use Plan Highlights, n.d.	Heiltsuk Tribal Council and Heiltsuk Yímas Council	n.a. (appr. 800,000 ha)	n.a.
B06	Lakes District LRMP 2000	BC Province, Lakes Resource Council (First Nations informed)	1,580,000 ha.	10 yrs.

B07	Peace Moberly Draft SRMP 2006	BC Province, Saulteau First Nation, West Moberly First Nation	109,000 ha.	2000-2010
B08	Okanagan Sushwap LRMP 2001	>30 public and govt. participants. (First Nations informed).	2,500,000 ha.	n.a.
B09	Southern Rocky Mountain Mgt. Plan 2003	BC Min. of Sust. Res. Mgt. & stakeholders (Ktunaxa Nation informed)	362,819 ha	n.a.
B10	Cassiar-Iskut Stikine LRMP 2000	BC Province w. Planning Table including Tahltan Nation.	5.200,000 ha.	n.a.
Netherlands				
N01	Bosbeheerplan Gemeente Ede	Borgman Beheer, Gemeente Ede and 5 Working Groups	2,461 ha	2010-2022
N02	Drentsche AA	Staatsbosbeheer	4,523 ha	2018-2030
N03	Sallandse Heuvelrug	Staatsbosbeheer	2,543 ha	2017-2029
N04	Drents-Friese Wold	Staatsbosbeheer	4,736 ha	2016-2028
N05	Turfvaartse Landgoederen	Natuurmonumenten	764 ha	2015-2033
N06	Geleenbeekdal	Natuurmonumenten	285 ha	2016-2033
N07	Westerwolde	Staatsbosbeheer	2,628 ha	2018-2030
N08	Kampina & Oisterwijk	Natuurmonumenten	2,010 ha	2016-2033
N09	Laarbeek	Bosgroep Zuid-Nederland, Gemeente Laarbeek	185 ha	2016-2026
N10	Planken Wambuis	Natuurmonumenten	2,284 ha	2008-2025

3.2.4. Data analysis

We analyzed the FMPs using Atlas.ti 9. We searched texts, tables and annexes for quotes, i.e. text fragments, illustrations, captions, etc. and coded them in three rounds of initial, focused and theoretical coding respectively (Chun Tie et al., 2019).

Firstly, coding was done deductively by looking for references to the aforementioned spiritual dimensions and components of the FMPs. As we applied the codes, we kept in mind that: 1) for quotes to be labelled 'spiritual' their mere wording is often not sufficient; their context, too, is important. For example, beautiful scenery or outdoor recreation is not 'spiritual' per se, and not every individual's aesthetic experience is

'spiritual'. Such experiences cannot be steered. However, managers can increase the landscape's potential to evoke spiritual experiences, e.g., by enhancing its visual aesthetics or by banning disturbances. In his thesis on "the sublime", Roncken (2018) distinguishes six levels, marking the highest two as 'spiritual'. We adopted his line of thinking in our coding approach. Likewise, for other dimensions of spirituality, we also looked at text fragments near the quote in question. For instance, 'quality of life' as such is not necessarily 'spiritual', but when it is made to relate to 'community values' including 'sense of identity, place and spirituality', coding the quote as 'spiritual' is justified. For each code we noted our considerations and assembled these in a codebook (Dataset De Pater, 2022, see page 74).

An initial coding list was used to trace spiritual dimensions. Simultaneously, the FMP components were inductively searched for operational specifications, which were labelled as 'operational codes' when found. This round provided insight into the distribution of each dimension across all plans. In order to compare the locations, we used relative percentages. Correction for document length (numbers of pages) was done, but proved unnecessary as it yielded the same distribution pattern as uncorrected figures. The data furthermore provided an overview of co-occurrences between spiritual dimensions and management components for NL and BC (visualized in fig. 4).

Secondly, focused coding was applied in two sub-rounds, independently of the deductively derived coding in step 1. To start with, all texts were inductively searched for attributes of spiritual dimensions and their significance for the FMP components. This resulted in a set of 24 attributes specifying the nature or context of spiritual dimensions in the 20 plans (research question 2), then all quotes were examined again to elicit common clusters that linked dimensions, attributes and operational codes to the three components. This resulted in 17 clusters (element A in fig. 5), which were combined into 9 major clusters, 3 for each component (see fig. 3.5, element C).

Thirdly, integrative coding was applied in order to compare and explain the distribution of spiritual values in BC and NL, and thus answer the third research question. Three broad themes emerged from the co-occurrences of the clusters with spiritual dimensions: *'Nature experience'*; *'Spiritual use'*; and *'History'* (see fig. 5, element D). The themes are described in Section 3.3.3.

3.2.5. Reliability check

We mixed the list of documents from BC and NL in each round of coding and frequently compared codes in order to increase reliability. Where necessary, adjustments were made to the codes and explained in comments and memos (see previous paragraphs). An independent researcher carried out a reliability check by re-coding three pages each from ten plans randomly selected from the sample. The differences in interpretation were then discussed and adapted where necessary. The results showed 80% concurrence with the original coding, which was subsequently reviewed for consistency

in order to increase reliability. All data are stored in Mendeley Data (Dataset De Pater, 2022).

3.3. Results

In order to understand the presence, content and role of spiritual values in forest management plans, we analyzed both the basic frequencies in which the nine dimensions occur in the plans and the frequencies in which the dimensions co-occur with one or more components of the plans. In both cases, we found the same patterns of distribution, albeit with different numbers. The presence of spiritual dimensions is described in Section 3.3.1, and their role in FMP components is explained in Section 3.3.2. We then present the clusters and themes found in the second and third rounds of coding to elicit issues that could explain differences in forest spirituality between BC and NL (Section 3.3.3).

3.3.1. Presence of spiritual values

Spiritual dimensions were found to be widely present in all FMPs; however, their spread over the different dimensions and plans varies greatly. The NL plans are more concentrated on the *Experiential* and *Mythical-Narrative* dimensions than the BC plans, while the latter show a broader spread over the nine dimensions.

A total of 1,434 codes for spiritual dimensions were found across all FMPs. Fig. 3.3 shows the percentages of the spiritual dimensions within each location and the total. More data are presented in Appendix 3.C. The *Experiential-Aesthetical (D1)* dimension is strongest of all (24%). Five other dimensions score medium high: the *Experiential-Unspecified (D0), Experiential-Relational (D2), Practical-Ritual (D5), Mythical-Narrative (D6)* and *Philosophical-Ethical (D7)* dimensions (11%-15%). Lastly, three dimensions show low frequencies: the *Experiential-Restorative (D3)*, *Experiential-Life Force (D4)* and *Spiritual-Material (D8)* dimensions (1-7%).

BC takes up 58% of all codes, with NL accounting for 42%. All dimensions except D0, D1 and D6 have higher frequencies in the BC plans than in the NL plans. D0 and D1 reflect references to 'nature experience' or unspecified 'spiritual experience', which occur more often in the NL plans than in the BC plans. The higher frequency of the *Mythical-Narrative* dimension (D6) in the NL plans can be attributed to the frequent descriptions of the area's history and related cultural-spiritual values in these plans.

3.3.2. Role of spiritual values

Almost half of all spiritual dimensions are expressed in Component 3 of the plans, Operationalization, while the other half are expressed in both Principles and Objectives, at a quarter of all dimensions each. This means that many spiritual values are linked to measures and interventions in the plans, and therefore have some potential bearing on the implementation of forest management. However, the distribution of the various dimensions over the components differs widely between BC and NL.

The role of spiritual values in FMPs was analyzed by counting and interpreting the co-occurrences of spiritual dimensions with the three components of the FMPs: Principles (C1), Objectives (C2) and Operations (C3). Overall, Table 3.2 shows that spiritual dimensions are almost equally expressed in both Principles and Objectives (26% and 28% resp.) and that the majority is expressed in Operations (46%). Some spiritual dimensions occur more prominently than others. FMP Principles (C1) are dominated by the *Experiential-Relational (D3)* and the *Philosophical-Ethical (D7)* dimensions, while the Objectives (C2) are dominated by the *Practical-Ritual (D5)* dimension, and the Operations (C3) are dominated by the *Experiential-Aesthetical (D1)* and *Experiential-Unspecified (D0)* dimensions.

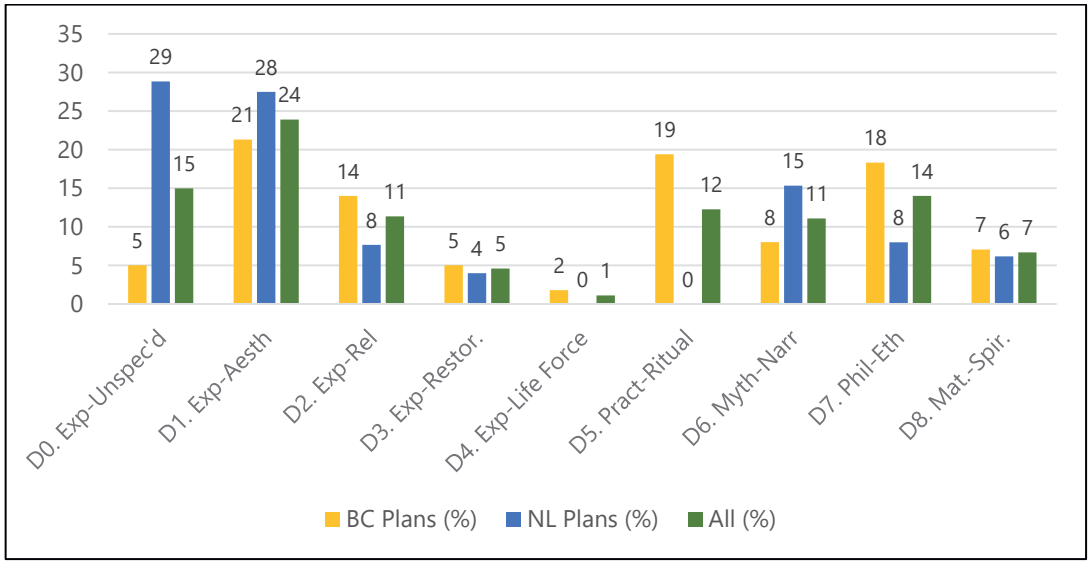

Figure 3.3. *Distribution of Spiritual Dimensions over both locations and all plans together (%, N=1,434)*

The *Experiential-Aesthetic (D1)* and *Experiential-Unspecified (D0)* dimensions score strongest overall. They score especially strongly in Operations (C3) and they also score relatively highly in Principles (C1) and Objectives (C2) in the NL plans, but not in the BC plans. Both dimensions are tightly linked to each other content wise. Interventions to promote nature tourism and thus enhance visitors' experiences in nature (unspecified or aesthetic) are frequently mentioned in these parts of the plans. Particularly the visual quality of the landscape is often addressed: "*Within these scenic areas, emphasis will be placed on maintaining the aesthetic values to support recreation, tourism and a quality of life." (B10/18:60).* Some plans emphasize the area's 'wilderness': *"The following area-specific direction applies: Maintain the remote and wild character and opportunities for a cultural experience" (B02/2:101).* Zoning is frequently applied, as this example shows: *"To retain the remote character of the [Wildland] Zone and associated high quality of wilderness experience for First Nations cultural uses and commercial and non-commercial backcountry recreation." (B02/2:88).* Other measures include regulating extractive industries to minimize impact on visual quality, protection and the responsible use of forests. Communication and education are also deployed to facilitate the experience of nature, especially for young persons*: "SBB intends to make nature attractive for more children to encounter and play outdoors. We invite children to experience the feeling of freedom and adventure, to enjoy themselves, to move and discover. Thereby we choose an approach through heart (experience), head and hands" (N03/10:25).*

The *Experiential-Relational (D2)*, *Practical-Ritual (D5)*, *Mythical-Narrative (D6)* and *Philosophical-Ethical (D7)* dimensions all show medium overall scores. They are more or less equally expressed in each of the FMP components; their overall contribution to the total of the components varies greatly, though, as their absolute numbers diverge markedly. Each of these dimensions also shows quite different scores for the two locations.

The *Practical-Ritual* (D5) dimension scores highest of all (together with D1) in the BC plans, while it is extremely low in the NL plans. This dimension is strongly expressed in the Operations (C3) and Objectives (C2) components, and, more weakly, in the Principles component (C1). In the Operations component, it is often linked to protection in BC: *"Within Conservancies …. The primary … intent is the maintenance of social, ceremonial, and cultural uses by First Nations, the protection and enhancement of cultural and heritage resources to enable the expression of a connection to the land" (B02/2:108).*

The *Experiential-Relational (D3)* and *Philosophical-Ethical (D7)* dimensions are similar in overall scores, with slight variations. D3 is strongest in the Principles (C1) component and weakest in Operations (C3), while D7 is strongest in Operations (C3), less strong in Principles (C1) and rather low in Objectives (C2). These two dimensions score highly in the BC plans, but low in the NL plans. To quote an example of D3: *"The Park […] also contains sensitive cultural heritage resources with deep connections and significance to the Tsleil-Waututh Nation," (B04/4:25);* and an example of D7: *"'Gví'il.ás is a set of customary laws that governs the overarching system of the Heiltsuk. The word ˜7áxvái*

translates as the "power" or "authority" people derive from their ownership of and connection to the land. It is a complex and comprehensive system that embodies values, beliefs, teachings, principles, practices and consequences" (B05/5:12).

***Table 3.2**. Number and percentages of coded spiritual dimensions per FMP component, i.e. co-occurrences (N=2465)*

	FMP Component							
	N (absolute number)				**Relative % of each spiritual dimension**			**Overall % of each spiritual dimension**
Spiritual Dimension	**Prin ci-ples**	**Objec -tives**	**Opera-tions**		**Princi -ples**	**Objec -tives**	**Opera -tions**	
	C1	**C2**	**C3**	**Total**	**C1**	**C2**	**C3**	
D0 Experiential-Unspecified	74	83	235	392	19	21	60	16
D1 Experiential-Aesthetical	125	101	321	547	23	18	59	22
D2 Experiential Relational	116	99	92	307	38	32	30	12
D3 Experiential-Restorative	17	59	53	129	13	46	41	5
D4 Experiential-Life force	13	6	7	26	50	23	27	1
D5 Practical-Ritual	58	127	146	331	18	38	44	13
D6 Myth-Narrative	90	81	83	254	35	32	33	10
D7 Philosophi-cal-Ethical	124	78	127	329	38	24	39	13
D8 Material-Spiritual	35	52	63	150	23	35	42	6
Total All Plans	652	686	1127	2465	26	28	46	100
Total BC	410	406	674	1490	28	27	45	100
Total NL	242	280	453	975	25	29	46	100

The *Mythical-Narrative* (D6) dimension is evenly distributed over the three components. It scores third highest in the NL plans, but sixth in the BC plans. This is a typical example of D6: "*Visitors need explanation/education. When people get to understand what they see, for example through a signboard or a story by an excursion guide, experience becomes more intense" (N01/6:42).*

The *Experiential-Restorative (D3)*, *Experiential-Life Force (D4),* and *Spiritual-Material (D8*) dimensions show low scores with all components, too low to assess co-occurrence with

any of the FMP components or differences between BC and NL. The following quote refers to D3 and D4: "*I need to be in the wilderness to gain the spiritual strength for my work. You need to be at a place where nobody has been, a place that is your own…." (B01/1:66).* An example of D8 is: *"cutting selected trees for ceremonial or artistic purposes" (B01/1:215).*

3.3.3. Clusters and themes of spiritual dimensions

The themes emerging from the last round of compilation and their co-occurrences with spiritual dimensions (see 2.4) are presented in fig. 5. Due to a lack of space here, the description of these themes and underlying attributes is presented in Appendix 3.B. However, they are reflected in the final compilation in three themes labelled '*Nature experience*', '*Spiritual use*' and '*History*'. The themes are detailed below.

'Nature experience'

'Nature experience' as a theme refers to the many operational sections of FMPs that discuss nature and 'wilderness' tourism, communication, education, zoning and scenic landscapes; in consequence, they frequently show references to spiritual dimensions – especially the *Experiential-Unspecified (D0)* and *Experiential-Aesthetical (D1),* and, to a lesser extent*, Experiential-Relational (D2)* dimensions. The theme appears strongly in both BC and NL. To quote a BC plan: *"At Bishop Creek, moorage, overnight camping, hiking trails and other day-uses would be augmented by a Tsleil-Waututh Replica Coast Salish Village providing visitors with a cultural experience…" (B04/4:72).*

Scenic landscapes and 'wilderness' are strongly emphasized in plans for both locations. BC plans prescribe their maintenance and protection not only for tourism development, but also for "*quality of life." (B10/18:60).* The NL plans actively seek to restore degraded scenic landscapes: *"we want to give space for several firs to grow impressively high and thick. Of course, we maintain the old, monumental Scots pines in the […] forests because of their high experiential values" (N08:22:42).*

Several NL plans aim to perpetuate the 'wilderness' character of the area to enhance not only biodiversity values, but also nature experiences. Some plans prescribe zero interference, other plans foresee active interventions to this end, even to the point of deploying machines to restore biodiversity and *"savage beauty",* as the title of one plan has it (N10).

Measures like protection and responsible use are not strongly linked with experiential values in the NL plans, while they are in the BC plans, as this quote testifies: "*[…] protected areas planning to ensure conservation of identified values both within and adjacent to protected areas, as well as sustainable tourism, recreation and traditional use of protected areas;" (B06/14:102).* On the other hand, many NL plans discuss the rationale of enhancing visitors' nature experiences for conservation purposes and overcoming impediments to this goal. For example: "*Nature conservation starts with*

nature experience; therefore, Natuurmonumenten considers it highly important that people themselves experience wonder and fascination for the landscape, nature and our rich cultural history. We want to […] co-operate to enhance the experience of nature" (N06/13:50).

'Spiritual use'

The theme of '*Spiritual use'* comprises 1) 'connection with land' as principle and moral consideration; 2) directions to realize this connection through traditional knowledge and practices; and 3) prescriptions and measures to use the land wisely. This theme is mainly manifest in BC, but not in NL. The BC plans show a strong emergence of the *Practical-Ritual (D5), Philosophical-Ethical (D7), Experiential-Relational (D2), Mythical-Narrative (D6),* and *Material-Spiritual (D8)* dimensions in this theme. These dimensions are well elaborated in the plans' principles and objectives, but are somewhat less elaborately articulated in operationalization. Specifically, the above-mentioned dimensions emerge in: 1) descriptions of First Nations' and settlers' ancient ties with the land: *"Our relationship to this land is ancient, complex and sacred" (B05/5:2);* 2) objectives to restore and enhance connections with the land, the land's healing potential, traditional land use, and holistic ways of living, as this quote illustrates: "*[t]o protect and enhance opportunities for First Nations cultural education as it relates to the land and natural resources" (B02/2:35);* and 3) interventions like zoning, protection, responsible use, and youth and adult education to operationalize these objectives. For example, one plan prescribed the zoning of Wild Spirit Areas (WSPs), which would "*be maintained in their natural state while allowing for a full range of traditional cultural, spiritual and other compatible uses. Through the establishment of WSPs, the Nation will provide for the continuity of the community's cultural connection to the land, while allowing for their use and enjoyment by visitors who respect and honor these areas." (B01/1:211).*

'History'

The *'History'* theme comprizes references to spirituality in texts about historical roots, historical awareness, and history education, which are frequently linked to the *Mythical-Narrative (D6)* dimension. The theme is present in both BC and NL plans, albeit in different ways. In the BC plans, the *Mythical-Narrative* dimension often goes together with the *Experiential-Relational (D2), Practical-Ritual (D5),* and *Philosophical-Ethical (D7)* dimensions. Many BC plans quote First Nations' historical arguments to stress their ancient ties with the land. For example, according to the Squamish Nation, "*the significance of the land extends beyond the archaeological sites […] The whole traditional territory holds a legacy of language, tradition, legend, spirituality and use that closely links the people to their territory" (B01/1:45).* However, these linkages only appear in Component 1, Principles, and they are hardly reflected in Operations (C3).

In the NL plans, history is almost exclusively linked to the *Mythical-Narrative* dimension, which emerged as the overall third strongest dimension in the NL plans. Here, too,

historical awareness is emphasized in the Principles component, but it is also present in Objectives and, to some extent, in Operations. Many NL plans emphasize the importance of connecting people to nature (*Experiential-Relational* dimension, D2) through historical awareness-raising through communication and education: *"The forests […] are rich in elements of cultural history. From sheepfolds to hedgerows, the landscape reflects history to an important degree. It is indicated that only few visitors are knowledgeable about that past [… By pointing people's attention to this cultural history, the landscape can be better understood and experienced" (N06/6:26*).

3.4. Discussion

In this section we reflect on the results. Section 3.4.1 discusses the overall findings in the light of the research questions. In Section 3.4.2 we reflect more deeply on the three resulting themes and how they compare with existing literature. Finally, we discuss the merits and limits of the conceptual framework, methodology and methods applied in this research (Section 3.4.3).

3.4.1. Reflection on the findings in relation to the research questions

The aim of this study was to elicit the presence, content and role of spiritual values in forest management plans in BC and NL. We first discuss the presence of spiritual values in FMPs (Research Question 1), and then address the role spiritual values play in the various components of FMPs (Research Question 2). As similarities and differences between the plans from British Columbia and the Netherlands surfaced from the start, we discuss these simultaneously in these two paragraphs. (Research Question 3). We continue this comparison in Section 3.4.2.

Our results show that a variety of spiritual values is present throughout the plans. However, the 'dimensions' of spirituality present themselves differently in the two locations. In general, the BC plans show a broader spread of dimensions than do the NL plans; the former addressed experiential as well as practical-ritual and philosophical-ethical dimensions, while the latter appeared to concentrate on the experiential and mythical-narrative dimensions of spirituality. It is not surprising that experience features strongly in both locations, as scenic beauty and tourism are important in both plan sets, albeit in different landscapes and on different scales. The larger spread over the other dimensions in BC may be attributed to the many texts that reflect First Nations' worldviews on, for instance, spiritual relationship with the land, maintenance and revival of cultural and ceremonial practices, and philosophical-ethical underpinnings of responsible use. Similar 'ecospiritual' worldviews exist in NL (and among non-Indigenous inhabitants in BC for that matter), but were not expressed significantly in Dutch FMPs, although several plans mention the involvement of residents and other stakeholders in the planning process.

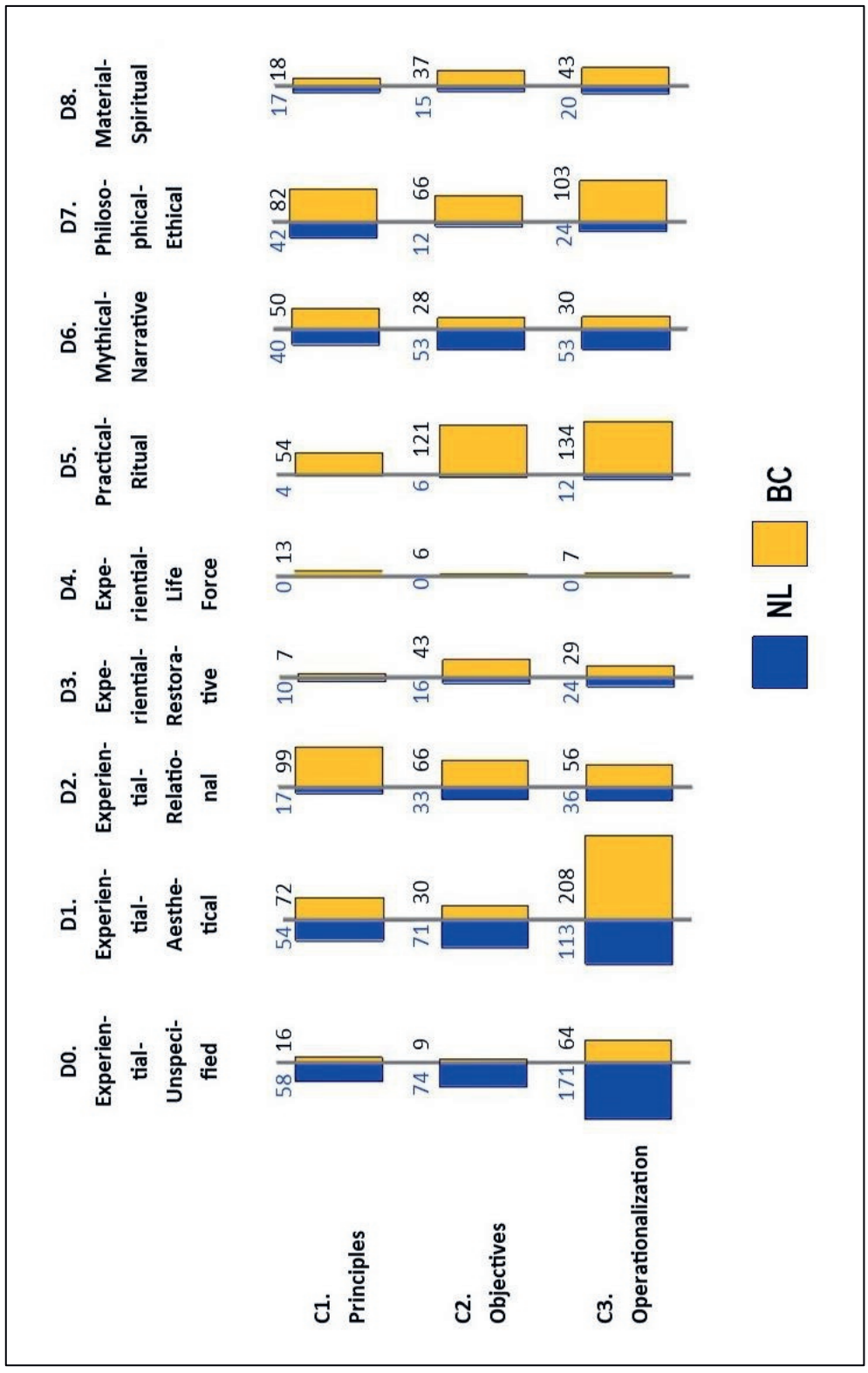

Figure 3.4. *Significant co-occurrences of Spiritual Dimensions with Components (in numbers per location)*

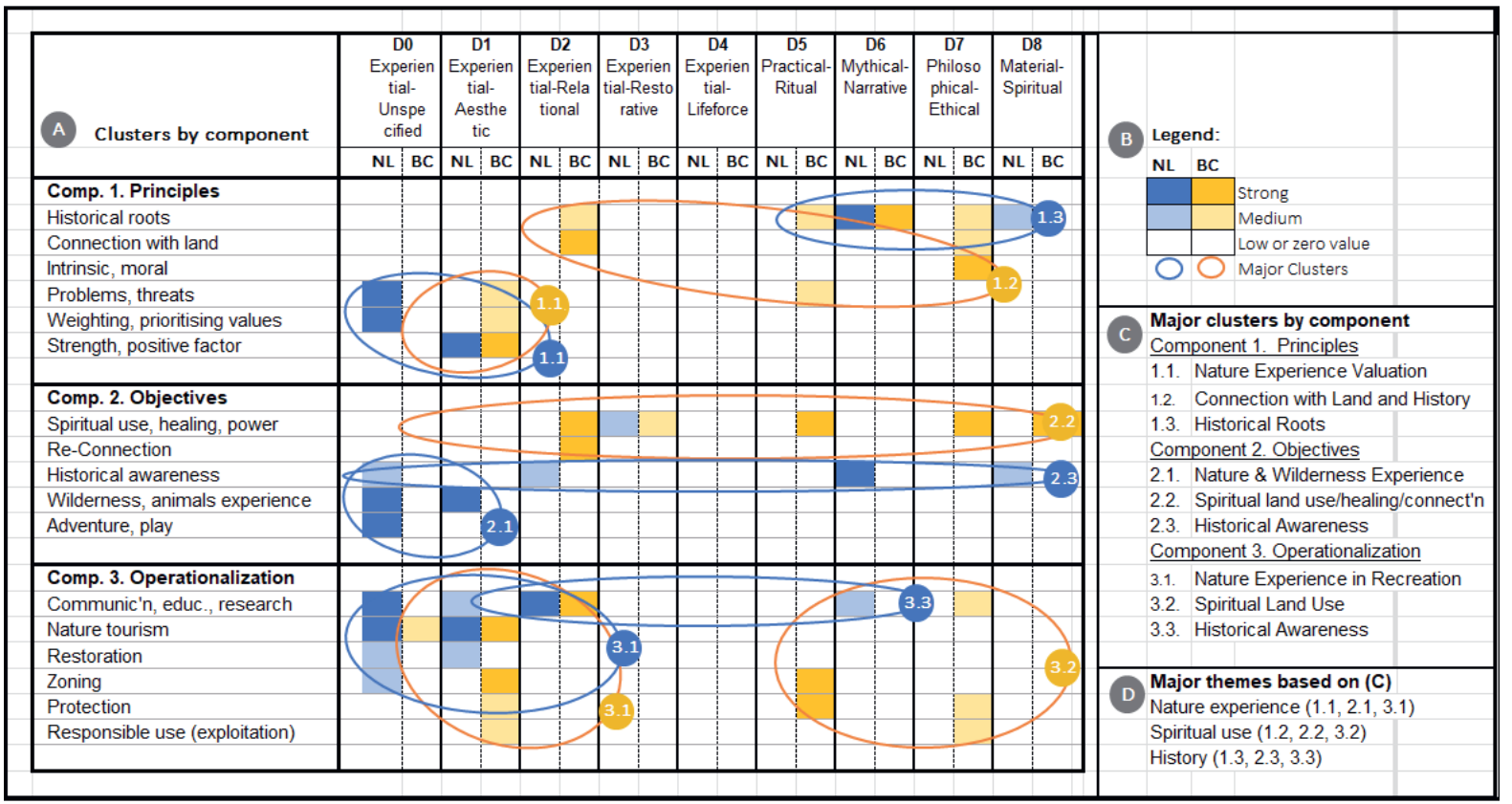

Figure 3.5. *Relations between spiritual dimensions, forest management plan components, recurring clusters (A), major clusters (C) and major themes (D) in both plan locations. The coloured cells (B) represent co-occurrence of clusters and spiritual dimensions. For explanation, see Section 3.3.3.*

The role of spiritual values is most manifest in the operational components of the plans, which cover half of all references to spirituality in the texts. It is therefore clear that the requirements to address spiritual values in the global forest-related policy documents have been operationalized to a considerable extent at the more concrete planning levels. The spread of the different spiritual dimensions over the components shows largely the same variation as above, and can be explained by the same reasons. This implies that an analysis of such initiatives may contribute to making global forest-related policies better equipped to provide advice on management implementation and guidance.

Our analysis may not have revealed the whole range of spiritual dimensions. In particular, the *Experiential-Life Force* dimension (D4) was hardly represented in the plans. This dimension refers to the 'energy' or 'power' inherent in land and life forms that can only be intuited by subjective experience; Ivakhiv (2005) describes its many global manifestations as 'Earth mysteries'. Only three BC plans (B01, B04, and B05) refer to this dimension in a total of a mere 15 quotes, the majority of which from illustrative interviews with First Nations members. References to D4 are completely absent in the NL plans. However, we know from informal sources that at least three of the NL plan areas (N02, N03, and N08) were treated by 'energetical healing' (ECOintention 2023; Van den Brand, 2011). Apparently, references to 'life force' were not considered suitable or important in 'science-based' forest management plans.

3.4.2. Reflection on the themes in the light of literature

We discuss the three themes described in 3.3, as they encompass the underlying clusters, dimensions and components. As for Theme 1, our findings about spiritual experience in nature concur with Heintzman's (2011) empirical findings that "naturalness of wilderness" (2011:91), solitude, nature-based recreation and education are conducive to visitors' spiritual experiences and could therefore be encouraged through forest management. In Europe, Torralba et al. (2020) confirmed that there is indeed potential for expanding forest visitors' "spiritual enrichment" among other cultural ecosystems services such as "bird/nature watching, aesthetic appreciation, artistic activities and outdoor recreation" (2020:7). The fact that spiritual enrichment can be facilitated by straightforward measures such as enabling access, clearing sightlines, and enriching forest structure may explain the high presence of the *Experiential-Aesthetical* and *Experiential-Unspecified* dimensions in Operations (C3). In addition, government regulations to stimulate the maintenance of scenic landscapes may also be an explaining factor in BC. As for the Netherlands, the efforts to maintain and even 'develop' 'wilderness' for conservation purposes is also a response to, among others, the public's increasing demand for nature experiences, as we have seen. Therefore, in this densely populated country with no undisturbed nature left, even man-made 'wilderness' landscapes may contribute to a fulfilment of spiritual needs (Wolf, 2012).

'Spiritual use' (Theme 2) is well articulated in the Principles and Objectives categories of the BC plans, but occurs less frequently in Operations (C3), with the exception of zoning and protection. An explanation might be that it is more difficult to make 'the spiritual' explicit in operations like responsible harvesting, hunting, and gathering than in experience-facilitating measures such as nature tourism. Spiritual dimensions can be attached to 'ceremonial use', but when are harvesting and hunting spiritually inspired? *'Spiritual use'* refers to deeper-seated domains in the human spirit – such as worldviews and ontologies – which imbue and inform our interactions with physical reality. William James (2002 [1902]: 380-81) described this 'informing' as the 'noetic quality' of mystical experience: *"[…] mystical states seem to those who experience them to be also states of knowledge. They are states of insight into depths of truth unplumbed by the discursive intellect. They are illuminations, revelations, full of significance and importance, all inarticulate though they remain; and as a rule, they carry with them a curious sense of authority for after-time"*. Therefore, while the mystical revelations are, in James' words, 'inarticulate', they do give authoritative insights, through myths, songs, and many other ways in which traditional knowledge is articulated (Berkes, 2012; Stevenson, 2013).

As for *'History'* (Theme 3), this theme is frequently deployed to connect people with nature in the NL plans; operationalization appears to be problematic in BC plans, however, although the theme is frequently mentioned in the other components. This apparent imbalance can be explained by the historical context of the BC plans. Most BC plans were established in the early parts of this millennium, in the aftermath of vehement forestry-related conflicts compounded by land rights and conservation struggles, and a colonial history that left First Nations despoiled and traumatized. The plans were the outcomes of the Land Resource Management Planning (LRMP) approach that was adopted in the mid-1990s as a way to solve this "war on the woods" (Dale, 2013:225) by modern conflict resolution methods. First Nations' participation varied from absence in the process to participation in, or even full ownership of, the plans; their interests were anyway reflected in the plans, if only because planning regulations prescribe their participation (Dale, 2013; Saarikoski et al., 2013). However, in this sensitive context a stepwise approach was understandable, e.g. through zoning and deferring detailed decisions to lower-scale planning. The historical context may also explain why First Nations' aims to reconnect with land are frequently mentioned in the Objectives components, but mythical-historical connections hardly occur in Operations components of BC plans. History is still alive, according to Mercredi and Turpel (1993:13-14, in Dale, 2013:216): "*It is important for First Nations to tell their stories [...] For First Nations peoples, history defines the present; it is not something to be set aside for a better tomorrow [...] history keeps coming up and will probably always do [so]"*. This painful history may render Native collaborators hesitant about operational decisions. A second explanation may be that First Nations' conceptualizations of 'cultural heritage' are broader than what is covered by governmental legislation (Mason, 2013) and are thus only partly represented in operational texts. Thirdly, narratives may actually have been addressed, but not formulated as such in educational and cultural programmes in

the plans and were therefore not detectable (see Artelle et al. (2018) for a similar argument).

3.4.3. Reflection on conceptual and methodological approach

We discuss strengths and weaknesses of the conceptual approach, data selection, analysis and validity. The conceptual framework (De Pater et al., 2021) proved to be suitable for investigating spiritual significance in forest management plans. Its wider applicability in forest management practices and forest managers' experiences has not yet been assessed. So far, the framework has proved to require some familiarization for those not versed in the original 'seven dimensions of religion' (Smart, 2002). This capacity is a precondition for the framework's replicability.

Another question is whether our implementation of the framework has inadvertently been biased towards Indigenous or non-Indigenous spiritual insights. Studies and practices that do address Indigenous spiritualities in management or policy-making often 'integrate' Indigenous spiritualities into rational scientific approaches, which is increasingly recognized as a form of disembodiment of knowledge, or co-optation (Latulippe & Klenk, 2022; Htoo et al., 2022). The framework was designed to treat all spiritualities equally, as it was based on Smart's original work aimed at casting off Eurocentric biases in religious scholarship (Smart, 1996; Von Stuckrad, 2003). The forest management we examined with the framework are definitely rational-scientific (see above); however, we studied them not to elicit Indigenous spiritualities as such (that would require a quite different approach), but to see how spiritual values – indigenous or not – emerged in the plans. While interpreting the texts we realized that many references to Indigenous spirituality are secondary, in the sense that they had to be formulated in the more or less 'technical' language of the management plans, and that Indigenous writers or collaborators of the plans were not always willing to reveal all their knowledge and insights (Mason, 2013; Lewis & Sheppard, 2013).

As for data selection, we should ask ourselves in hindsight whether the plans from BC and NL adequately represented the two 'nature-friendly' spiritualities that served as a basis for selection of these locations: Indigenous and 'nature-based' spiritualities respectively. To answer this question, we first need to know how stakeholders adopting different perspectives could influence the plans. As discussed in 4.3, the BC plans resulted from intensive consultation processes in which First Nations had a distinctive though varying part; in our study we found many references to Indigenous spirituality indeed (and to non-Indigenous spiritualities too, e.g. in nature experience). However, we also noted above that the technical structure of the FMPs may hamper representation of Indigenous spirituality, and that other forms of management appear to be more adequate. As for NL, plans are usually professional deskwork, often drawn up after interaction with stakeholders and the public. Whether and how 'nature-based' spiritualities find their way into these plans is unknown. Hardly any plans mention spirituality explicitly, not even where we know that it played a role. This is in contrast

with reports about upcoming 'nature-based spirituality' in society (Hedlund-de Witt, 2011). Apparently, forest professionals are still reluctant to speak openly about spirituality (De Pater et al., 2008; Terhaar, 2005), although they do express their spiritual concerns in individual conversations. Perhaps the increased public attention for nature and its healing potential during the COVID-19 pandemic (Rousseau & Deschacht, 2020) might reduce this reluctance. Research beyond FMPs is needed to answer the question; here, the two spiritualities were only the basis for selection, not the main object of research.

As for data analysis, reading and interpreting texts is subjective and therefore requires reflection on the position of the researcher in the process. As Dutch researchers with multi-cultural work experience, we were careful to recognize our biases and bracket them to avoid undue judgments in interpreting the texts. More so than with the BC plans, interpretation was a challenge with the NL plans since spiritual values were often implicitly indicated in these plans. Other than in interviews, interpretations could not be verified by feedback from partners (Kumar, 2014). Therefore, interpretations were checked against our own work to yield grounded results. Despite our best efforts, we cannot completely rule out the 'grey area' of subjectivity that remains.

As for validity, by selecting plans from two research areas with highly diverging geographical and social conditions, we hoped to find results that would have some validity for the range of conditions in between. For example, since the *Experiential-Aesthetical* dimension features strongly in nature tourism at both locations, we might expect the same elsewhere. Validity, however, cannot be guaranteed in view of the qualitative nature of our research. Instead, we did everything possible to ensure its transferability – or external validity, according to Kumar (2014) – by thoroughly documenting all parts of the research process.

3.5. Conclusions

This study is the first interdisciplinary classification of spiritual values in forest management based on the conceptual framework published by De Pater et al. (2021). It was applied to forest management activities as prescribed in forest management plans in BC and NL. This study demonstrates that spiritual values are present in FMPs in both BC and NL, not only in abstract principles or objectives, but also in their concrete implementation. While we cannot say unequivocally that the operationalization of spiritual dimensions in the FMPs benefited from global policy processes, we suggest that a closer analysis of FMPs might contribute to making these policies better equipped to support the spiritual dimensions of forests in management implementation. However, the extent to which spiritual dimensions are addressed differs per theme and location. An examination of these differences has yielded the following insights:

Firstly, *'Nature experience',* especially in scenic landscapes and 'wilderness', is the most important theme addressed and operationalized in both locations. This corroborates existing literature that demonstrates the potential of forests and nature for spiritual experiences – aesthetic or otherwise – which may possibly induce environmental behaviour or lifestyle (Garfield et al., 2014; Zylstra et al., 2014). As this theme was found in two very different countries – predominantly 'natural' versus predominantly 'urban' – we may deduce that this potential is a widespread phenomenon in the Global North.

Secondly, the theme *'Spiritual use'* was found in British Columbia, where long-nurtured relations with land, moral considerations, and spiritually motivated practices are important drivers for a wise use of the forest. This leads to the conclusion that not only the *Experiential* dimensions of spirituality are conducive to environmental behaviour; rather, *Practical-Ritual*, *Philosophical-Ethical* or even *Material- Spiritual* dimensions can play that role as well. These dimensions evoke spiritual significance to *action* – in this case, the *use* of the forest which should be done wisely. In other words, it is not only a sublime landscape that can inspire 'green' behaviour; berry-picking, tree cutting or hunting can also be spiritually imbued. This finding corresponds with the holistic views on nature published by Indigenous scholars (Kimmerer, 2013; Yunkaporta, 2020).

Thirdly, we also saw that the theme *'Spiritual use'* appeared most often in the 'Principles' and 'Objectives' components and not so frequently in the operationalization components of the plans. This supports observations by Lewis & Sheppard (2013) and Mason (2013) that the 'technical' language and regulations constituting most forest management plans provide an impediment to eliciting spiritual values in 'wise use' of forest. Many BC plans in this study are indeed 'technically' structured and may have lacked room to operationalize spiritually inspired principles and objectives. Other forms of management seem to be better suited to accommodate *'Spiritual use'*, such as co-management, adaptive management, ecosystem-based management (Tiakiwai et al., 2017; Worboys et al., 2015), and what Artelle et al. (2018) call 'values-led management'. While our study has put the spotlight on the North and was, as a consequence based on the 'Western' management planning approach, the results did reveal limitations of FMPs as instruments for open dialogue between multiple agents with different worldviews. Our study thereby supports the search for new and more inclusive and holistic approaches to forest management planning, also in the Global North (Konijnendijk, 2018; Macqueen, 2005).

Fourthly, the theme *'History'* appeared in different ways in BC and NL. Whereas in the NL history was mobilized in communication and storytelling as a way to connect visitors with land and nature, such action was problematic in BC plans, where the painful past still continues into the present. In other words: the link between two types of spirituality, the *Mythical-Narrative* and the *Experiential-Relational* dimensions, is not always a positive or stimulating one for those concerned. This brings us to the debate on relational values which have gained ground in underpinning policies on biodiversity conservation and on balancing Earth stewardship with good quality of life (Chan et al., 2016; Pascual et al., 2022). If history is experienced as traumatic, and if it is associated

with violation of people's relation to land, then the relationship with land, and perhaps land itself, is corrupted and in need of healing. This 'dark side of spirituality' (De Souza, 2012) should be borne in mind in further research on relational values in human-nature relationships.

Fifthly, we should be reminded that the plans were selected in a context of emerging Indigenous and 'nature-based' spiritualities. Comparison of the two plan groups shows that spiritual dimensions are applicable to both spiritualities, with diverging results, but also similarities. The representation of spiritual values in the BC plans in which First Nations were involved confirms our initial observation that Indigenous peoples' organizations have been successful in their striving for the incorporation of spiritual values into forest management. The emergence of spiritual values in the NL plans – in a largely forest-poor urban setting – contrasts with long-held perceptions in international policy and research fora that cultural and spiritual values are predominantly the domain of Indigenous peoples and local rural communities in the Global South (Elands et al., 2015). Our findings support the increasing understanding that cultural and spiritual values for conservation and management are universally important, also for the Global North (Verschuuren et al., 2021).

Finally, we observed above that in research on spiritual values of forests, the perspectives of forest *managers* have remained under-researched. This study sheds some light on forest managers' perspectives, insofar as these perspectives are represented in forest management plans. However, forest management plans are typically shaped by multiple perspectives, and may not always match with the on-the-ground reality. Coping with this reality involves, among other things, managers' spiritual concerns (De Pater et al., 2008), but little is known about those concerns. Additional research is therefore anticipated into the significance of spiritual values in forest managers' field-level practices and how this might contribute to higher-level policy support.

Data storage

[Dataset] De Pater, 2022. Dataset Spiritual Values in Forest Management Plans, Mendeley Data, Version 2. https://data.mendeley.com/datasets/jbfmz9f727/2.

Appendix 3.A.
Explanation of Terms

Dimension (of spirituality)	Characteristic of a spiritual phenomenon of a specific nature that cannot be reduced to other characteristics. This application of the term 'dimension' is theorized by Smart (1996, 2002) who applied it to 'religion'. Smart distinguishes seven 'dimensions of religion'. Based on this, De Pater et al. (2021) designed a conceptual framework for analysing nature-based spirituality with seven dimensions, which in a slightly adapted version was deployed in this study.
Component	Category of information in a forest management plan. We distinguish three components: 1. 'Principles': the broader context and vision in which management is constructed from knowledge, policy discourses, and interactions with stakeholders; 2. 'Objectives': objectives and directions derived from these principles; and 3. 'Operationalization': prescriptions, measures and interventions to put the objectives into practice.
Operational Code ('Op. code')	Code specifying a FMP component. In line with the Components, three sets of Operational Codes were distinguished. In the second coding round, some Op. codes under Component 2 and all under Component 3 were re-identified as clusters as they had relevant thematic content.
Attribute	Specific characteristic of a phenomenon that specifies or contextualizes the spiritual dimension attached to the phenomenon.
Cluster	Combination, found in quotes, of one or more spiritual dimensions, attributes, and FMP (sub)components, which elicit recurring issues that potentially or directly involve spirituality.
Cluster, Major	Aggregation of related clusters to elicit major issues per component. There are nine Major Clusters. Clusters and Major Clusters were organized according to the three components.
Theme	Aggregation of related Major clusters, to elicit major issues across components. There are three themes.

Appendix 3.B.
Explanation of Codes, Clusters and Themes

Theme / Code	Comments on content
I. First Round of Coding: Dimensions of Spirituality and Operational Codes	
I.i. Dimensions of Spirituality	
D0. Exp-Unspec.	This code is only applied when *beleving* or *natuurbeleving* (Du) in its totality is referred to, without emphasizing any of the four experiential values. It is applied when there is a possibility that spiritual experience in connection with nature is facilitated; however, when it is clearly only technical-cognitive *beleving*, the code is not applied.
D1. Exp-Aesth	This code may include 'sense of wilderness'. Also: discovery, adventure (especially for youth, zie Drentsche Aa). Furthermore: "beleefbare natuurkwaliteiten" (nature qualities that can be experienced, see plan Sallandse Heuvelrug). It also includes wonder about nature, including knowledge-related wonder. The code is only applied when the potential for a higher-level aesthetic experience is present.
D2. Exp-Relational	Also having a vision (e.g., 15:8) is part of this relational experience. In a vision the seer encounters non-material agents and powers, and relates to them.
D3. Exp-Restorative	Applied to texts referring to healing, restoration of identity, comfort and cultural renewal of persons and nations alike
D4. Exp-Life Force	'Medicine' in quote 1:118 used in combination with power of the area. In more BC documents reference is made to this dimension. It occurs only in 1 NL plan (N10), but perhaps incorrectly.
D5. Pract-Ritual	References to ceremonies, worship, rites and retreats. This dimension denotes action generated by spiritual motives. Linked to experience and narratives, but also to the material-spiritual dimension, e.g. in the use of sacred objects for rituals. Includes "potlatch" as a "traditional decision-making structure" (Lakes District LRMP p. 3, quote 14:12)
D6. Myth-Narrative	All stories and narratives in relation to the forest or the forest dwellers/users. Also increasingly appearing in Dutch texts in relation to educational programmes.
D7. Phil-Eth	Not only First Nations' reverence and ethics towards forest, but also governmental 'due diligence' towards FN interests (16:19, 16:20). Also ' sustainable' when it is used in a more abstract way: 'sustainable development', 'sustainable communities', in other words when a moral motivation may be seen behind the statement. A 'sustainable' harvest or wildlife population is not per se spiritually grounded, so left out if there are no other texts supporting inclusion. Also reference to 'Creator' included in this code.

D8. Material-Spiritual	Material only when it refers to specific 'things' (physical phenomena) with a close link to spirituality. Not land - too wide, everything is related to land. Examples: longhouses & shelters for ceremonies; large trees for totem poles, safe places to store regalia. The code is not applied to land or large land features since this is too wide; everything in FMPs is related to land. Exceptions are clearly distinguishable features in the land such as burial tombs, traces of mediaeval roads or land cultivation patterns by monasteries (in NL). Otherwise, the code is It I only applied to mobile items.

I.ii. Operational codes applied in the first round

The codes presented here were later merged with Clusters in Components 1 and 2)

Op.1.1. Descr_whatis	This code is added when texts describe features, conditions or history of the area in relation to spirituality (hidden or open). This is also the code for relevant definitions of terms.
Op.1.2. Descr.Use	This code is applied to descriptive texts about how people use the area or elements of it, or how they have used it in the past.
Op.1.3. GovContext	Includes laws, acts, regulations and other legal governance arrangements affecting human-land interaction; also prescription for or description of consultation processes with First Nations, stakeholders, local residents, etc. Is applied in descriptive texts as well as in prescriptive texts.
Op.2.2. ObjPrincGdl	Refers to spiritual connotations in objectives, and in the strategies, principles and guidelines formulated to achieve these objectives.
Op.2.3. Priorities	Refers to spiritual connotations in a more detailed level of planning, namely where choices or sequences have to be made. May also include financial texts.
The rest of the Op. Codes (Op.3 and Op.4) were incorporated as Initial Themes under Component 3, Operationalization, see below	

II. Second round of coding

II.i. Attribute Codes (A codes)

A. Aboriginal Rights	Selected when aboriginal rights are mentioned in relation to spiritually informed forest management, protection, history, connection with land and similar links.
A. Ancestors	Ancestors are all persons who are believed to have lived in the past and to have passed their connection with the land/forest onto the generation currently living here.

A. Animals - domestic	Dutch plans mention domestic animals (dogs, preservation of old sheep & cattle breeds). They are coded Animals-domestic.
A. Animals/wildlife	Code applied when an animal appears to have symbolic value and there are open or hidden spiritual values attached to it (e.g. a moral imperative to preserve the species). This applies to wild animals. Dutch plans mention domestic animals (dogs, preservation of old sheep & cattle breeds). They are coded Animals-domestic. Animals are in some plans described as 'persons', perhaps reflecting ontologies which see no sharp difference between humans and other beings.
A. Art	Any mention of art in the plans related to spiritually related art or spiritually inspired forest management, protection, use of resources, etc.
A. Clearcut	Coded when mentioned in relation to (threats to) spiritual values and resources of forest and forest-related culture. This code also applies to Industrial Logging. The code often appears in connection with 'Disappear' (e.g. disappearance of cedar, in the Heiltsuk plan).
A. CMT	Culturally Modified Tree: stripping of bark or other traditional tree use which is intimately connected with rituals and oral traditions. Therefore connected to the Practical-Ritual, Myth-Narr and Material-Spirtitual dimensions.
A. Continuation	Coded when reference is made to continuing past traditions; or concern is expressed for the continuation of forest, land, culture and traditions in the future; also, when prescriptions are given for inspired measures aiming at the future continuation of the immaterial values of forests
A. Cultural History	This was introduced when coding plan D22 / N08: Oisterwijk/Kampina, and adapted in all plans. It is applied to natural phenomena, archaeological features, or recent historic buildings and artefacts. Contrary to 'Culture', 'Cultural History' here applies to historical objects, related or not to cultural practices. If such objects are related to relevant cultural practices, but separately described, both 'Heritage' and 'Culture' can be applied. If it is a close combination of the two, the code 'Cult.Hist.´ applies.
A. Culture	Applied where cultural matters are mentioned. 'Culture' often appears in texts as a container term for the whole of spiritual and social values within the FMP unit. It is only coded for texts referring to practical aspects of the cultural domain, when there is some element of action involved. This in order to distinguish it from 'Cultural History' which may refer to more static elements such as buildings or burial tombs.
A. Disappear	Used when there is concern about the disappearance of forests or related cultural elements. Also: Destruction (of forests, especially old growth). Also: Destruction (of forests, especially old growth, or animals or other elements of forests, or related historical elements).
A. Forest structure	A broad term used to denote a varied forest that inspires visitors. The code includes 'diverse' and 'natural' forest, when the context suggests a non-

	scientific use of the term. There is some link with D. Phil-Eth in BC plans, but not in all plans.
A. Identity	Identity linked to land, or (First) Nation, 'who we are'. Also as a 'Nation'. In NL also linked to symbolic phenomena such as the Black Grouse in Sallandse Heuvelrug. Identity can also refer to land property, such as an estate (Kampina, Document N05).
A. Landscape Vision	Only applied when it refers to the combination of visual, social and experiential values. This means it is a 'hinge' between the material and the immaterial values connected to the area. First applied in Plan 6, Drentsche Aa. May also be included when a range of 'sensitive values' is indicated, e.g. in 14:62 (Lake District).
A. Longhouse	Some plans mention the building or restoring longhouses as part of cultural education programmes. Traditionally, longhouses harbour families and as such are part of the First Nations' social organization which has spiritual roots. As such, longhouses may be attributed with sacral meaning.
A. Old growth	Added because many associations are made with the cultural/spiritual value of old-growth forests, mostly cedar, but also other species. Document D15/ B07 discusses old growth, but only in one place mentions 'landscape connectivity'. In the rest of the document, the discussion is only ecological, with no reference to First Nations or spirituality. Parallel in NL: *oude lanen* (old avenues), *wildwallen* (wooded game walls) and perhaps other old features. Strong link with Practical-Ritual dimension in BC plans, weak in NL plans.
A. Sacred knowledge	Applied when this term is used specifically to denote the sacredness of the knowledge. Other, less specified quotes about knowledge are coded by 'A. trad. use/knowl'.
A. Sacred site	Sites with a 'sacred' connotation in the text: sacred areas, sacred mountains, seclude sites for retreat, etc. Graveyards or burial places are included when they are mentioned in the context of spiritual references (e.g. afterlife), but if not, they are coded as 'cultural heritage'.
A. Spiritual (Inspiration)	Only used when there is clear reference to 'the spiritual', but too general to allocate one of the spiritual dimensions to this quote. Could refer to spiritual inspiration (BC docs 1-5), spiritual well-being (doc. 12, Lakes District) or spiritual identity (ibid) or value (15:58, Peace-Moberly).
A. Spiritual danger	A special feature of the Experiential-Aesthetic, Narrative or Ethical dimension. Refers to feelings of fear among humans in wilderness, environmental damage caused by spiritual beings, or spiritual damage to humans when they do not behave ethically or, e.g., destroy forest.
A. Trad. Language	Contains Traditional Place Names and other references to traditional (Indigenous) languages. In Squamish LUP a clear link is made with spirituality: praying in traditional language is 'powerful'.

A. Traditional use/ knowledge	Includes Tradition use and Traditional knowledge - closely related terms. Often referred to in texts about wild food and herb collection, medicinal plants, traditional hunting, etc. Literature suggests that this use and knowledge is often spiritually informed, but this is hardly ever explicit. It cannot be excluded beforehand, either, hence this code is applied to all texts that we can give the benefit of the doubt.
A. Tranquility	Includes remoteness; disturbance by traffic, especially when motorized; darkness (absence of urban lighting); air, spatial infinity.
A. Water	Applied when mentioned in relation to spiritual values, or directly indicating the potential of a spiritual value (experience, wellness, restoration or other). Includes ' riparian areas'. Not applied when it is merely an enumerations of facts ('land and waters' or other geographical indications) of product extraction ('fish and seafood' for instance).
A. Wilderness	Coded when mentioned as such in the text. Often related to experience, especially aesthetic experience.

II.ii. Clusters, organized by Component

Component 1: Principles

1.1. Historical Roots	This code was used when historical or cultural motives are given as to why people attach meaning to land and why they should deal with land. Links in with Aboriginal Rights discourse, but is much broader than that.
1.2. Connection w. Land (of a group)	This is the over-all, deep connection of a group, community, or nation with the land. Usually there are historical ties, but statements can also refer to the present. This encompasses the spiritual connection (Code D2) that can be an individuals' connection to nature or a collective, spiritually experienced connection. Other criteria for this code: • - traditional knowledge embedded in the land. • - the notion that "everything is interconnected" • - the loss of connection, abandoned graveyards, disturbed places, etc. Re-connection: separate code from 20210503 onwards, applied to all plans.
1.3. Intrinsic/Moral	Moral imperative to protect that 'what has no voice', e.g.: "Neither the children nor the forests have a voice. And both are dependent on others to take care of them. Both are beautiful and deserve the right to be left alone to grow in their own beauty and identity" (Heiltsuk 5:56) Also: preserve for future generations: "..dat wat met zorg en liefde [werd] aangelegd, ook door volgende generaties wordt gewaardeerd". ("..that what was established with care and love, is also valued by future generations" (Turfv. Landgoederen 12:18). "Hence, the work to heal and protect the body of the area that is Say Nuth Khaw Yum is a task held closely to the heart of every Tsleil-Waututh". (Indian Arm 4:20). Merged with 01. Integrated Stewardship Appr. This code was based on mentions of Integrated Stewardship, typified by this quote: "*To effectively manage and protect the natural and cultural resources of the Park in a holistic and integrated fashion, while respecting cultural, economic, and*

	recreational values. The Board will use an Integrated Stewardship approach in the management of the Park. The Integrated Stewardship approach combines Tsleil-Waututh principles of bioregional planning and holism with BC Park's ecosystem-based management approach. The Tsleil-Waututh approach is based upon maintaining deep knowledge of the interactions between biophysical and cultural landscapes." (Tsleil-Waututh (Indian Arm) mgt plan 4:102
1.4. ProblThreats	This is the former Op. code (Op. 2.1. Probl/Threats) for descriptions of problems affecting SV or ensuing from certain SV in the area.
1.5. Weighing & prioritize values	This is applied when plans mention the weighing of nature and biodiversity values against experiential or other spiritual values. It is also applied when mention is made of discussions with stakeholders and external experts. This code also includes the obligation to make areas *beleefbaar* ('experienceable', suitable for people to exerience nature) (moral considerations). Includes also measures to avoid conflicts in uses.
1.6. Strength/ positive factor	This is applied when a SV appears in a description of one or more positive aspects of the forest. Often it is the beauty and tranquillity of the area that is treasured.
1.7. Participation	This means participation of stakeholders to enhance wonder and respect for nature and nature experiences. See also Spiritual Governance*. And co-operation for the same purpose.
1.8. Spiritual Governance/Loss	In this theme 'spiritual' values among participants are articulated and incorporated in forest management planning. A strong motivation was concern about loss of forest, land, way of life, which is why this was included. Typical: "*On 30 May 2015, the manager of the Turfvaartse Landgoederen invited local residents and other interested people to a 'dream walk' across the area. The participants of this walk indicated what they valued in the area, what they were concerned about, and what ideas or wishes they have for the future. This Nature vision was written on the basis of all information thus gathered.*".

Component 2: Objectives

2.1. Spiritual use/Healing/Power	E.g., Cutting trees for ceremonial purposes; holding ceremonies etc. Any action that is not merely recreational and goes beyond 'experiential'. Also: healing and (spiritual) restoration from the land and land's products; Also: 'life force' and 'healing the territory'. Also life force, vital force.
2.2. Re-Connection	This refers to prescriptions in the plans to sustain, enhance or restore the connection with the land. Can also comprise indigenous learning systems (1:154).12-5-2021 17:32:23, merged with 03. Community vitality. Strong communities in all respects through communal decision-making, a healthy environment and strong economy, jobs, healthcare, recreation opportunities etc. (18:181 Cassiar-Iskut Stikine). This as a result of good environmental stewardship.

2.3. Hist'l awareness	Facilitating nature experience & connection with the land by creating awareness of the history of the area, through communication, storytelling or otherwise. Not only historical, but also cultural connection. e.g. by designing facilities with First Nations motifs (4:63), using local language, etc. *Verhalende waarde* ('narrative value') (Drents Firese Wold 11:42). Also retreat camps to learn from the elders, etc. In contrast, Historical rights/ Motivation was used when history (or culture or the past in general) is given as a motivation to use the land. This is linked with the entire Aboriginal Title and identity discourse.
2.4. Wilderness/animals experience	Unspecified nature experience facilitated by maintaining wilderness areas with animals and allowing low-profile tourism. Also by rich biodiversity (e.g. butterfly route in plan N03, Sallandse Heuvelrug, quote 10:11). Includes "*beleefbaar maken van beekdalen*" ("Facilitate people's experiencing of stream valleys"), Drentsche Aa 8: 94, 8:101). Includes "*Darkness*" as well (Sall. Heuvelrug 11:29).
2.5. Adventure, play	This code is applied when plans emphasize adventurous aspects of the area related to 'wilderness' and nature experience, especially also for youth. May includes larger events, if they bear any connection with spiritual dimensions.

Component 3: Operationalization

Here, the clusters are equal to Operational Codes from the first coding round. Numbers of the first round have been retained.

Op. 4.5. Nature tourism	This code is applied to tourism intended to facilitate nature experiences. It does not include any touristic enterprise mentioned, but it does include, e.g., low-impact ecotourism, or backcountry tourism with low-level facilities. It may also include 'cultural tourism'. Later, on 21-5-2021, this operational code was merged with other codes as an overall cluster, Tourism (02), as aims and implementation are strongly entangled. It was observed to address many kinds of 'experiential' tourism in forest areas. The cluster therefore covers: Op.4.5 Nature Tourism; 'Tourists'; Walk/trek/routes (originally separate code, merged on 12-5-2021); financial considerations, like: "*visitors pay for a special experience of unique values*'' (Kampina, 22:14,); and everything to do with access to and through the landscape by walking, bicycling (no ATB), horseback trekking, canoeing etc. and experiencing landscape by one's own physical effort. This is in contrast to racing or adventure, though sometimes there is a 'grey area'. 17 June 2021: Cluster placed under Component 3, Interventions, as it mainly concerns action. Insofar as objectives are concerned, they are mainly aimed at 'nature' and 'wilderness' experience, coming under Cluster 2.4.
Op.3.1. Zoning/ Inventories/ Studies	This code refers to zoning within the planning unit(s), as well as Impact Assessments (e.g. archaeological) and other inventories and studies. Is the real 'hinge' between abstract ideas and concrete implementation (interventions).
Op.4.1. Protection	Refers to all spiritually inspired interventions for the protection of certain forest areas. It also includes access or the opposite, closure of an area to enhance experiential or other spiritual values. In this context it may include access roads, waterways and measures to concentrate access at certain

	places to protect other areas for facilitating, e.g. spiritual experiences. In the same vein, parking places may be included. However, opening an access road for logging or other commercial use is not included.
Op.4.2. Restoration	This intervention was originally included as a separate code, then combined with Integrated Use, and again separated from it end September 2020, since restoration appeared to be quite different from integrated use. Applies to restoration of forest and nature as well as of cultural heritage objects.
Op.4.3. Responsible Exploitation	Refers to all interventions to implement forest use when mentioned in combi with spiritual, ethical or emotional notions, e.g. selective logging as a spiritually acceptable alternative to clearcut in BC, or production such as wool/meat from grazing sheep that are deployed to keep the heathland open to enhance aesthetic values. If large herbivores are used for keeping areas open and culled animals are left in the area to enhance biodiversity, the code for integrated use is not applied, but other codes may be applied such as A. Animals.
Op.4.4. Communication/ Education/ Knowledge	All mentions of communication and education programmes to enhance nature experiences, especially to youth, tourists and adults. Is explicit in BC plans where cultural-spiritual education is foreseen for First Nations -their own population as well as visitors-, but can be implicit in NL plans when plans speak of enhancing wonder, aesthetic and other nature experience among visitors. The code also applies to knowledge generation, as far as it is related to the cultural/spiritual domain (purely ecological studies are excluded).

Appendix 3.C.
Number and percentages of coded spiritual dimensions per location and per FMP component

Spiritual dimension		Presences of Spir. Dimensions				Co-occurrences of Spir. Dimensions with Components						
		Per Loc.		All plans		FMP Component			Totals			
		(N)	%	(N)	%	Principles	Objectives	Op.	Per Location		All Plans	
						C1 #	C2 3	C3 #	#	%	#	%
D0 Exp-Unspec.	BC	42	5	**215**	**15**	16	9	64	89	6	**392**	**16**
	NL	173	29			58	74	171	303	31		
D1 Exp-Aesth.	BC	178	21	**343**	**24**	71	30	208	309	21	**547**	**22**
	NL	165	28			54	71	113	238	24		
D2 Exp-Relat'l	BC	117	14	**163**	**11**	99	66	56	221	15	**307**	**12**
	NL	46	8			17	33	36	86	9		
D3 Exp-Restor.	BC	42	5	**66**	**5**	7	43	29	79	5	**129**	**5**
	NL	24	4			10	16	24	50	5		
D4 Exp-Life Force	BC	15	2	**15**	**1**	13	6	7	26	2	**26**	**1**
	NL	0	0			0	0	0	0	0		
D5 Pract-Ritual	BC	162	19	**176**	**12**	54	121	134	309	21	**331**	**13**
	NL	14	2			4	6	12	22	2		
D6 Mythl-Narr	BC	67	8	**159**	**11**	50	28	30	108	7	**254**	**10**
	NL	92	15			40	53	53	146	15		
D7 Phil-Ethical	BC	153	18	201	14	82	66	103	251	17	**329**	**13**
	NL	48	8			42	12	24	78	8		
D8 Mat-Spi'l	BC	59	7	96	7	18	37	43	98	7	**150**	**6**
	NL	37	6			17	15	20	52	5		
Total p. loc. #	**BC**	**835**	**100**	**1434**	**100**	**410**	**406**	**674**	**1490**	**100**	**2465**	**100**
	NL	**599**	**100**			**242**	**280**	**453**	**975**	**100**		
Total p. loc. %	**BC**		**58**			**28**	**27**	**45**				
	NL		**42**			**25**	**29**	**46**				
Total All Plans #		**1434**	**100**			**652**	**686**	**1127**				
Total All Plans %						**26**	**28**	**46**				

CHAPTER 4

Exploring spiritual values in forest management practices in the Netherlands

Abstract

While forest-related spiritual values (forest spirituality) have long been incorporated in global forest-related policies and strategies, the significance of spiritual values in forest management practices remains little researched. This study investigates how spiritual values are articulated in forest management practices in the Netherlands. We applied a conceptual framework with 10 spiritual dimensions derived from religious scholarship to qualitatively explore the roles of these dimensions in practical forest management. Data were collected by interviewing public and private foresters across the Netherlands and analyzed following a constructivist-interpretivist approach. As a result, we found four themes in which forest spirituality is articulated in management practices. Firstly, forests are increasingly used for ritual practices aimed at spiritual enrichment and health, with different consequences for public and private forest management. Secondly, ontological and relational considerations affect several forest management practices. These are mainly related to diverging views on tree felling and educational programmes aimed at nature connectedness. Thirdly, forest spirituality is expressed in local legends and historical monuments, deployed to raise the public's interest in forests. Fourthly, ineffabale aspects of spirituality emerged in references to unspecified spiritual experiences and occasional cases of intuitive forest management. We conclude that forest spirituality - entangled with broader 'ecospiritual' tendencies in society - is not only significant for nature experience, but also - increasingly - for ritual practices in forests, for connectedness to nature and healing and for forest use, such as tree planting and felling. It is public foresters in particular who have to reconcile their management with the increasing 'spiritual' claims made by an increasingly heterogenous public. Foresters have to learn how to cope with these processes and how to reconcile their management with these increasing and diversifying 'spiritual' claims.

Keywords

Forest management, Forest spirituality, Nature conservation, Spiritual values, The Netherlands

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4.1. Introduction

This paper aims to understand forest-related spiritual values or 'forest spirituality' (Roux et al. (2022). We focus on its occurrence and significance in forest management practices in the Netherlands. Literature indicates that spiritual values are increasingly included in forest management plans (De Pater et al., 2023b) and practices (Hedlund-de Witt, 2011; Torralba et al., 2020) after their incorporation in global forest-related policies and strategies (MPFE, 2002; IUFRO, 2007). The role of spiritual values in practical and applied aspects of forest management and conservation is also being recognized. Examples are prescriptions in certification standards (PEFC, 2018; FSC, 2022, 2023), area-based conservation guidelines (Verschuuren et al., 2021) and forest management plans (De Pater et al., 2023b). While spiritual values have long been associated with the domain of Indigenous peoples in the Global South, their role in forest and nature conservation in the Global North has been increasingly recognized and researched (e.g. Chandran and Hughes, 2000; Stara et al., 2015; Frascaroli & Fjeldsted, 2019; Govigli et al., 2021; Plieninger et al., 2023). However, the empirical evidence and conceptual underpinning of forest spirituality remains underdeveloped, which hampers both its theoretical formation and its practical application in forest management. There have been some earlier attempts to position forest spirituality in relation to the management and well-being of forests. Roux et al. (2022), for example, proposed a transition hypothesis for forest spiritual values (forest spirituality) analogous to forest transition theories that postulate a decline and subsequent return of the world's forests (Mather, 1992; Angelsen, 2013 [2007]). They hypothesize that forest spirituality was originally omnipresent before becoming subdued by formal religion and rational thinking, but it is now coming back again in a 're-spiritualization of nature'. Nonetheless, there is a lack of systematic empirical assessment of forest spirituality across cultures and societies.

Furthermore, constraining the conceptual development of spiritual values to overarching theoretical approaches, such as ecosystem assessment, further limits and potentially complicates our understanding of their role in forest management. The Ecosystem services theory struggles to conceptualize spiritual values, for example (Chan et al., 2012; Cooper et al., 2016). The IPBES Nature's Contributions to People (NCP) framework moved beyond this commodity-orientated approach by focusing on diverse values and the valuation of nature (Pascual et al., 2022). Based on, inter alia, relational value theory developed by Chan et al. (2016), it attaches equal importance to diverse knowledge systems and the ontologies and values – including spiritual values – that underpin them.

While the NCP framework is a highly valuable instrument for policy, it does not provide for structuring detailed empirical research into the nature of spiritual values and their role in forest management. To fill this gap, Govigli & Bruzzese (2023) reviewed literature on participatory methods for assessing emotional and spiritual forest attachment. They found that of all the studies on the 15 participatory methods they identified, 90 percent focused on cultural ecosystem services. While the authors do

advocate participatory methods for the assessment of emotions and spiritual values, their work does not include significant contributions to the conceptual or theoretical development of the nature of forest spirituality itself. In contrast, our study concerns structural empirical research on forest spirituality based on a theoretical framework which we developed specifically to typify spirituality for forest management (De Pater et al., 2021).

Forest management has become increasingly diverse and challenging due to the growing involvement of stakeholders, especially in a densely populated country like the Netherlands (Staatsbosbeheer, 2023). Forest management is an increasingly participatory process in which multiple stakeholders, that is, specific sections of the public, such as visitors, local residents, companies, policymakers, etc., are involved. Each stakeholder views the forest from their own perspective; they are motivated by different sets of perceptions and values, including, possibly, spiritual values (Wiersum and Sands, 2013; Staatsbosbeheer, 2015a; Focacci et al., 2017). They are involved in forests in various ways; they voice their views in planning consultations, but they also visit the forest in increasing numbers, which was especially the case during the COVID-19 pandemic (Derks et al., 2020, LNV & IPO, 2020, Natuurmonumenten, 2022). Indications are that an increasing number of visitors seeks spiritual enrichment and relief from stress in forests and nature (Pedroli & During, 2019; Pichlerová et al., 2021; Govigli & Bruzzese, 2023; Roux et al., 2023). In addition, a new category of stakeholder is emerging: those who offer spiritual guidance and services in the form of nature coaching, meditation, forest bathing, outdoor therapies, shamanic ceremonies, natural burials and other spiritual practices in or near forest and nature areas. As a consequence, forest managers have to deal with the increasing claims and pressures on the forests, including spiritual demands.

Forest managers (or for short, foresters) are here defined as landowners and/or professionals who have formal responsibilities for the management of a forest area. In the Dutch context, we distinguish two types of forest manager: 1) 'public' forest managers, i.e. those managing forests owned by institutions such as governmental bodies or nature associations who are ultimately – even if remotely – bound to their employers' directives; 2) private forest owners and/or managers, who may or may not be professionally trained, who can make their own decisions on management, including the application of spiritual insights. Forest management – in both categories – is influenced by stakeholders, as outlined above. Interests and concerns are informed by the value sets of the parties concerned, which may diverge and even collide.

Foresters have their own value sets, but they must also take stakeholders' multiple value sets into account to make their work effectively (Buijs et al., 2011; Buijs & Lawrence, 2013; Wiersum & Sands, 2013, Driver et al., 1999a). If, as Roux et al. (2022) hypothesize, forest spirituality is on the rise, it would increasingly appear in these value sets. Although this increase has not been thoroughly researched, a brief scoping of the field in the Netherlands indicates that spiritual enrichment in forests and nature is indeed

important to a diverse group of stakeholders as well as forest managers (Verhoeven, 2015). A large-scale inventory of cultural ecosystem services throughout Europe by Torralba et al. (2020) has confirmed this. In addition, a survey among forest and nature managers who attended our workshop on forest spirituality in 2022 (see Section 4.3.3), yielded an unexpected number of responses and yielded reports of increased spiritual use of nature. More important than this trend, however, is that we do not know much about how forest spiritual values influence foresters' work, how these values are articulated in forest management *practices* and what, in this respect, foresters' needs are. Understanding the articulation of spiritual values in forest management practices may contribute to these practices' effectiveness and sustainability.

Research objective and research questions

This research aims at a better understanding of the significance of forest spirituality in forest management practices in the Netherlands by addressing the following research questions (see figure 4.1):

1) What types of forest spirituality, if any, affect public and private foresters' management practices?
2) How does forest spirituality influence public and private foresters' practices?
3) What are the implications of a better understanding of forest spirituality in forest management practices?

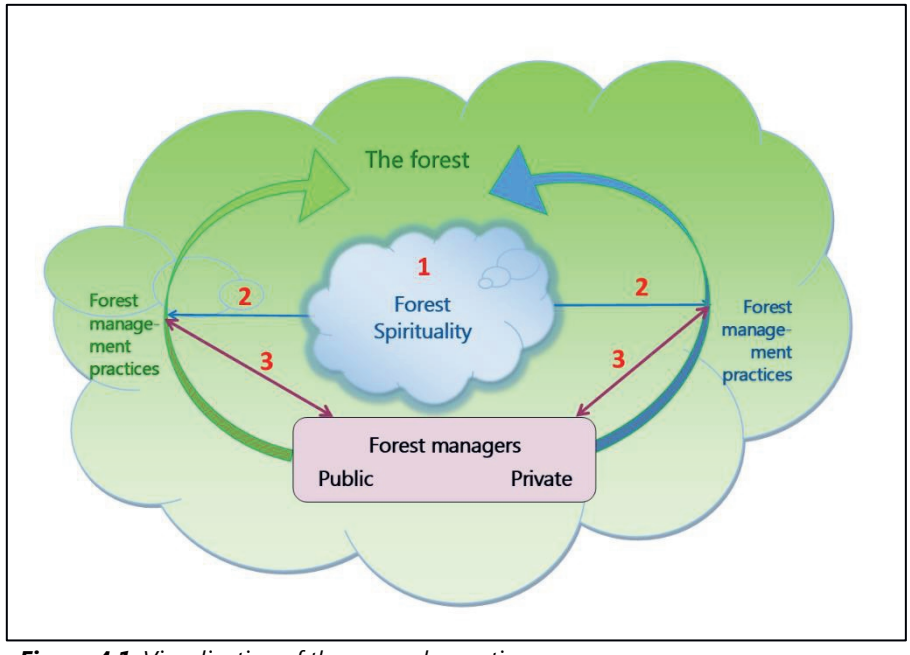


Figure 4.1. *Visualization of the research questions*

4.2. Theoretical foundation

In this section we discuss how we conceptualize spiritual values, especially in relation to forest and nature (4.2.1). We then explain what we understand by forest, forest management and forest practices and discuss various conceptualization of these terms in Section 4.2.2.

4.2.1. Conceptualization of spiritual values of forests

We characterize spiritual values relating to forests (forest spirituality) as "hard-to-define forest-based values that help maintain and renew the human and non-human spirit", which can be further characterized as 'immaterial', 'ethereal', 'hard to measure' or 'psychologically deep' (Driver et al., 1999b, cited in De Pater et al, 2021). We adopt this broad definition to adequately capture the wide variety of spiritual phenomena attributed to forests by humans, as well as the diversity of spiritually inspired relationships between humans, forests and non-human beings (Terhaar, 2005; (De Pater et al., 2008, Verschuuren et al., 2021; Raymond et al., 2023). The limits of this definition are not sharply defined, but neither are other non-exclusive definitions of spirituality – or religion for that matter. We do not make a clear distinction between 'religion' and 'spirituality', as this is not very relevant for forest managers. In this article we use the term 'spirituality' rather than religion, as it is more commonly used in relation to nature and forest and less suggestive of denominational boundaries.

We draw upon scholarship from religious studies for the ontologically unbiased and non-essentialist underpinning of forest spirituality in our research (Von Stuckrad, 2003). Following Saler (2000 [1993]) and Taylor (2010), we apply the 'family resemblances approach' (FRA) (Fitzgerald,1996) which accommodates all spiritual traditions on an equal basis and enables us to accept all phenomena as 'spiritual' as long as they are engaged with this 'hard-to-define', non-tangible 'core' (Driver et al., 1999). Furthermore, we use Smart's theory of 'seven dimensions of religion' (Smart, 1996, 2002) to find analytical units for research. In line with the FRA, Smart placed all religions and spiritualities on an equal footing and distinguished seven 'dimensions of religion', respectively: (1) the practical and ritual dimension; (2) the experiential and emotional dimension; (3) the narrative and mythical dimension; (4) the doctrinal and philosophical dimension; (5) the ethical and legal dimension; (6) the social and institutional dimension; and (7) the material dimension. Phenomena may be encompassed by one or more dimensions and a dimension can be strongly or weakly represented in a phenomenon.

In Chapter 1, we applied Smart's multidimensional approach to the construction of a conceptual framework for research into forest spirituality (De Pater et al., 2021). In constructing this framework, we split Smart's experiential-emotional dimension into several sub-dimensions to accommodate the wide variety of nature experiences found

in literature. We thus created a framework with nine dimensions, four of which are specifications of Smart's Experiential dimension. In this research, we applied these nine dimensions and added a 'zero' dimension to accommodate quotations containing unspecified references to spiritual phenomena by the interviewees. This proved to be useful in a former study on forest management plans (De Pater et al., 2023). As a result, our conceptual framework contains the following dimensions:

0. *Experiential-Unspecified* (unspecified, potentially spiritual experience in nature).
1. *Experiential-Aesthetic* dimension (experience of self-transcending awe and sublimity in nature).
2. *Experiential-Relational* dimension (deep connectedness with the forest, trees or the land in general).
3. *Experiential-Restorative* dimension (experience of refreshment, renewed energy and health).
4. *Experiential-Life Force* dimension (intuitive sensing of subtle, life/vital energies in forests, trees or landscapes in literature (e.g. Ivakhiv, 2005) known as 'Earth energy' or 'Earth mysteries').
5. *Practical-Ritual* dimension (formal or less formal actions in forests often aimed at developing spiritual awareness or ethical insights).
6. *Mythical-Narrative* dimension (vital stories: myths, legends or histories (oral or written), about creation, one's place on earth and saints and heroes, etc.).
7. *Philosophical-Ethical* dimension (intellectual underpinning of experiences, rituals and narratives and ensuing ethics and behaviour).
8. *Social-Institutional* dimension (institutionalization of spiritual values in social organizations, agreements, activities and education).
9. *Material-Spiritual* dimension (physical phenomena with spiritual significance, here limited to buildings and movable items, because the whole landscape has, in fact, a material dimension).

4.2.2. Forest, forest management and forest practices

Forests are here defined as "Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds in situ" (FAO, 2018:4). In the Dutch policy context, forests are categorized under the broad umbrella of 'nature', and we therefore include non-forested terrestrial nature areas in our definition. Furthermore, we define forest management as "the whole of human activities steering the structure, composition and dynamics of the forest ecosystem in order to realize anticipated objectives of the owner and/or manager" (adapted from Vellema & Maas, 2003:1 and Den Ouden et al., 2010:21). Whereas in the Anglophone context, 'forest management' includes planning and policies (Helms, 1998), this research applies the Dutch interpretation which emphasizes implementation of forest-related interventions in the field (Den Ouden et al., 2010).

Nowadays, forest management is usually predicated as 'sustainable', i.e. aiming "to maintain and enhance the economic, social, and environmental values of all types of forests, for the benefit of present and future generations" (UNGA, 2007). In this study we refer to forest management with a specific focus on 'on-the-ground' forest management practices, which entail "operational strategies, technical interventions, communication and other field-based action" (adapted from Arts et al., 2013:3). Spirituality can be manifested in the way practical actions are performed, but also – perhaps more so – in the motives for these actions, the perspectives of the actors, the actions' intended results and the way practices are communicated with others. 'Communication' is an integral part of forest management in the Netherlands, as "recreation, experience and education" are important objectives (LNV & IPO, 2020:12). These practices are in the first place conducted by the foresters, who are therefore the main group of participants in our research. We investigate with them whether and how the various dimensions of forest spirituality are articulated in practice. We thereby identify not only the above-mentioned spiritual dimensions, but also more specific attributes of these dimensions to reveal the detailed nature of spiritual values.

Lastly, we also examine contextual factors when they emerge, such as other actors (human and non-human) and their actions in forests. We do not pre-define these categories, but leave it to the research participants to specify them.

4.3. Methodology and methods

4.3.1. Methodology

The explorative character of the study justifies a cross-sectional study design (Kumar, 2014) combining qualitative and quantitative methods. We positioned our research within an interpretivist research paradigm acknowledging that our knowledge of reality is a social construction by human actors. This paradigm suits research seeking explanations, not from an 'objective' point of view, but within the frames of reference of all actors involved. It also requires the researchers themselves to critically reflect on their own interpretation of the data (Schwartz-Shea & Yanow, 2012; Ponelis, 2015).

The geographical scope of the study is confined to forests in the Netherlands. Primary data were generated from interviews with public and private foresters from across the Netherlands (see Table 4.1 for details). As for analysis of the interviews, methodical steps derived from grounded theory were applied which allowed systematic qualitative – and, partly, quantitative – interpretation and analysis of the data (Johnson, 2014; Mills et al., 2017; Chun Tie et al., 2019).

4.3.2. Conceptual framework

To guide the investigation, we applied the conceptual framework by De Pater et al. (2021) in which spiritual values are expressed in nine or ten dimensions. As explained above, phenomena may express one, more or all dimensions with different levels of intensity. For this study, we identified ten dimensions which are discussed in Chapter 2, Section 2.2, and serve here as analytical units for investigating forest spirituality. The dimensions were set off against other units of research, namely, different forms of forest management practices and attributes attached to specify these practices and spiritual dimensions. These units were generated inductively during the data collection and analysis.

4.3.3. Methods

Data collection

Primary data were collected by interviewing forest managers selected by purposive and snowball sampling. These sampling methods were preferred above random selection as the research questions specifically ask for types and role of spirituality in relation to forest management. We do not sample for the distribution of forest spirituality over the total population of foresters or for proof of a rising trend across The Netherlands. The most important criterion for selection was the participants' willingness to talk in depth about the subject and share as much information as possible. Forest managers were approached by means of personal networks, word-of-mouth communication and websites. A total of 25 foresters were selected (10 female, 14 male and one unspecified). Out of this group, 15 foresters – here labelled 'public foresters' – were employed by large nature management organizations, 10 were private estate owners, 3 were managers of natural burial sites and 2 were former forester managers who had switched to spiritual coaching. All were competent adults who gave prior informed consent for the interview and use of the results. An overview of the interviewees is presented in Table 4.1. As Dutch forest managers are easily identifiable by their management location, gender, numbers and locations are unrelated in this publication to ensure anonymity. However, the geographical distribution coincides with the country's main forest areas, which are unevenly spread over the country, as shown in Figure 4.2.

The interviews were conducted by five interviewers who had received training and followed semi-structured interview protocols. Partly due to COVID restrictions, most interviews were held by telephone or online; six interviews took place in the field. The questions centred around participants' understanding of spiritual values, the importance of spiritual values for the managers themselves and in their relationship with other parties (e.g. visitors, clients) and how spiritual values affected their day-to-day work. All interviews lasted approx. one hour and were transcribed verbatim, except for three interviews which were summarized in annotations.

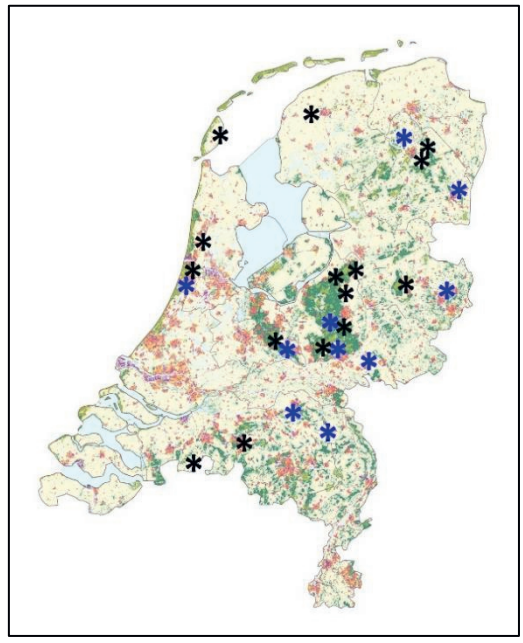


***Figure 4.2**. Locations of research participants in the Netherlands. Black * = public forest managers (FM); Blue *= private forest owners/managers (FP). Green = forest area*

Additional data were collected during a 45 minutes workshop Spiritual Values in Forest Management with approximately 60 foresters, which took place at the National Area Managers' Day on 23 September 2022. We asked questions using Mentimeter[19] before and after a presentation of the preliminary results (see Appendix B for workshop questions and answers). In order to contact more foresters, we distributed flyers on the premises inviting foresters to complete a short online questionnaire, which included the workshop questions and yielded 11 responses (Appendix C). As foresters also mentioned an increase in spiritual activities, we used the workshop and questionnaire as an opportunity to probe foresters' learning needs in this respect. Although overlap of respondents cannot be entirely ruled out, this part of the investigation served as a 'rapid appraisal' alongside the main body of this research.

[19] https://www.mentimeter.com/

Table 4.1. *Details of interview partners (N=25).*

Nr.	Organization	Date of interview	Field (F) /Tel (T)/ Online (O)
Public Forest Managers (FM, N = 15)			
FM01	Municipality 1	January 2021	O
FM02	Public-private estate	January 2021	O
FM03	Natuurmonumenten*	January 2021	O
FM04	Staatsbosbeheer**	February 2021	O
FM05	Staatsbosbeheer	February 2021	O
FM06	Staatsbosbeheer	February 2021	O
FM07	Staatsbosbeheer	February 2021	O
FM08	Natuurmonumenten	Feb-March 21	O
FM09	Forest Group Zuid Nederland	Feb-March 21	O
FM10	Staatsbosbeheer	Feb-March 21	O
FM11	Natuurmonumenten	Feb-March 21	O
FM12	Staatsbosbeheer	Feb-March 21	O
FM13	Staatsbosbeheer	March 2021	O
FM14	Municipality 2	May 2021	F
FM15	Staatsbosbeheer	April 2021	F
Private Forest Owners/Managers (FP, N = 10)			
FP01	Private estate	February 2020	F
FP02	Private retreat centre	February 2020	T
FP03	Retreat centre & small living community	February 2020	T
FP04	Private nature & retreat estate	February 2020	T
FP05	Natural burial estate / private	February 2020	F
FP06	Natural burial estate / private	February 2020	F
FP07	Natural burial state / private assoc.	February 2020	T
FP08	Private estate	January 2020	F
FP09	Forester & nature coach	Feb-March 2021	O
FP10	Forester & private training school	January 2021	F
*Natuurmonumenten = Largest Dutch nature conservation organization **Staatsbosbeheer = State Forest Service			

Data analysis

All interview transcripts were coded and analyzed using Atlas.ti 9. Texts were searched for themes and quotations that were coded in three rounds of, respectively, initial, focused and integrative coding (Chun Tie et al., 2019).

We coded deductively first by searching for references to the above-mentioned dimensions of spirituality. An initial search coding list was used to trace the spiritual dimensions. We analyzed the relative frequencies in which the ten dimensions of spirituality ('D codes') occurred in each interview and then averaged these frequencies to see how often each dimension appeared in the whole group of foresters as well as in the groups of public and private foresters, respectively. The results are discussed in Section 4.4.1.

Secondly, focused coding was applied by searching all texts inductively for additional codes mentioned in relation to spiritual dimensions and forest management practices. In this round, a body of codes was built in an iterative process of searching, comparing, adjustment and commenting throughout. The following categories of codes were generated this way: management interventions ('M' codes), attributes related to management ('AM' codes) and general attributes ('A' codes). A full list of codes is presented in Appendix 4.A. We then analyzed how these code sets were represented in the various spiritual dimensions ('D' codes) by calculating the respective co-occurrences in Atlas.ti and interpreting related quotations. In order to obtain an indication of the weight given to the various spiritual dimensions by the interviewees, the percentages of each dimension per interview were calculated followed by the average per dimension. We thus obtained: a) an overview of the characteristics of each dimension in relation to the various agents and activities and b) the significance of each dimension for forest management practices.

In the third, integrative coding round, we re-examined the results of the previous round for public foresters (FM) and private foresters (PF), respectively. We elicited the approximately 30%-50% strongest co-occurrences of the codes for spiritual dimensions ('D') with, respectively, attributes ('AM' and 'A') and management practices (M). We then created a network in Atlas.ti in which these co-occurrences were represented as relationships by connecting lines between the various elements. The following relationships were distinguished: FM strong; FP strong; FM weak; FP weak; FM+FP strong; and FM+FP weak. We then analyzed the numbers and strengths of the relationships for each spiritual dimension and found that two dimensions emerged: the *Practical-Ritual* (D5) and the *Philosophical-Ethical* (D7) dimension. These dimensions each appeared to be connected with a distinct set of attributes and management practices, which were finally described as 'themes'.

The results of the workshop and questionnaire at the National Area Managers' Day were also coded in Atlas.ti in one inductive round, separately from the analysis of the in-depth interviews. The answers were analyzed to 1) refine the results of the interview

analyses; and 2) elicit foresters' needs and suggestions for learning in dealing with forest spirituality.

Reliability check

In addition to frequently comparing and commenting on codes during the process, an independent researcher carried out a reliability check on the coding (cf. Kumar, 2014: 215-16). She selected quotations and re-coded text fragments from three pages in ten interviews each. Both pages and interviews were randomly selected. The differences in interpretation were discussed and adapted where necessary. An estimated 80% concurrence with the original codes was observed. All data are stored in Mendeley Data (Dataset De Pater, 2024, see page 113).

4.4. Results

This section presents the results in three steps. Firstly, we present how the ten spiritual dimensions are identified across the interviews (Section 4.4.1). Secondly, we report how the interviewees relate these spiritual dimensions to their management practices (Section 4.4.2) Thirdly, we discuss the results of the workshop and questionnaire (Section 4.4.3).

4.4.1. Presence of spiritual dimensions in the interviews

This section reports the identification of a total of 835 codes across all spiritual dimensions for both groups of interviewees as visualized in Figure 4.3. Overall, the most frequent spiritual dimension is the *Practical-Ritual* dimension (D5) followed by the *Philosophical-Ethical* dimension (D7) and the *Experiential-Restorative* dimension (D3). Other dimensions show lower frequencies. Remarkably, the *Philosophical-Ethical* dimension (D7) is by far the highest among the public foresters and very low among the private foresters. The *Material-Spiritual* dimension (D9) and the *Mythical-Narrative* dimension (D6) are markedly higher among the public foresters than among the private foresters. Other dimensions score low in both groups.

4.4.2. Spiritual dimensions in relation to forest management practices

On the basis of further analysis, we demonstrate how spiritual dimensions are associated with the various management practices by the two groups of forest managers. We also discuss the interviewees' perspectives and views on spirituality in relation to these practices. Some relationships were found among public foresters, others among private foresters and in some cases, among both groups. Network analysis reveals that some spiritual dimensions are fairly strongly related to each other as well as to measures and attributes and this resulted in different 'themes'. Two themes

stood out: one centred around the *Practical-Ritual* dimension (Theme 1) and one around the *Philosophical-Ethical* dimension (Theme 2). In addition, we found two less pronounced themes: one centred around the *Mythical-Narrative* dimension (Theme 3) and one combining the *Experiential-'Life Force'*, *Experiential-Unspecified* and *Experiential-Aesthetical* dimensions (Theme 4). The networks and themes are visualized in Figures 4.D.1 – 4.D.4 in Appendix D.4.

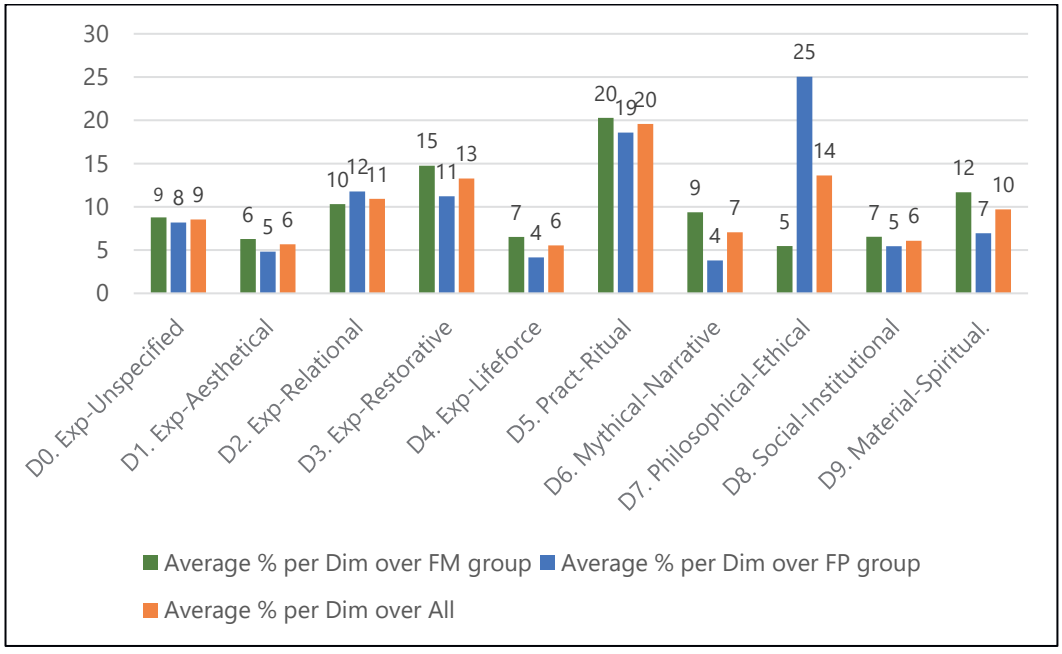


Figure 4.3. *Distribution of codes over spiritual dimensions (Dim) for public forest managers (FM) and private forest owners/managers (FP) respectively (average percentage of dimension per person per group)*

Theme 1: 'Ritual practices for spiritual enrichment and restoration in the forest'

This theme features in the *Practical-Ritual* dimension, with strong links to the *Material-Spiritual*, *Social-Institutional* dimensions and in the *Experiential-Restorative* dimension.

The *Practical-Ritual* dimension (D5) is the most frequently expressed of all dimensions. Private forest managers are frequently engaged in facilitating ritual practices, mostly by allowing ashes of the deceased to be scattered in special places or creating a quiet environment for meditative contemplation. Some owners had established ceremonial places; in one natural burial area, benches were carefully positioned in 'meditative' places with a view of the landscape where people could find

inner peace. Public forest managers also encounter people engaged in silent walking, meditation or all kinds of ceremonies. They find dispersed ashes, flowers, trinkets or even candles that represent traces of rituals in their area; remnants are removed if they present any risk: "*If it's little tiny things that will deteriorate by themselves, we leave them. The bigger things, we remove. And candles, for sure"(1:146)*[20]. They often said that they suspect that spiritual activities are occurring more often than they are aware of. As one forester recounts: "*We have a lonely oak […] in the forest, a very old oak standing in a special place. One night I [came across] a witches' ritual there. They were dancing around that tree. I did not see a problem, although I wouldn't do it myself. It is a kind of ritual people look for. Actually, they're not allowed to be in the forest at night*" *(7:43).* Sometimes managers receive requests for 'spiritual' use of an area: meditation, yoga, ceremonies based on Pagan or Celtic spiritual traditions, therapeutical coaching in nature areas, dispersing ashes or establishing remembrance objects. Managers will tolerate such practices if the practitioners do not conduct their activities away from paths and do not enter vulnerable areas, light fires, make noise or otherwise create a disturbance. However, those conditions are not always met: "*Last year we met a group of people who were having a spiritual experience, they walked everywhere. Straight through the fields and the heathlands. Because there is a very special place in the woods, and they just had to be* there *[…] Those are things we don't like, because we have a lot of visitors. And if we allow everybody to [leave the trails], it's not good for nature.*" In those cases, forest managers send people away or fine them for trespassing, depending on the situation. They must weigh up the spiritual seekers' interests against ecological risk and their mandate to apply the rules fairly to everyone.

The *Material-Spiritual* dimension (D9) is strongly related to the *Practical-Ritual* dimension. It is expressed in a variety of material features mentioned by foresters of both groups in relation to forest spirituality, also in tandem with the *Practical-Ritual* dimension. Private forest managers mainly refer to this dimension in connection with burials and ash dispersal. Public foresters also mention objects in connection to remembrance rituals involving artwork, flowers, memorial tree planting or other material expressions. They also mention stone circles, mandalas or a labyrinth made in the area. Some areas contain ancient dolmens, burial mounds, gallow hills or other archaeological relicts that need to be maintained for cultural-historical reasons. Such archaeological monuments do not have an a priori 'spiritual' meaning, but for some people, they do: "*For example, at burial mounds; people sometimes want to do something there. Last November we were mowing burial mounds. And there was a lady who went there with a special flute. She sat down to make music on that burial mound. Her story was that she tried to calm the spirits that way*" *(7:41).* Protection of these monuments is sometimes an issue, for instance in this case: "*I know that people go [to the dolmen] on 21 June to celebrate the summer solstice. Once there was an accident, because they made a fire right against the dolmen. So, one of the stones broke, because of*

[20] For privacy reasons, the numbers after the quotations are not traceable to the interview partners in Table 4.1.

the heat. And now, every year we go there in the evening to see if everything is all right and they don't make a mess of it. They are students […] and they drink a lot of booze" (11:33)

The *Social-Institutional* dimension (D8) is also related to the *Practical-Ritual* dimension. Managers of public forests observe an increase in organized spiritual activities, often on a professional basis: *"When two people practise yoga in a place where they do no harm, that's no problem for us, as it is not commercial. But we will approach a group of 20 persons sitting together in the grass. We don't send them away immediately, but we give them our card, record their contact details and tell them we'd like to contact them about organizing this" (9:8).* Foresters find themselves engaged in dialogue about behaviour, conditions and rules about spiritual practices: *"We like that people ask permission and then we explain to them: 'Do it near a path. Don't let people walk too far into the forest' and then that's all fine" (4:203).* Many foresters would like to issue permits, raise access fees and enterinto contracts as a good means of maintaining control and to cover some of the costs: *"All that nature is not entirely free of charge [...] You earn money with it, but, well, we also have to maintain the area. So, we sometimes charge a fee, but it is still VERY difficult; arranging those permits is in its infancy, because people don't yet expect that they should pay for nature" (9:6).* So, there is a variety of ways in which the *Social-Institutional* dimension is expressed in forest management, from 'due diligence' to active encouragement.

The *Experiential-Restorative* dimension (D3) is the third important dimension found in the interviews. Both groups of foresters frequently refer to health and other benefits from nature to the human spirit, for themselves, for visitors or for people in general. Tranquillity is by far the most cherished attribute mentioned: *"The openness, the roughness of nature, the silence. Those are key values for people to visit this area. And if you translate them to what spirituality means, then it's something that people, how do you say that? It is one of the most important things for people to come and visit this place" (13:5).*

Some private owners open their estate for the specific purpose of mental and spiritual restoration: *"Those hectares are open for coaches who want to be in the silence of nature with groups. The people who register for them are in great need of peace and that also means that they have to cleanse their minds as well as their bodies" (27:16).* In addition to tranquillity, 'Earth energy' is sometimes mentioned as an important ingredient for spiritual restoration: *"Some people immerse themselves in a kind of wellness bath, in that silence-energy field." (27:41).*

Another private owner explains how old growth on their estate stimulates spiritual healing: *"Nature in a very old area that has been there for a long time provides a strong basis for people who walk there or come into contact with it. It is quite different from a young plantation, of course, and you feel the difference. You see damage to trees, for instance, and you can use that kind of nature very well as a mirror for your own*

development and your own security in the various phases in your life. Then people can regain power from nature from that basis and they can return to the world in a friendly and positive way, we hope" (28:5). In natural burial areas, nature has been observed to bring comfort: "*For many visitors, it is important to seek comfort from nature and find rest. Typically, during funeral ceremonies, the atmosphere is much less formal, and people are more themselves. Participants make speeches spontaneously, for instance. It seems nature has a soothing effect on people" (31:7*). Benches are often specifically placed as restful places in public as well as private forests: "*All around, we have these beautiful wooden benches that people use as a kind of remembrance place or something" (6:15)*.

In public forests that are commonly visited by diverse groups of users, forest managers often face the challenge of ensuring adequate tranquillity for the benefit of wildlife as well as rest-seekers. Mountain bikers in particular were found to clash with silence seekers. This was aggravated when the forests became crowded during the Covid-19 pandemic. During that and other times, zoning was the most important measure, separating the various recreational uses of the forest: "*One tries to apply zoning to the area. […] In any case, to try and prevent people meeting each other as much as possible […], so that they all get what they want*" *(3:23).* Another measure is reducing the network of walking routes: "*We shut the paths down and get people to walk around it. That way, we create a more robust piece of forest, where nature can retreat and does not get disturbed by visitors. So, it's mostly for the forest animals, but it also brings peace and quiet. You won't see any people or hear any noise*" *(4:181).* With these and other measures, intensive recreation and sports are separated from rest-seekers who often walk longer distances.

Theme 2: 'Ontological and relational underpinnings of forest management'

Theme 2 addresses the deeper motives for management practices that interviewees implicitly or explicitly associate with spirituality. This theme is informed by the *Philosophical-Ethical* and *Experiential-Relational* dimensions, which appear in foresters' reflections on tree felling and on communication with people.

The *Philosophical-Ethical* dimension (D7) is the most frequently mentioned in interviews with the private forest managers, but rarely appears among the public forest managers. This dimension is present in reflections on various subjects. One private owner reflects on the objectives and strategies of their management as follows: "*In the practical management of the natural burial site, spirituality is not really actively thought of, but it is somewhere in its foundation*" (31:15). Another manager of a public forest reflects on what ownership means for communication with residents: "*You know, we have to share our vision, our policy, with people who live there. Because we are the rightful owner. But they are, I think, the spiritual owner, eh? When you live there, it doesn't matter that the signboard says, it belongs to [this owner]. It's your birthplace. So, it's rather strange to say: 'This is our nature reserve'" (15:22).* One private forester is more articulate about the spiritual underpinning of their management: "*Actually, it doesn't really matter that you are the land* owner, *but what matters is that you manage it with*

heart and soul, whether or not it is your property. The only advantage of owning the land in these times is that you are not overruled by other people's concepts and conditionings that are harmful to the area" (27:44).

Foresters specifically respect trees: *"They [the trees] have been there for 80 or 100 or 150 years and they've seen all these people coming by, all these squirrels, and they're way older and wiser than we are. So, they can teach us a lot […] They've been on earth way longer than we have, so you can learn so much from the trees" (5:60).* Regarding trees with respect can lead to dilemmas when it comes to tree felling: *"I had a discussion with one of my rangers who was marking the trees in a block for thinning. I told him: 'I don't like it when you mark those three Douglas firs in the middle of the block, because they're very beautiful big trees.' But he marked them, saying: 'They're just nasty big trees, nothing grows underneath or nearby.' They were* massive *trees over 100 years old. For me, they had a meaning, because they were old. However, they were also in the middle of a block of young forest, so he cut them down. Then they were lying by the roadside, but no one wanted to buy them 'because they had too many branches […]. Later on he told me that he felt sorry that he had cut them down." (1:138).* Another forester recognized that the felling of a monumental tree is a definite historical loss, but that it at least obliges us to create renewal: *"You should not destroy a piece of history and do nothing with it in return. We can never restore that old tree, but we can start something new again in the same capacity" (2:37).* Some foresters find it challenging to communicate these complex feelings with the public too: *"If I see that all these trees have been cut down, even for very good reasons, it hurts me personally. But in my profession, I know that sometimes it just needs to be done. So, when I'm having a conversation with people who don't agree with our plans, I try to communicate that I also find it difficult, but it's for the greater good; it's not about this individual tree, but system recovery. And sometimes you get a little more understanding then. But yeah, it still hurts [for] some people. And you cannot really take that pain away" (13:34)*. Nevertheless, different views on nature will remain: *"Our core values match, because we both want to protect nature. But the vision on how to do it is different. We think we need to cut trees to protect the peatlands, and other people think: 'stay out of nature and nature can manage itself'" (13:31)*. However, other foresters reported they had learnt to cope with growing public resistance against tree felling by careful and timely communication, and, if possible, field excursions to demonstrate the reasons for felling.

The *Experiential-Relational* dimension (D2) is referred to by foresters of both groups. Some declare that they mostly apply an 'ecological lens' when dealing with the forest. Others observe that people act from different perspectives on the world: either seeing 'nature' as something separate, or seeing people and nature as connected. Connectedness is often related to seeing trees and nature as people: *"So, the tree is a life form as well. If you say hello to it, or connect with it, you can ask if it wants connection or not"(5:11).* The dimension also comes back when managers talk about their feelings about tree felling: *"When we had to cut trees – don't tell my colleagues – but I did talk with the trees [and said] that some of them would be taken out. And become*

firewood for other people so they could warm up. So I do connect with the trees or the life forms to let them know what's gonna happen. And sometimes it's difficult 'cause we planted them and we planted them very close to each other 'cause this is how we manage forests." (5:53).

Some foresters struggle to convey their deep passion for nature to the public: *"I can't imagine anyone who doesn't like to be in nature [...]. But still, it's like a deeper layer or something. And the struggle I find myself in, also in my work, is: how do you really touch people in their core [so that they understand] that nature is important? You can have all these stories about the special birds and the special insects that are here, [that are] important to peatlands. But how to really,* really *touch people?" (13:54).* Many public foresters are engaged in educational programmes and consider it especially important for children to connect with nature 'at a deeper level'. As one forester explicitly put it: "*That is about just letting children wonder and let them connect with nature and not so much that they can list ten species when they come back, but more that they experienced that they really make that connection. And I think you can actually count that as spirituality. So it is still energy what you feel. And yes, we do that sort of thing" (17:20).* Several managers mention the 'NatuurWijs' ('Nature Wise') project as a succesful way to connect children with nature. This project was pioneered by Princess Irene, a member of the Dutch royal family and reknowned for her nature connection work through the 'Nature College' Foundation, which she initiated and chairs (Natuurcollege, 2022).

Theme 3: 'Forest spirituality in narratives and the past'

Theme 3 refers to the sense of mystery evoked by local legends and physical remnants of the past. This is a minor theme dominated by the ***Mythical-Narrative*** **dimension (D6).** Many such stories are about trees, forests, spirits or water: "*There's this theatre organization focused on storytelling, and we hire them in. And the stories they tell are about the myths of this area, because they are the characteristics of this nature area. It used to be a swamp, a very big swamp of 60 kilometers long, a long time ago. It was something very mysterious and dangerous. And there are a lot of things happening that no one could explain. That's why myths exist, of course. So, there are quite some stories about these mysterious characteristics of [my area]." (13:14).* One forester associated spirituality with history and archaeology: "*What does spirituality mean for you?*" "*Well, I'm an amateur archaeologist myself and I find Celtic history really interesting. Fortunately, I'm in a good area for that. There are a lot of burial mounds here*" *(33:1).* Cultural history is not a priori 'spiritual', but it has the potential to elicit people's interest: "*I think there are more people interested in history than purely in nature. Once we had an information evening about [a former monastry]. When I have an evening for people to hear something about nature, 100 people make a good night. Then there is a lot of interest. But on the night when we talked about the history of that place, over 300 people came*" *(15:15).* Therefore, under the aegis of cultural heritage and history, spiritual connotations may be deployed to connect people with forest and nature.

Theme 4: 'The ineffable aspects of forest spirituality'

This last minor theme covers the three rarest dimensions, which, each in their own way, relate to the ineffable aspects of spirituality. The *Experiential-Unspecified* dimension refers to spirituality that remains further unspecified; the *Experiential-Life Force* dimension refers to the elusive phenomenon of 'life force', also known as 'vital energy' or 'Earth energy'. The *Experiential-Aesthetic* dimension relates to the spiritual levels of aesthetic experience, which are, ultimately, also ineffable.

The *Experiential-Unspecified* dimension (D0) comprises references to spirituality that foresters struggle to make explicit. Public forest managers often relate deeply touching experiences in nature which inspire them to do their work more intuitively, but they have difficulty reconciling intuition with their organizations' science-based views. As one forester remembers: "*When you want to work from your intuition, and when you want to work from your heart, and you are still in an organization which has traditional politics*" *(5:67)*. They add that there is more openness now: "*It's interesting that people are open for it now. And it's not only the minds, but it's…. when we, whatever, experience nature from the hearts.. we don't talk about it, but everyone knows. It's good that it's in the open now.*" *(5:70)*. Large organizations now employ special foresters for communication: "*We have a forester who is especially engaged [for communication], that is their job. But this person is also quite involved in, say, the spiritual. And so, for instance, this forester was very involved in poems and they organized a poetry route. (9:45)*". In contrast, engaging spirituality in technical forest management is more easily realized by private foresters: "*Yes, spirituality, I can hardly pronounce the word, but it is a matter of feeling. When you walk in the woods, I take it into account, I look at the trees and the forests, how it behaves. Is it native or is it exotic? We are going to try those [native] tree species again and put them in between [the existing trees]. And how do they feel among those other trees? That is always the question*" *(24:16)*.

The *Experiential-Life Force* dimension (D4) appears among both groups of foresters. It is expressed in references to 'Earth energy', understood to be subtle energies in trees and the landscape that can be sensed by intuition and aided by dowsing and other intuitive practices: "*Those high areas that have not changed at all; I think that is very special, because it means that the original structure, the hydrology, but also the energy points, are still there. They have not been moved or changed by other interventions. You can still find those points in [my area], there you have specific ley lines and energy fields*" *(27:51)*. Two public forest managers reported that their forest areas were energetically 'balanced' by a group of experts specialized in this work. Rituals are also performed for energetic healing of the forest: "*I asked people from all around the world if they could send energy to the burnt forest. A couple of years later the heather was really nicely restored. So, for me, all this energy stuff is real*" *(5:41; 5:42; 5:45)*. Some private foresters also work purposely with 'Earth energy' in the management of their estate: "*Power spots were created in various places, also known as power development [places], by planting groups of trees that run in certain sightlines and those sightlines are maintained so that you can look very far*" *(28:13)*.

The *Experiential-Aesthetic* dimension (D1) is expressed in references to beautiful trees, old growth and tranquillity. This dimension is occasionally related to concrete measures, notably placing benches at viewpoints, protection, restoration, zoning and selection when felling trees. As one forester explains: "*We don't go for maximum production here. It's just to make the park nice. And if there's a very beautiful, beautifully shaped tree, crooked or whatever, we leave it*" *(1:136).* There is also a link with the *Experiential-Life Force* dimension: "*It's actually an old production forest, but with really big trees. They're all planted in lines; but it really has this mysterious vibe, you know? It's a little dark there, and there's a lot of moss and ferns. So, sometimes I find myself wandering through this forest, and the size of the trees, the moist environment and the darkness, and also the silence, that really, really attracts me. Even though from a forest manager's perspective, it's just super boring. With less ecological values than outside that forest. Yeah, I really like that part*" *(13:37).*

4.4.3. Results from the workshop and the questionnaire

The interactive workshop Spiritual Values in Forest Management (see 3.3.1) attracted 60 participants. They answered six questions and reported a large variety of forest spirituality in their work. The *Philosophical-Ethical* dimension scored highest of all, followed by the *Practical-Ritual* dimension. The *Mythical-Narrative* and *Experiential-Relational* dimensions were also represented. A third of the participants said they could deal with issues involving spirituality, while about half of the group expressed the wish to learn more. Most of them said that they would appreciate the exchange of knowledge, experiences and practical advice among colleagues and professionals in workshops and field visits. A few participants and about half of the questionnaire respondents reported that they did not have any learning needs. Some of them, e.g. one manager of a memorial forest, said so because they were already highly knowledgeable of forest spirituality. Appendix 4.B presents a full overview of workshop responses and Appendix 4.C reports all answers to the questionnaire. The results confirmed the findings of the interviews and identified a need for the improvement of foresters' skills in integrating spiritual values in forest management.

4.4.4. Summary of results

We found that forest spirituality is expressed in four themes, each constituted by various spiritual dimensions. Theme 1 addresses ritual practices for spiritual enrichment and restoration in the forest. Private foresters tend to direct their management to these goals, and do so by preserving tranquillity, old growth and ancient objects on their estates; public foresters must accommodate diverging interests and reconcile spiritual, social and ecological objectives in their management. They apply zoning, communication and, where necessary, enforcement to ensure tranquillity and the protection of vulnerable areas, and they are currently experimenting with permits and access fees for professionally organized spiritual practices. Theme 2 concerns the

ontological and relational underpinnings of forest management, which play out in: a) current debates about tree felling, in which public foresters must reconcile ecological considerations with their own respect for trees as well as different ontologies among the public; and b) educational programmes valued by both public and private foresters to engender deeper-level connectedness with nature, especially among children. Theme 3 concerns forest spirituality in narratives and the past, expressed in the mystery of local legends and historical monuments, employed in order to raise the public's interest in forests. Theme 4 addresses the ineffabale aspects of spirituality, which emerge in references to further unspecified spiritual experiences, to 'life force' energy guiding intuitive management practices in some private and public forests and, rarely, to numinous aesthetical experiences.

4.5. Discussion

The aim of this research was to elicit how spiritual values are articulated in forest management practices in the Netherlands. In this section we discuss the overall findings in relation to the research questions and existing literature (Sections 4.5.1-4.5.3), and the merits and limitations of the conceptual framework, methodology and methods applied in this research (Section 4.5.4).

4.5.1. Types of forest spirituality in management practices

As for Research Question 1, we saw that there are many types (dimensions) of forest spirituality in forest management practices and some appear more often than others. We also saw little difference between public and private foresters. The exception is the *Philosophical-Ethical* dimension, which was the most frequently mentioned by private foresters by far, but it was rarely mentioned by public foresters. This may be explained by the difference in the foresters' position. Private owners are free to apply their own views and motives to forest management, while public forest managers are bound by the views and policies of their organization. The high presence of the *Practical-Ritual* dimension in both groups can be ascribed to the increasing popularity of spiritual practices in nature, which private owners encourage on their own estates, while public foresters encounter such practices by others within a more complex governance setting. The *Experiential-Restorative* and *Experiential-Relational* dimensions come third and fourth in both groups and concur with society's increased awareness of nature's significance for health and mental restoration (Barragan-Jason et al., 2021). The other dimensions are poorly represented, including, surprisingly, the *Experiential-Aesthetical* dimension. Forests are among the most aesthetically inspiring forms of nature, give rise to sublime experiences that can called 'spiritual' (Schama, 1995; Roncken, 2018) and if forest planning and research ever touch upon spirituality at all, it is in connection with experience, whether aesthetic or other (De Pater et al., 2023b). However, most literature

focuses on forest visitors or users while our study addresses the managers who are apparently more concerned with the practical dimensions of spirituality.

4.5.2. How forest spirituality influences forest management practices

As for Research Question 2, we found four themes in which forest spirituality influenced forest management practices. Firstly, ritual practices in the forest for the purposes of spiritual enrichment and restoration (Theme 1) are forest managers' most important concern in this respect. We see a contrast here between private foresters who are free to explicitly direct their management to spiritual goals, and public foresters who have to accommodate a public with diverging interests and reconcile spiritual, social, ecological and economical objectives in their management. Large area management organizations (see, e.g. Natuurmonumenten, n.d.) are now imposing stricter access rules for larger groups and professional activities. Foresters are also calling for stricter enforcement of rules. In this way, forest spirituality may become entangled in the increasing tension between, on the one hand, the conflicting goals of open-access, and protective enforcement on the other (Thomas & Reed, 2019; Tyrväinen et al., 2023).

Secondly, ontological and relational considerations underpin two areas of forest management (Theme 2): diverging views on trees and nature inform current debates about tree felling in which public foresters have to reconcile their respect for trees with ecological considerations and emotional reactions from the public. This concurs with literature on forest conflicts of which the causes are ascribed to, among others, differences in worldviews, social representation and emotion (Satterfield, 2002; Buijs et al., 2011). In a sense, our research is also a response to the plea by Buijs and Lawrence (2013:110) for an "*emotional turn [which] is not contradictory to discursive accounts of forestry, but an essential part of it. A further challenge exists in understanding and incorporating the deepest of emotions related to identity, survival, and spirituality*". Foresters in our study indeed indicated that they learnt to reduce tensions around tree felling by open communication and dialogue. However, these processes are often complicated, and further disentangling the 'spiritual' strain from them might encourage better understanding.

The same ontological and relational considerations also affect the deeper-level connection with nature which both public and private foresters value highly. We see here a difference in the goals and orientation between the two groups of foresters in respect of connecting people and nature. The public foresters in our interviews operate under policies and plans that have for a long time promoted nature experience in order to raise the broad public's interest in and support for nature (e.g. Staatsbosbeheer, 2015b, 2020). Some interviewees working for communication and education programmes encourage a deeper nature *connectedness* among their audience, especially children, to engender health and nature-inclusive behaviour. However, this arises out of their personal commitment and can only go as far as the audience is receptive – a factor that they cannot control much. Private foresters, in contrast, are free

to select their audience and many open their estates to small groups or individuals seeking connectedness with nature for self-realization or healing, alone or accompanied by a coach. We agree with Zylstra et al. (2014) that nature *experience* is only a part of the process to achieve nature *connectedness* as a "*…sustained awareness of the interrelatedness between one's self and the rest of nature*" (p. 119). The 'spiritual' is not always manifest in *experience,* but may become more explicit in *connectedness*. We see here the outline of a process in which the 'spiritual' evolves as an important, but hitherto little specified relational value in transforming forestry practices (Mattijssen et al., 2020; Barrows, 2022).

Thirdly, forest spirituality in narratives and in the past (Theme 3) is expressed in the mystery of local legends and historical monuments, deployed to raise the public's interest in forests. This finding is associated with growing indications that spirituality (and religion) in processes of place attachment can be conducive to pro-conservation attitudes and behaviour (Mazumdar & Mazumdar, 2004; Raymond et al., 2017; Isyaku, 2021). What our research does not reveal, however, is that narratives and history can also be negatively attached to forests and engender primordial fear, e.g. through stories and traces of past violence, war actions or graves in the forest (Schama, 1995; Van den Berg and Heijne, 2005). Perhaps forest managers' primarily positive disposition towards forests is an explanation for this absence.

Fourthly, both public and private foresters make occasional references to ineffabale aspects of forest spirituality (Theme 4). Some foresters make vague hints to 'spiritual' experiences which they were reluctant or unable to specify, a finding which concurs with the studies by Van Trigt et al. (2003) in the Netherlands and by Terhaar (2005) in the United States. The Experiential-Life Force dimension is occasionally expressed in references to vital energy by some public and private foresters. Some even actively work with these energies in practical interventions, such as tree planting and felling. An exceptional example that made the national news is the Strubben-Kniphorst forest in the province of Drenthe, where Staatsbosbeheer allowed a 'spiritual' working group to direct the selection of trees for felling in a forest restoration operation (Van den Brand, 2011). These practices resonate with literature on Chinese fengshui forests (Coggins et al., 2019), 'Qi' or 'Prana' energy and its workings in medical and other applications (Belal et al., 2023), all documented under the umbrella of 'Earth mysteries' by Ivakhiv (2005).

4.5.3. Implications of a better understanding of forest spirituality in forest management practices

The interview results showed that foresters generally see a growing trend in spiritual practices in forests. In addition, the workshop and questionnaire, although limited in scope, made it clear that foresters want to improve their knowledge and skills in these matters and they expressly asked for more opportunities for training and exchanging experiences and insights. They were not articulate about what precisely they would like to learn, but the learning content should pertain to at least their management practices

and interaction with spiritual practitioners. Knowledge about the various types of forest-related and place-based spiritualities is an obvious subject. Foresters might benefit from knowledge exchange with colleagues or local coaches and therapists in their area, but they might also benefit from a broader range of experts in 'ecospirituality', who might acquaint them with information and literature from elsewhere. Practical implications for management might be a more careful treatment of 'old-growth forest' (mentioned in the interviews and workshop); more consideration of perceived 'Earth energies' of the landscape; enrichment of foresters' and citizens' knowledge of social-cultural history of the landscape; and better 'spiritually informed' management of special-use forests such as memorial forests or natural burial areas.

The results also confirm our findings about the role of spiritual values in forest management plans from British Columbia and the Netherlands (Chapter 3). We conclude that spiritual values do not only feature in forest management *plans*, but also in on-the-ground *practices*. With respect to the themes emerging from the two studies, we see similarities as well as differences. Dutch forest management plans rarely address the two most important spiritual themes in Dutch forest management practices: 1) ritual practices in forests for spiritual enrichment and restoration, and 2) the ontological and relational underpinning of forest management. However, ontologies and relational values do relate to spirituality in the British Columbian plans, namely in texts where selective felling is proposed as a form of 'wise use' of forests and a spiritually acceptable alternative for clearcut. The theme '*Forest spirituality in narratives and the past*' echoes the Dutch management plans that mobilize history in storytelling and communication to connect visitors with land and nature. In this respect, the plans are duly implemented. The fourth theme, '*Ineffable aspects of spirituality*', hardly appears in the management plans at all. Only some British Columbian plans mention First Nations' references to the 'power' of the land, which resonates with Dutch foresters in this study who occasionally mention the deployment of 'life force' in tree planting or landscaping. Finally, while the *Experiential-Aesthetic* dimensions of spirituality were by far the most prominent in all plans, these dimensions were much less significant in the practices of forest management. Overall, both studies indicate that forest spirituality is not only significant for nature *experience,* but also – and perhaps more so – for ritual practices, connectedness, health restoration and the 'wise use' of forests.

4.5.4. Reflection on the conceptual and methodological approach

In this section, we discuss various considerations about the conceptual approach, data selection, analysis and validity. The conceptual framework (De Pater et al., 2021) proved to be adequate in order to analyse spiritual values in forest management: it broadly enabled the categorization of spiritual values in relation to forest management. However, the spiritual dimensions used in the conceptual framework appeared to be too broad as categories for the purposes of explaining spiritual values and their context in detail. The addition of attribute categories to the analysis solved this problem and yielded satisfactory results.

As for data collection, the selection of interview participants was necessarily limited to those foresters who had no objection to discussing 'spirituality', a term that has long deterred professionals and others (Van Trigt et al., 2003; De Pater et al., 2008, 2023b). However, although many foresters said that they were not 'spiritual' themselves, they have increasingly encountered 'spiritual' issues in the area and need to deal with them. This was confirmed in the workshop. We do not pretend, however, that our findings are valid for the whole of the forestry profession throughout the Netherlands. That would require a different, quantitative type of research. In addition, we found that neither of the two groups of public and private foresters were entirely homogenous. Some public foresters had great 'spiritual' interest while some private foresters (e.g. managers of natural burial grounds) were less explicitly spiritually orientated than others. In general, however, both groups were adequately represented and distinguishable.

With respect to data analysis, we recognize that holding and interpreting interviews is a subjective matter. This requires reflection on our own position as Dutch researchers with work careers in the Netherlands and abroad. We tried to refrain from undue judgements and checked our interpretations repeatedly against coding done previously by the original data analysts and against our own work, and a reliability check was performed as well. Nevertheless, we cannot rule out that some degree of subjectivity has remained.

As for validity, this is largely limited to the research area due to the qualitative nature of the research. Nevertheless, we made every possible effort to ensure external validity (Kumar, 2014) by thoroughly documenting all parts of the research process.

4.6. Conclusions

This paper contributes to seven main insights. Firstly, our findings confirm once more that the recognition of spiritual values of forests is not limited to Indigenous people or the Global South (Elands et al., 2019; Verschuuren et al., 2021; De Pater et al., 2023b). Moreover, the increase of spiritual practices observed in Dutch forests is consistent with the rise of 'nature-based spirituality' among the public as described by Taylor (2010) and the appearance of 'spiritual enlightenment' as a category of forest cultural ecosystem services in the Europe-wide survey by Torralba et al. (2020).

Secondly, our findings indicate increasing interest in forest spirituality in the Netherlands. This is in line with the 'forest re-spiritualization' hypothesis proposed by Roux et al. (2022). Our study provides some empirical insights on the *nature* of forest spirituality and its relevance for forest management in support of this hypothesis. The analytical lenses of both studies differ in some respects though. Roux et al. derive their approach from the ecosystem services paradigm which applies an 'etic' approach, looking at spiritual phenomena from a pre-defined framework. Our research is partly

rooted in religious studies scholarship (De Pater et al., 2021) which deploys an 'emic' lens, i.e. it looks at spiritual phenomena from the point of view of the insider (Caillon et al., 2017). While the ecosystem services approach allows comparison over larger areas and times, its 'etic' approach is less suited to identifying the specific – albeit perhaps 'hard-to-define' – characteristics of spiritual phenomena what we have tried to do here.

Thirdly, we observe that the perceived rise of forest spirituality in the Netherlands concurs not only with the renewal of ancient Western spiritualities (Hanegraaf, 1998); Taylor, 2010), but it is also entangled with 'Eastern' and Indigenous spiritualities. The increase of forest-based practices such as yoga, meditation and 'forest bathing' contribute to the theory of the 'Easternization of the West' by Campbell (2007), stating that Eastern spiritualities fill the spiritual vacuum left by modern secularization in the Global North. Indigenous spiritual practices such as shamanic initiations, sweat lodges, medicine circles, etc. are also observed in Dutch forests. In contrast with North America, where Native American spiritualities feature prominently in forest management literature (e.g. McCorquodale et al., 1997; Driver et al., 1999a; Lewis & Sheppard. 2013), 'Indigenous' forest-based practices in the Netherlands appear to be too scarce and mixed with other spiritual practices to be able to single them out in this research.

Fourthly, our study also concurs with the upcoming research field of 'ecospirituality', which "*suggests […] there is a spiritual dimension to ecology and that spirituality is indissociable from ecological concerns*" (Choné 2017:38). Theoretically, ecospirituality encompasses virtually all modern philosophical, anthropological and other thinking at the interface of ecology and spirituality. However, its empirical focus is mainly on religious movements or environmental activism, leaving out the actors at the very nexus of that interface: those who manage forests and landscape in dialogue with the public. Precisely this gap is addressed here. Our findings confirm that 'ecospiritual' tendencies are increasing in various forms of forest management in the Netherlands, albeit not always without tension. More research would help shed more light on ecospirituality in forests and inform professional education.

Fifthly, as the demand for forest spirituality is growing, we foresee a new role for foresters alongside the roles of 'host' and 'protector/enforcer': the role of 'provider' or even 'seller' of 'spiritual goods and services', analogous to facilities for outdoor sports such as trail running and mountain biking. While the reduction of spiritual values to mere commodities is in no way justified, we should not dismiss the economic and financial aspects of forest spirituality out of hand. After all, they are part of the *Material-Spiritual* dimension in our conceptual framework. It might therefore be worthwhile exploring the economics of forest spirituality further, if only to obtain insight into its importance.

Finally, our study contributes to the realization that mere experiences in nature are not enough in themselves to engender lasting health benefits and behavioural transformation, but that a nature connection touching deeper levels is required (Ives et al., 2018). This implies that nature connection is not a one-time affair, but rather a

'learning way', much as is taught by spiritual traditions. Although even a brief spiritual experience in nature can be striking and life changing (Terhaar, 2005), change is only sustained when experiences are repeated (Wang et al., 2023). In other words, engaging in forest spirituality may develop into a personal and communal learning way much the same as the 'spiritual way' known in spiritual traditions worldwide (Bawden, 2010 [1997]; Waaijman, 2001; (De Pater, 2015). These learning ways should be further explored.

Data storage

[Dataset] De Pater, C. (2024). Dataset Spiritual Values in Forest Management Practices, Mendeley Data, V1, https://doi.org/10.17632/dycj24dynp.1

Appendix 4.A.
Codes used in data analysis

Note: Specifications are available from the author.

A.1. Dimensions of Spirituality ('D' codes)

D0. Experiential-Unspecified
D1. Experiential-Aesthetical
D2. Experiential-Relational
D3. Experiential-Restorative
D4. Experiential-Life Force

D5. Practical-Ritual
D6. Mythical-Narrative
D7. Philosophical-Ethical
D8. Social-Institutional
D9. Material-Spiritual.

A.2. Management Interventions ('M' codes)

M. Bench
M. Clearcut
M. Climate measures
M. CommEduKnow
M. Description-use
M. Description-what it is
M. Enforcement
M. Handwork
M. Nature Events
M. Nature Excursions
M. Nature Tourism
M. Objective & Strategy
M. Plans

M. Problems
M. Protection
M. Requests from public
M. Research
M. Restoration & Maintenance
M. Sightline
M. Thinning/Selective felling
M. Traditional use/knowledge
M. Tree felling
M. Tree planting
M. Wildlife management
M. Zoning

A.3. Attributes related to forests and management ('AM' codes)

AM. (Health) benefits of nature
AM. Corona
AM. Crowd pressure
AM. Cultural history
AM. Earth energy
AM. Ecological lens
AM. Fairytale forest
AM. Forest structure
AM. Forest/ heath fire
AM. Graves & gallows

AM. Landscape vision
AM. Mandala
AM. Nat. burial & Ash fields
AM. Nitrogen & Climate
AM. Open landscape
AM. Place attachment
AM. Refuge/quiet area
AM. Tranquillity
AM. Tree aesthetics
AM. Wilderness, Being in

A.4. Attributes – general ('A' codes)

A. Alienation from nature
A. Animal symbolism
A. Art
A. Art, Nature/Land/Forest
A. Avoiding 'spirituality'
A. Career choice
A. Childhood
A. Compassion
A. Culture
A. Damage & loss
A. Danger, fear, vulnerability
A. Diff. persp.
A. Dowsing
A. Eco-resistance
A. Emotions
A. Enlightenment, Clean
A. Fireplace, fire
A. Flow experience
A. Forces of nature
A. Future

A. Gender
A. Grief & Loss
A. Ignorance/Ego/Power
A. Incr. spir. activ.
A. Indigenous/Eastern
A. Inner nature
A. Intuition
A. Magical moment
A. Making tangible
A. Money
A. Nature experience
A. Non-judgement
A. Oneness
A. Openness to SV
A. Paganism/Celtic
A. Place names
A. Pollution/destruction
A. Rational
A. Remembrance
A. Resonance

A. Sensemaking
A. Social media
A. Solstice
A. Spiritual Values
A. Stress relief
A. Tipping point
A. Tree/plant symbolism
A. Trend & Transformation
A. Trust
A. Vocation
A. Warrior symbolism
A. Wisdom of forests
A. World crisis
A. Writing & publishing
A. WV Care for nature
A. WV Evolutionary
A. WV Man above nature
A. WV Nature God's gift to people
A. WV Participant

Appendix 4.B.
Workshop Spirituality and Forest Management

B.1. Workshop specifications

Workshop title: Spirituality and forest management
Workshop website: https://beheerdersdag.nl/programma2022/spirituelewaarden/
Event: 14th National Area Managers' Day ('Beheerdersdag'), https://beheerdersdag.nl/
Date/time: Friday 23 September 2022 from 15:00-15:45h
Location: Hunting Room, Lordship Mariënwaard Estate, Beesd, Netherlands
Number of participants: 60
Software used: Mentimeter (https://www.mentimeter.com/).
Event report: https://beheerdersdag.nl/meer-dan-500-bos-en-natuurbeheerders-delen-kennis-en-ervaringen-op-de-beheerdersdag/

B.2. Programme including Mentimeter questions

Brief Introduction
Mentimeter Session 1, Questions: 1. What comes to mind when you think about spirituality in nature? 2. How important is spirituality in nature for you? 3. Do you notice anything 'spiritual' in your work?
Presentation of preliminary results of researchers PhD research *Available on: https://beheerdersdag.nl/wp-content/uploads/Spirituele-Waarden-in-Bosbeheer-Cathrien-de-Pater-Bas-Verschuuren-Aranka-Rothengatter.pdf (in Dutch)*
Mentimeter Session 2, Questions: 4: Please provide examples of spirituality in your work 5. Can you deal with spirituality in your work? 6. What kind of assistance would be of use to you? Would you like to learn more, exchange experiences, follow workshops, etc.?
Final Discussion

B.3. Answers to Mentimeter Questions

Mentimeter Question 1. What comes to mind when you think about spirituality? (N=43)

Word cloud words mentioned (in Dutch*/English)*
Aardse elementen / *Earthly elements*
Andere kijk / *Different view*
Autenthiek_leven Bewust_leven Mediteren / Authentic living, conscious_living Meditation
Betrokkenheid / *Commitment*
Bewustzijn / *Consciousness*
Bezinning Gedachten Verbanden Filosofie Ervaren Zijn/ Contemplation Thoughts Relationships Philosophy Experience Being
Een_denkwereld Spirituele_idolen / *A world of thought Spiritual_idols*
Een altijd EEN_en_ALTIJD / *One always ONE_and-ALWAYS*
Eenheid Intuïtie Eigen_natuur Hier_en_nu / *Oneness Intuition Own nature Here_and_now*
Eenheid Lichaam_en_geest / *Oneness Mind_and_body*
Eenwording Opgaan / *Unification Blending*
Energie (2x) / *Energy*
Energie Geloof / *Energy Belief*
Energie Overlevingsmechanisme Afweren Goddelijk Persoonlijke_ontwikkeling Verbinding / *Energy Survival mechanism Fend off Divine Personal_ development Connection*
Filosofie Rust Bewustwording / *PhilosophyTranquillity Awareness*
Geloof / *Belief*
Geloof Gevoel Kosmos / *Belief Feeling Cosmos*
Geloven Gevoel / *Believe Feeling*
Gevoel / *Feeling*
Gevoel Diepgang Religie Verbondenheid Diepere_betekenis Mindfull / *Feeling Depth Religion Connectedness Deeper Meaning Mindful*
Goden Bezinning Holistisch Meditatief Onderbewustzijn / *Gods Contemplation Holistic Meditative Sub-conscious*
Heksen Maan Enge_vrouwen / *Witches Moon Scary Women*
Interne_rust – *Inner_Rest*
Intuïtie (2x) / *Intuition*
Leven Liefde Natuur / *Life Love Nature*
Leven Oneindig / *Live Endless*
Liefde / *Love*
Mystiek ritueel geloof sjamaan keltisch / *mystic ritual belief shaman celtic*
Mythologie Legendes Alles_is_1 / *Mythology Legends All_is_1*
Natuur (2x) / *Nature*
Natuur Heilig Bewustzijn / *Nature Sacred Awareness*
Openheid / *Openness*
Openstaan / *Be Open*
Rituelen / *Rituals*
Rust (5x)/Tranquillity
Rust Ongrijpbaar / Tranquillity Intangible
Rust Samen Wholeness Natuur Liefde / Tranquillity Together Wholeness Nature Love
Rust_en_stilte Dikke_bomen Kracht / *Peace and quiet Large_trees Power*
Samenleven / *Live together*
Tijdloos / *Timeless*
Verbinding / *Connection*
Verbinding Bewust_worden Waarde / *Connection Become aware Value*
Verbinding Bewustzijn / *Connection Awareness*
Verbinding Energie Voelen Aarde / *Connection Energy Feeling Earth*
VVerbinding Kosmos Waarde / *Connection Cosmos Value*
Verbinding_met_ontastbare/ *Connection_with_intangible*
Verhalen / *Stories*
Verheven / *Exalted*
Verrijking Geloof / *Enrichment Belief*
Vertrouwen Geloof / *Trust Belief*
Waarden Mensen Natuur Bescherming Passie / *Values Humans Nature Protection Passion*
Yep / *Yep*
Ziek Vrijheid Samen / *Sick Freedom Together*
Zoekend / *Searching*
Zweven / *Flotring*
Zweven Dichter_bij_je_kern Vage_wereld Andere_dimensie / *Floating Closer_to_your_core Vague_world Other dimension*
Zweven Rust Stilte Wijds Innerlijk Zen / Floating Tranquillity Quiet Vast Inner Zen
Zweven Terug_naar_jezelf Gedachten Rust / *Soaring Back_to_yourself Thoughts Peace*
Zweverig Religie Bomenknuffelen Respect Moeder_Aarde / *Floating Religion Tree-hugging Respect Mother Earth*

Mentimeter Question 2. How important is nature spirituality for you? (N = 49)

Completely unimportant	4	8.2%
Somewhat important	21	42.9%
Quite important	12	24.5%
Highly important	12	24.5%

Mentimeter Question 3: Do you notice anything 'spiritual' in your work? (N = 50)

Never	17	34.0%
Occasionally	19	38.0%
Regularly	10	20.0%
All the time	4	8.0%
I'm not sure	0	0.0%

Mentimeter Question 4: Please provide examples of spirituality in your own work (N= 40):

Adoptiebomen / Adoption trees
As verstrooien (4x) / *Disperse ashes*
Autochtone populaties / Autochthonous populations
Bankjes / *Benches*
Beleving / *Experience*
Berkentap / Birch tapping
Bijzondere ontmoetingen met dieren / *Special encounters with animals*
Boomknuffelen / *Tree-hugging*
Boomveiligheidscontrole en dan ook rekening houden met de boom / *Tree security check and then also consider the tree's interest*
Bosbaden (2x) / *Forest bathing*
Cultuurhistorische elementen / *Cultural-historical elements*
Cultuurhistorische gebouwen / *Cultural-historical buildings*
Cultuurhistrorisch inrichting / *Cultural-historical design*
(Cultuur)historische waarde van oude (autochtone) bomen / Cultural-historical or historical value of old (autochtone) trees
De Heksenboom, boom van 2019! / *The Witches' Tree, 2019 Tree of the Year!* [See https://www.rootsmagazine.nl/bomen-en-planten/boom-van-het-jaar]
De Wonderboom / *The Magic Tree*
Eigen gevoel durven volgen / Dare to follow your own intuition
Engelen beeldjes vinden in het bos / *Find angel idols in the forest*
Esthetische natuurelementen / *Aesthetic nature elements*
Gedenktekens / *Memorials*
Gedenktekens in het bos / *Memorials in the forest*
Grafheuvels (2x) / *Burial mounds*
Grafheuvels en neergestort oorlogsvliegtuig / *Burial mounds and crashed war plane*
Graveringen / *Engravings*
Grillig bos op een mistige morgen / *Whimsical forest on a misty morning*
Groene vitaminen / *Green vitamins*
Hemelpost / Celestial post
Herdenkingsbanken en -bomen / *Memorial benches and trees*
Herdenkingsbankje / *Memorial bench*
Herdenkingsboom, -bomen (3x) / *Memorial tree, trees*

Het achterlaten van herdenkingen na verstrooien / *Leaving memorials behind after ash dispersal*
Het leren zien / *Learning to see*
Het vinden van een heksenkring / *Finding a witch circle*
In boom gekerfde liefdes / Loves carved in tree
Ja ontmoeting met dieren en kinderen / *Yes, meeting animals and children*
Karakteristieke bomen die bezocht worden */ characteristic trees that are visited*
Kerkdienst / Church service
Kervingen in bomen .*Tree carving*
Koortsboom / *Fever tree*
Kunst in het bos / *Art in the forest*
Labyrinten / *Labyrinths*
Land art (2x) / *Land art*
Luisteren / *Listening*
Maandansen, knuffelbomen, heilige stenen, Herdenkingsboom */ Moondance, cuddle trees, sacred stones, Memorial tree*
Mensen die yoga willen doen in een natuurgebied / *People wanting to practise yoga in a nature area*
Midwinterviering (2x) / *Midwinter celebration*
Midzomer viering / *Misummer celebration*
Midzomerviering; Midwinterviering / Midsummer celebration; Midwinter celebration
Monumentje na zelfdoding / *Monument after suicide*
Namen gekerfd in bomen / *Names carved in trees*
Natuur kunst / *Nature art*

Natuurbegraafplaats / *Natural burial site*
Natuurbegraven (5x) / *Natural burial*
Natuurbeleving / *Nature experience*
Nee (4x) / *No*
Off the grid kamperen / *Camping off the grid*
Oud intact bos / *Old intact forest*
Oude bomen (2x) / *Old trees*
Plekjes waar as is verstrooid / Places where ashes have been dispersed
Protest / *Protest*
Ruïne onderhoud / Maintenance of ruins
Sorry zeggen tegen boom bij kap / *Say sorry to a tree at felling*
Stelen van tondelzwammen / Stealing of tinder mushrooms
Stenenmandala (2x) / *Stone mandala*
Stenenstapels / *Stone piles*
Stiltewandingen / *Quiet walks*
Takformaties / Branch formations
Terug naar de natuur / *Back to nature*
Verbinding houden met alle gebruikers / *Keep connection with all users*
Volle maanwandeling / F*ull moon walk*
Voodoopraktijken / *Voodoo practices*
Voodoopraktijken bij volle maan / *Voodoo practices at full moon*
Vrijwilligerswerk door mensen met zorgbehoefte / *Volunteering by people with care needs*
Yoga, natuurbelevingwandelingen, zweethut, energiewerk met bomen / Yoga, nature experience walks, sweat lodge, energetic work with trees
Zintuigen goed gebruiken / *Use senses well*

Mentimeter Question 5. Can you deal with spirituality in your work? (N=43)

Not important for me	5	11.6%
No, I often get stuck	3	7.0%
Yes, but I don't know if I'm doing it right	6	14.0%
Oh yes, that's going pretty well	20	46.5%
No idea	9	20.9%

Mentimeter Question 6. What kind of assistance could be of use to you? Would you like to learn more, exchange experiences, follow workshops, etc.? (N = 33*)*

General
Denk dat tbo's meer aandacht hiervoor moeten krijgen. Meer ruimte aanbieden. Nu is alles gericht op ecologie en is er bijna geen aandacht voor dit onderdeel waar veel mensen wel voor naar het bos komen / *I think area managing organizations should get more attention for this subject Offer more space. Now everything is focused on ecology and there is almost no attention for this aspect that does attract many people to the forest*
All of the above / *All of the above*
Attitude, mindset
Ervoor open staan en toelaten / *Be open for it and admit it*
Inspiratie / *Inspiration*
Exchange of experiences and insights
Ervaring delen / *Share experience*
Ervaring uitwisselen (7x) / *Exchange experiences*
Ervaring uitwisselen met andere beheerders / *Exchange experiences with other managers*
Kennis ervaring delen / Exchange knowledge and experience
Kijken bij collega's / Visit peers and look at their forests
Praktische tips van collega's / *Practical tips from peers*
Leren van andere natuurbeheerders / *Learning from other nature managers*
Leren van ervaringen van anderen / *Learning from others' experiences*
Acquire experience
Contact met bezoekers van het terrein, hoe communiceren / *Contact with visitors to the area, how to communicate*
Ervaringenen opdoen */ Gain experience*
Ervaringen van 'gebruikers' / Experiences of 'users'
Leren / *Learning*
Leren herkennen / *Learn to recognize*
Onderzoeken / *Investigate*
Reading
Erover lezen / Reading about it
Lezen over dit onderwerp / *Reading about this subject*
Literatuur over spiritualiteit / *Literature about spirituality*
Platform

Platform / *Platform*
Brainstormen / *Brainstorm*
Rond de tafel zitten / *Have a roundtable*
Workshops
Meer workshops / *More workshops*
Workshops (2x) / *Workshops*
Workshops met terreinbezoek / *Workshops with field visits*
Op deze dagen aandacht blijven houden voor dit onderwerp / *Keep attention for this subject on events such as this one*
Concrete issues / action
Concretiseren / *concretize*
Hoe creëer je de ruimte / *How to create space*
Hoe in blesinstructies omzetten? / How to convert into tree-marking instructions?
Hoe meten? / How to measure?
Factoren om rekening mee te houden / *Factors to be taken into account*
Mooie voorbeelden / *Fine examples*
Waar liggen voor mensen de bijzondere plekken in het bos / *Where are the special places in the forest for people*
Op 1A4 toelichting simpel / *Explain on 1 A4, simply*
No thanks
Ik heb geen hulp nodig / *I don't need help*
Vriendelijk aangeboden, maar nee bedankt *;-)* / *Kindly offered, but no thanks ;-)*

Appendix 4.C.
Responses to the questionnaire

Title: Spirituality in the practice of forest management
Format: Google Forms
Distribution: through a flyer distributed at the Area Managers' Day, 23 September 2022, Beesd (NL)**.**
Text: The full text of the questionnaire is available from the first author.
Respondents: 11

Answers to the questions

Question 1. My work in the practice of forest management includes:

Answers (N = 11):	**#**	**%**
Planning and or Coordination of area management	4	36.4
Communication and education	2	18.2
Area management policy	2	18.2
Other (specify)…….		
- All of the above	1	9.1
- Area caretaker	1	9.1
- Tree marking operations	1	9.1

Question 2. What comes to mind when you think about spirituality in the practice of forest management?

Answers (N = 11):
Circle of life
Conscious attention to the 'essence' of the area and what lives in it and visits it
Conservation of the cohesion of all life
Feeling what I am doing. Monthly calendar
Historic customs in relation to spirituality
How people experience nature, the emotions they attach to it
Intrinsic value
Talking with trees
The restfulness of the forest
Vagueness
Wonder about places and the situational [nature] of nature

Question 3. How important is spirituality for you in your work?

Answers (N = 11):	**#**	**%**
Not at all important	1	9.1
Neither important nor unimportant	3	2.3
Important	7	63.6

Question 4. Have you ever been contacted about spiritual activities? For instance, yoga, meditation, coaching, rituals, 'forest bathing', collecting items, visiting power places, etc.

Answers (N = 11):	**#**	**%**
Never	5	45.5
Occasionally	6	54.5

Question 5. Have you ever encountered people, activities or items in your area that are associated with spirituality?

Answers (N = 11):	**#**	**%**
A. Yes, often	2	18.2
B. Yes, sometimes	5	45.5
C. Not directly, but I suspect something is going on	1	9.1
D. Never	3	27.3

Question 6. If you selected A or B in Question 5, who or what do you encounter? (feel free to explain!)

Answers (N=4):
Burial rituals (domestic animals); Use of 'land art' areas for rituals; 'Zen' places; Yoga in nature.
Religion
I am the manager of a memorial forest: personal mementos, Tibetan prayer flags, memorial trees, memorial wood disks
Pieces of art, people organizing mindful walks, courses.

Question 7. Do you agree with this statement: "Foresters know too little about spirituality in the practice of forest management"?

Answers (N = 11):	**#**	**%**
Don't agree	2	18.2
Neutral	6	54.5
Agree	3	27.3

Question 8. Do you agree with this statement: "The practice of forest management benefits from foresters being knowledgeable about spirituality and capable of dealing with it"?

Answers (N = 11):	**#**	**%**
Don't agree	3	27.3
Neither agree nor disagree	4	36.4
Agree	4	36.4

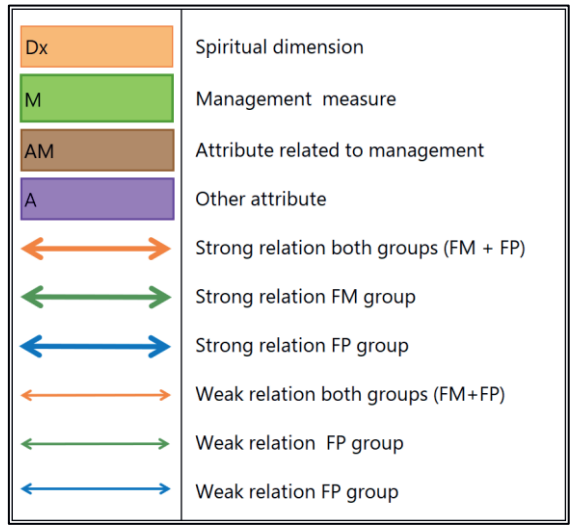
Question 9. Would you like to learn more about spirituality in the practice of forest management?

Answers (N=10):
Everything
Info about what's going on
Practical examples
Yes, other peo'le's views
First exactly know what it means, only then I can say something about it
I haven't thought about it yet and therefore I cannot think much of it
No, I learn enough about it in practice
No (2x)
No, not necessary

Question 10. Do you have any comments or questions?

No comments from all respondents

Appendix 4.D.
Networks constituting Themes 1 – 4



Legend

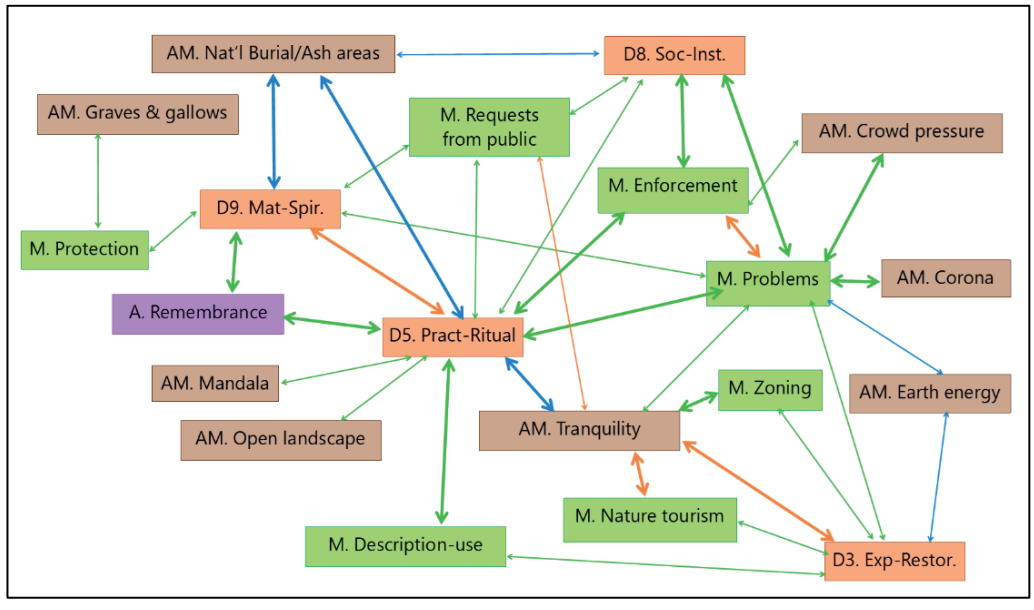


Figure 4.D.1. *Network constituting Theme 1, 'Ritual practices in the forest for spiritual enrichment and restoration'*

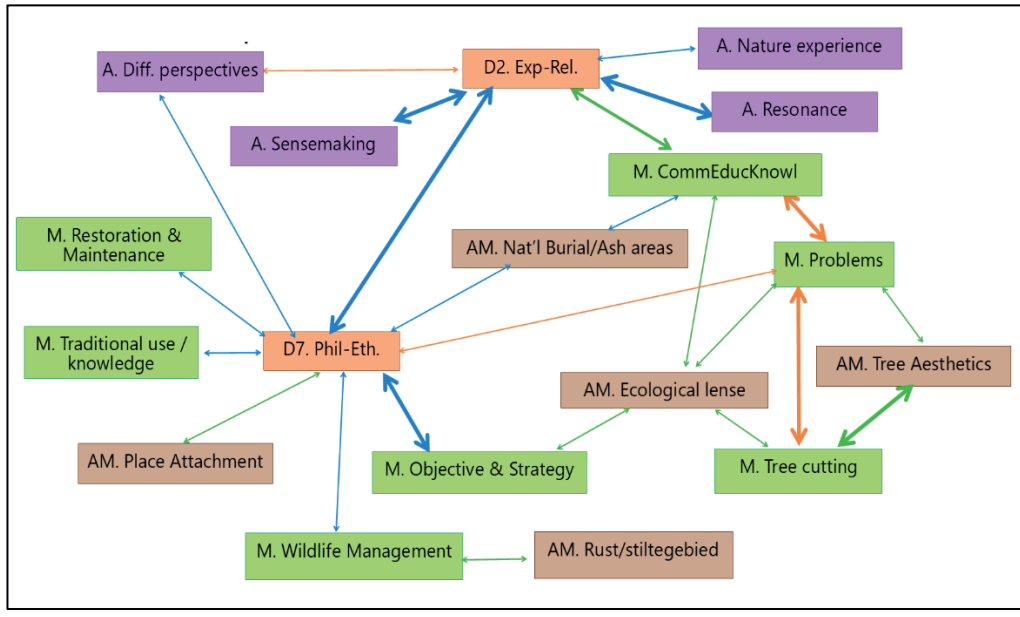


Figure 4.D.2. *Network constituting Theme 2, 'Ontological and relational underpinnings of forest management'*

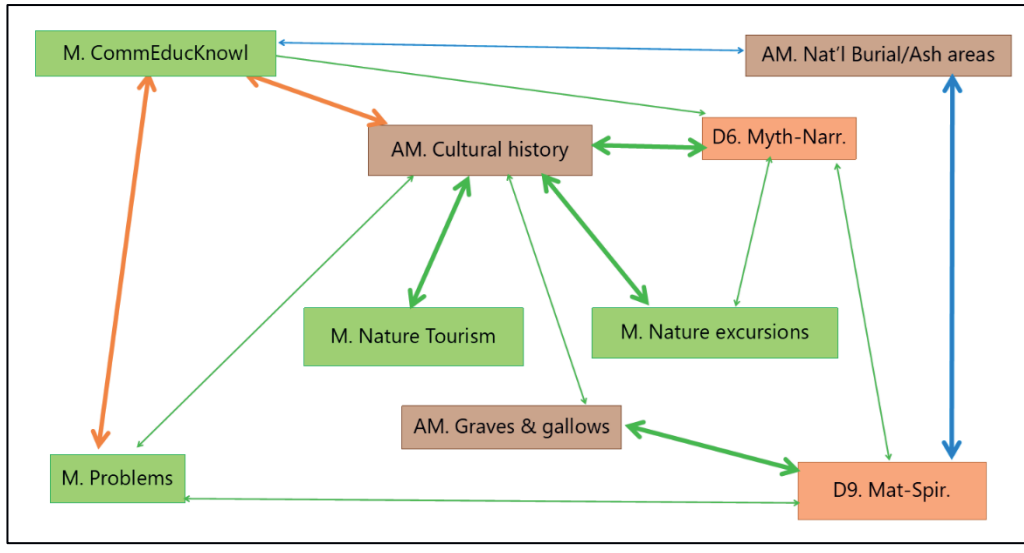


Figure 4.D.3. *Network constituting Theme 3, 'Forest spirituality in narratives and the past'*

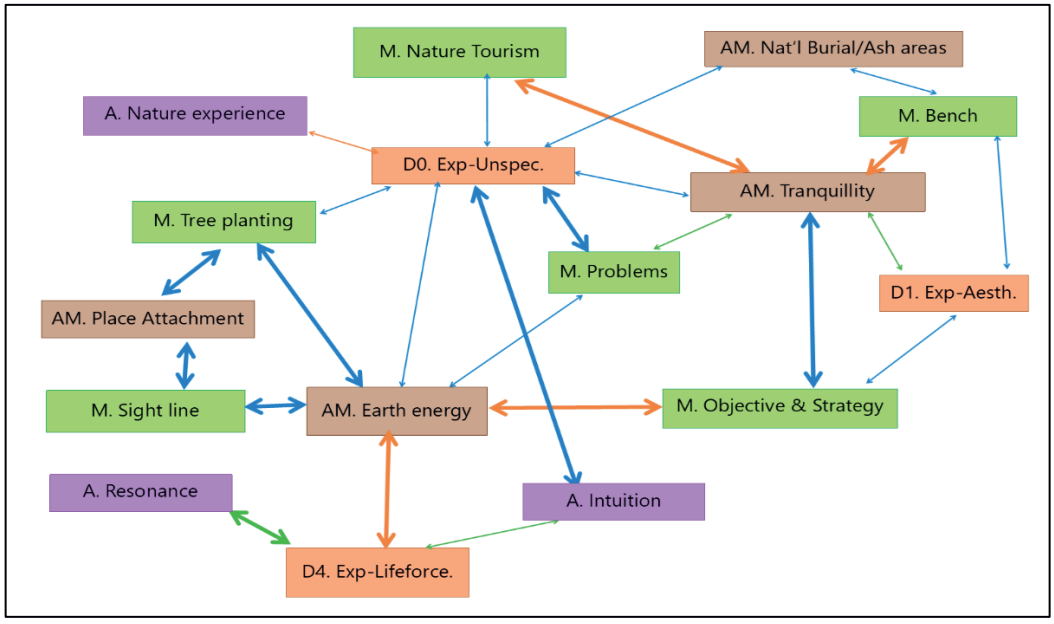


Figure 4.D.4. *Network constituting Theme 4, 'The ineffable aspects of forest spirituality'*

CHAPTER 5

Discussion and conclusions

5.1. Introduction

The aim of this thesis was to better understand how forest spirituality is grounded in forest management and what the implications are for the planning and practices of forest management. To achieve this aim, the following research questions were formulated:

1. How can forest-based spiritual values be investigated considering their complex nature?
2. How are spiritual values articulated in forest management plans?
3. How are spiritual values incorporated in forest management practices?

The answers are important as they contribute to academic debate on the rising influence of nature spiritualities on nature conservation and management within a context of increasing citizen participation, shifting worldviews and global-local entanglements. At the same time, they can help inform future forest management practices.

The first research question arose from the need to conceptualize spirituality as an object of study paying due attention to all its multifarious and, at times, elusive characteristics. Such an endeavour lies within the domain of spirituality studies and religious scholarship. I therefore had to bring in the insights of these disciplines to create a suitable conceptual framework for investigating forest spirituality. After its creation, the framework was used in studies to explore the subsequent research questions related to forest management plans and practices. The results led to better understanding of the grounding of forest spirituality in forest management, and of the implications for planning and practices of forest management. This will be elaborated in this chapter.

In the next sections, I first reflect on the conceptual framework as a tool for research (Research Question 1) and the methodology applied in this dissertation. I reflect critically on the research itself in terms of the methodology and methods used and my own positionality. I then discuss the empirical findings in the light of Research Questions 2 and 3. I then discuss the implications of these findings for research, education and policies. I end with conclusions and make recommendations for future research on the transformative potential of forest spirituality in human-nature relationships in general and human-forest relationships in particular.

5.2. Conceptual framework for the study of forest spirituality

Research Question 1: *How can forest-based spiritual values be investigated considering their complex nature?* is answered in Chapter 2 which discusses the development of the conceptual framework used for empirical research into forest spirituality. I also draw on Chapters 3 and 4 in which the framework was applied and evaluated. The conceptual framework was constructed to enable the systematic study of spiritual phenomena in the context of forest management and related fields.

I did this to accommodate the various ontologies and epistemologies connected to forest spirituality without any preference for – or bias towards – a particular viewpoint or tradition, and without reducing spiritual phenomena to objectified 'products' or 'services'. The framework was therefore envisaged to focus on the various inherent characteristics of spiritual phenomena that would help explain their nature and workings. As explained in Chapters 1 and 2, Saler's family resemblances approach (2000 [1993]) provided a suitable theoretical basis for its construction. On this basis, the conceptual framework was modelled after the seven dimensions of religion posited by Smart (1996, 2002). In composing the framework, I strove for completeness in order to capture the broadest possible range of spiritual phenomena pertinent to my approach in accordance with Smart in that the dimensions can be flexibly adapted to the scope of a particular study. Such flexibility allows for a spiritual phenomenon to have one or more dimensions at different points in time. I applied the framework in the two studies on forest management plans and forest management practices. In addition, several students at Wageningen University applied and tested the framework in their master and bachelor theses to study forest spirituality in different settings such as forest tourism, natural burial estates and forest and estate management in the Netherlands and Germany.

Overall, the framework proved to be a useful tool for analysis as it captures a broad range of spiritual phenomena and issues related to planning and implementation of forest management measures. The framework could be well adapted to both empirical studies. The dimensions did vary somewhat in the two studies, however. In the first study – the analysis of forest management plans (Chapter 2) – the *Social-Institutional* dimension was left out, as the plans in themselves were essentially institutional matters. Management plans are by their very nature pre-given social agreements expressed in formats and processes in which spirituality is typically not a variable. In other words: all phenomena identified as 'spiritual' in the plans (e.g. abandoning tree felling in sacred places) are embedded in the planning context and therefore have an a priori *Social-Institutional* dimension.

In the second study on forest management practices (Chapter 3), I did include the *Social-Institutional* dimension, because here it is a variable in the research itself. Management practices depend on various factors, particularly social and institutional contexts, which may include established plans for managing forests, but they can also

be influenced by unexpected social needs or demands that arise. For instance, the felling of a spiritually important tree can be done at the manager's discretion – in which other spiritual dimensions might feature – but would only have a *Social-Institutional* dimension if it was protested by a spiritual group or specifically prescribed in a plan. In fact, this dimension scored very low in this study too. Furthermore, the *Spiritual-Material* dimension was a point of deliberation. Interpreted broadly, this dimension would include all things material. However, as forest management is always grounded in the physical landscape, this interpretation of the *Spiritual-Material* dimension would not have a differentiating value (the codes for this dimension would have to apply to each spiritual quote in the texts). I therefore applied a narrower interpretation of this dimension in both studies, namely, when plans and practices referred to distinguishable materials and objects to which spiritual values were attributed. To summarize, the application of the spiritual dimensions in forestry studies can justifiably vary depending on their explanatory power if they are treated carefully and respectfully (Smart, 1973; 1996).

The framework's application revealed several sensitivities and limits. Firstly, the framewolk is formulated in the language of religious scholarship derived from Smart's (2002) conceptualization of 'dimensions of religion'. The application of the dimensions therefore requires some familiarization by researchers accustomed to working with scientific concepts. Interpretation of the spiritual dimensions should be carefully articulated, preferably in dialogue with researchers versed in the humanities.

Secondly, the boundary between 'spiritual' and 'non-spiritual' remains a grey area in the framework. When does an intervention in the forest carry or affect a spiritual dimension? Action is determined by a combination of motives, but ontologies play a role too. Most European managers will agree that interventions in the forest, if 'spiritual' at all, do not need to be *directly* spiritually laden and that they can also *indirectly* shape the conditions to facilitate spiritual occurrences. For instance, cutting a corridor through the forest to create a sightline to enhance visitors' aesthetic experiences may also induce spiritual experiences. Forest managers or other actors for whom land and forests are imbued with spirits governing forests on a par with humans, will regard all interventions as spiritually laden (Redmond, 1999). In general, for a phenomenon to be included in the framework, it should at least somehow refer to spiritual values within the actor's horizon, even if it is not explicitly named.

Thirdly, the problem of 'packaging' of spiritual values in broader terminology (see Section 1.8.1) was addressed by applying the framing approach of Jansen et al. (2016), which was discussed in Chapter 2. I found that it was quite possible to 'unpack' spiritual dimensions by careful reading and quoting texts ('subtexts') within the context of the plans and the interviews. By adding 'attributes' as interpretive code categories, I could characterize specific spiritual content when I found it. I thereby paid special attention to consistency by continuously comparing codes and contexts with each other and carefully documenting my interpretations. Furthermore, my insights were sharpened in the discussions with the performers of the reliability checks and with the students who

applied the framework in their own studies. Nevertheless, since spirituality is naturally elusive, some 'grey area' will always remain. Further testing of the conceptual framework in future research could improve its design and robustness.

5.3. Methodological reflection

In this section, I reflect on the methodological approach of my empirical research. I reflect on my position and role as researcher, and continue to discuss credibility, transparency, appropriateness and transferability or external validity (Baarda et al., [2009] in Jansen, 2017; Kumar, 2014).

5.3.1. Positionality of the researcher

Spirituality and spiritual values are a highly subjective matter. Not only interviewing people, but also reading and interpreting texts is subjective and it therefore requires reflection on the position of the researcher in the process. I am a female, white, Dutch researcher with roots in forestry science, training in religious studies and a lifetime of multi-cultural work experience in four continents. Although this background equipped me well for the tasks of this thesis, it also carried with it the danger of a bias towards the past which might block my view on new developments. Therefore, rather than relying solely on past experience, I approached this dissertation research as a new way of learning. With this mindset, I was careful to keep an open mind, to recognize possible biases and to bracket my interpretations to avoid inappropriate judgements throughout the research. Furthermore, I checked my interpretations against my own work and that of students doing similar studies. I also discussed concerns with my supervisors and colleagues to achieve some form of intersubjectivity (Calhoun, 2022). In addition, I sharpened my interpretations by means of two reliability checks which were part of the two empirical studies. In both of these studies, an independent researcher double-coded text samples which were compared and discussed. This yielded satisfactory results (appr. 80% congruence). Despite all these efforts, a 'grey area' of subjectivity cannot be ruled out.

In my analysis of the British Columbian forest management plans, the question arises whether this analysis was inadvertently biased towards Indigenous or non-Indigenous spiritual insights. Studies and practices that address Indigenous spiritualities in management or policy-making often 'integrate' these spiritualities into rational scientific approaches, which is increasingly recognized as a form of disembodiment of knowledge (Latulippe & Klenk, 2022; Htoo et al., 2022). I designed my conceptual framework precisely to ensure equal treatment of *all* spiritualities, as it was based on Smart's original work aimed at casting off Eurocentric biases in religious scholarship (Smart, 1996; Von Stuckrad, 2003). The forest management plans in this research had been constructed on the basis of positivist-scientific thinking. However, I studied them

not to elicit Indigenous spiritualities as such (that would require a quite different approach), but to see how spiritual values – Indigenous or not – emerged in the plans. While interpreting the texts, I realized that many references to Indigenous spirituality had to be formulated in the more or less 'technical' language of the management plans, and that Indigenous writers of, or collaborators in, the plans were not always willing to reveal all their knowledge and insights (Mason, 2013; Lewis & Sheppard, 2013). This was duly taken into account in my findings and conclusions (Chapter 3 and Section 5.5 below).

5.3.2. Credibility

As for the credibility of the studies – or their internal validity according to Kumar (2014) – the question can be asked: did the data selection and data analysis lead to convincing results? (after Jansen, 2017). Data selection comprised: 1) selection of forest management plans from British Columbia and the Netherlands for textual analysis in the first empirical study; and 2) selection of forest managers in the Netherlands for interviews on their practices in the second study. There are obvious asymmetries in this selection. British Columbia is absent in the second study on forest practices (Chapter 3) and within the Netherlands, there is no full overlap between the locations of the management plans and the stations of the interview partners (Chapter 4). Country-wise, a symmetrical design was originally intended, but could not materialize due to personal circumstances and practicalities that evolved during the research. By the time that the forest practices study was due, COVID had arrived, which prevented any further fieldwork abroad. Moreover, considering my positionality as an outside researcher, I realized that a field study into forest spirituality in British Columbia would probably not make a meaningful contribution to local needs nor would it yield trustworthy results. I therefore limited the second study to the Netherlands. Here, too, a direct link between forest management practices and plans could only be established in 4 out of 25 cases. This did not affect the credibility of the studies or the dissertation as a whole, because the research questions asked for the presence of spiritual values, not whether and how management plans were implemented in practice. As for data analysis, reliability checks were carried out in both empirical studies to ensure consistency of interpretations and coding and thus increase internal validity (Kumar, 2014). See Section 3.2.5 in Chapter 3 and Section 4.3.3 in Chapter 4.

5.3.3. Transparency

Transparency refers to the traceability of the research to facilitate the evaluation of the knowledge claims made (Moravcsik, 2019). To meet this requirement, I took care to make the research traceable at every step. This was facilitated by the systematic stepwise approach in the Grounded Theory method described in Chapters 3 and 4. I systematically documented: 1) the raw data; 2) the development of coding descriptions; and 3) all analytical steps and tables underlying the development of the themes and

figures in the two empirical chapters (see also Section 5.4.1). In addition, the various stages of the research were discussed with fellow researchers and presented in several seminars and conferences in the Netherlands and abroad. Data are stored anonymously according the Data Management Protocols of the Forest and Nature Conservation Policy Chair Group of Wageningen University and Research. Relevant empirical data for Chapter 3 were published in a Mendeley dataset (see end of Chapter 3). Those for Chapter 3 will likewise be published in a suitable place. One ethical consideration came up concerning the publication of Table 4.1., which presents details of the forest managers interviewed in Chapter 4. As the professional forestry community in the Netherlands Is relatively small, they are easily identifiable by where they work. Locations are therefore omitted from the table and only generalized on the map (Figure 4.2).

5.3.4. Appropriateness

The third criterion listed above (Jansen, 2017) refers to the appropriateness – or adequacy – of the approach and methods applied. Data selection is discussed above, but here the question arises whether the choice of British Columbia and the Netherlands was a good idea in the first place. I underpinned this choice theoretically by the observation that in both areas, specific forms of spirituality reside that have been evaluated in literature as conducive to sustainable behaviour, namely Indigenous spiritual traditions and 'nature-based' spiritualities (Taylor et al., 2016, see also Section 1.8.2). Although these spiritualities are far from mainstream in both locations, I suspected that, if any religious or spiritual tradition had anything to do with forest management, if only as an undercurrent, it would be these two spiritualities. In British Columbia, Indigenous spiritualities are closely linked with land and forests (Lewis and Sheppard, 2013), so the choice for this area was appropriate. The choice for the Netherlands was underpinned by several studies that indicate the growing presence of contemporary spiritualities in this country (Van Trigt and Van Koppen, 2003; De Hart, 2014) and their link with pro-environmental behaviour (Hedlund-de Witt et al., 2014). In combination with the explorative nature of this study, this made the Netherlands an appropriate choice. Another consideration to select countries from the Global North was that forest-related (mostly Indigenous) spiritualities have been well studied in the Global South (Razafindratsima et al., 2021), but less so in the Global North. Follow-up research elsewhere in the Global North is therefore recommended. As for the appropriateness of the sampling method, I applied purposive and snowball sampling instead of random or systematic sampling, because the research questions asked for the types and roles of forest spirituality and not for statistics about distributions or trends. For instance, the finding that forest spirituality is growing is not a measured trend, but an observation resulting from the interviews, and should be verified by quantitative research. As for external validity, this is limited in view of the qualitative nature of our research and the small study samples. However, I did everything possible to ensure the transferability – or external validity, according to Kumar (2014) – of this research so that it can be replicated or transferred to other study settings by thoroughly documenting all parts of the research process.

5.4. Spiritual values in forest management: empirical findings

In this section, I discuss the findings of the two empirical studies in which I applied the conceptual framework. The first study investigated spiritual values in forest management plans in British Columbia and the Netherlands respectively (Section 5.3.1). The second study investigated how spiritual values are articulated in forest management practices in the Netherlands (Section 5.3.2). I then combine and compare the results of the two studies in Section 5.3.3. Finally, I reflect on the methodology and methods used in Section 5.3.4.

5.4.1. Spiritual values in forest management plans

Research Question 2: *How is forest spirituality articulated in forest management plans?* Is answered by the results of the empirical study into spiritual values (forest spirituality) in forest management plans in British Columbia and the Netherlands described in Chapter 3. The study demonstrates that forest spirituality is present in forest management plans in both locations, not only in abstract principles or objectives, but also in their concrete implementation. A closer look revealed that forest spirituality is expressed in three distinct themes labelled as: 1) *'Nature experience'*; 2) *'Spiritual use'*; and 3) *'History'*. The extent to which the spiritual dimensions are addressed differs per theme and per location.

The first theme, '*Nature experience',* is the most important theme and it is well operationalized in both locations. As this theme was found in two very different countries – predominantly 'natural' versus predominantly 'urban' – we may deduce that this theme is a widespread phenomenon in the Global North.

The second theme, '*Spiritual use'*, was found in British Columbia where long-nurtured relationships with land, moral considerations and spiritually motivated practices are important drivers for a 'wise' use of the forest. This leads to the conclusion that not only *experiential* dimensions of spirituality, but also the *Practical-Ritual*, *Philosophical-Ethical* or even *Material-Spiritual* dimensions can be important drivers of forest management. However, the latter dimensions are less operationalized in the plans than the experiential dimensions. They mostly appear in sections describing principles and objectives, and the only frequent concrete prescriptions are zoning and protection. One explanation might be that it is more difficult to make 'the spiritual' explicit in operations like responsible harvesting, hunting and gathering than in experience-facilitating measures. The boundary is blurred: harvesting and hunting can be spiritually inspired (Kimmerer, 2013), but this may not be immediately apparent, as the term 'spiritual use' refers to more profound aspects of the human spirit, like worldviews and ontologies, which shape and guide our interactions with the physical world. (James, (2002 [1902]; Berkes, 2012). While intuitions and mystical revelations are 'inarticulate' – as James calls it – they do give authoritative insights and are communicated through myths, songs and many other ways in which traditional knowledge is articulated (Berkes, 2012;

Stevenson, 2013). This not only refers to concrete action, but also to the principles underlying these actions. Placed in this context, texts proposing selective cutting as a form of 'wise' (responsible) use of forests may be considered spiritually acceptable alternatives for clearcut. Another explanation can be found in the underlying forest management paradigm. Most British Columbian plans were the result of collaboration between First Nations and other partners, but within a 'technical' forest management framework that would not fully accommodate all views on 'wise use'. These results reveal limitations of forest management plans as instruments for open dialogue between multiple agents with different worldviews. More inclusive and holistic approaches to forest management planning are needed for this purpose.

The third theme, *'History'*, appears in different ways in British Columbia and the Netherlands. In the Dutch plans, history was mobilized in communication and storytelling activities to connect visitors with land and nature, thereby linking the *Mythical-Narrative* and the *Experiential-Relational* dimensions as a positive motivation. Such action was found only in a few British Columbian plans, namely in areas especially designated for First Nations' cultural restoration. Here and in other plans, the painful colonial past still reverberates in the present. Re-connection with land through history is problematic when people and the land itself have been violated in the past. This is not only the case in British Columbia, but in all areas with a history of war or violence. This 'dark side of spirituality' should be borne in mind in the debate on relational values that have gained ground in underpinning policies on biodiversity conservation, nature's contribution to people and good quality of life.

5.4.2. Spiritual values in forest management practices

Research Question 3: *What is the significance of forest spirituality for forest management practices?* Is answered in Chapter 4, which describes the results of the second empirical study into spiritual values in forest management practices. This study was carried out in the Netherlands (see 5.3.2 for a reflection on this choice). The study reveals that various dimensions of forest spirituality are addressed in these practices by managers of both public and private forests to different degrees. Four themes are identified in which spiritual dimensions are articulated. They are discussed below.

Theme 1, '*Ritual practices',* confirms that Dutch foresters are increasingly concerned about the public's rising claim on forests for performing ritual practices for personal enrichment and, to some extent, monetary gain. This theme is dominated by the *Practical-Ritual* dimension, accompanied by the *Material-Spiritual* and *Social-Institutional* dimensions. Foresters' responses vary from encouragement to prohibition, depending on the nature of these practices, the area's ecology and location, other forest users and the organizational setting in which the forest manager operates. Control over access is an important factor: private foresters have more freedom to select and regulate practitioners than public foresters – in fact, they often manage their

estate precisely for the purpose of spiritual pursuits and their number is growing[21]. In contrast, public foresters must reconcile their roles as 'hosts' to visitors with their responsibilities to preserve the forest's ecological values, and they find it increasingly difficult to do so. When spiritual practices occur in public forests, forest spirituality may become entangled in the increasing tension between the contrasting goals of open-access and protective enforcement (Thomas & Reed, 2019; Tyrväinen et al., 2023).

Theme 2, '*Ontological and relational underpinnings'*, is dominated by the *Philosophical-Ethical* dimension and accompanied by the *Experiential-Relational* dimension. It addresses ontological views among Dutch foresters and other parties about what forests are and how humans should relate to them. Different views play out in, firstly, the practice of tree felling, which often set foresters at odds with the public in the past. While previous studies – in the Netherlands and elsewhere – have demonstrated the deep ontological and emotional roots of these conflicts (Buijs et al., 2011; Buys and Lawrence, 2013), this study demonstrates that the dividing lines appear to be more nuanced. To some extent, the forest managers in this research share the public's views on forests and trees as living beings, although they nonetheless have to reconcile these views with ecological and other considerations. They have also learnt to mitigate conflicts with careful communication when trees have to be cut. Secondly, the ways in which public and private forest managers encourage people's relationships with forest and nature are underpinned by different views on these relationships. Public foresters operate under policies and plans that promote nature experience for as many people as possible to raise the public's interest in, and support for, nature (Staatsbosbeheer, 2015b, 2020). Some public foresters, too, are personally committed to encourage deeper nature connectedness when they show visitors around to engender health and nature inclusive behaviour, especially among children. However, this goes only as far as the audience is receptive – a factor they largely cannot control. Private foresters have more freedom to select their audience and focus on in-depth nature connectedness for spiritual enrichment on their estates, and they increasingly do so.

Theme 3*, 'Forest spirituality in narratives and the past',* is dominated by the *Mythical-Narrative* dimension which also has a link with the *Material-Spiritual* dimension. It addresses the enactment of forest spirituality in Dutch narratives and in the past. This is expressed in the mystery of local legends and historical monuments that are deployed in communication programmes to raise the public's interest in forests. This finding is associated with growing indications that spirituality in processes of place attachment can be conducive to pro-conservation attitudes and behaviour (Mazumdar & Mazumdar, 2004; Raymond et al., 2017; Isyaku, 2021).

[21] I observed this in, among others, a meeting of the Royal Netherlands Forestry Association (KNBV) on 3 November 2023 and in a workshop with estate owners at the conference *Transforming Forests*, Wageningen University, 17 November 2023.

Theme 4, '*The ineffable aspects of forest spirituality',* comprises the elusive and ineffable aspects of forest spirituality, which this study reveals in several ways. Firstly, the *Experiential-Unspecified* dimension is manifest in some foresters' vague hints at 'spiritual' experiences which they are reluctant or unable to specify. Other foresters – private and public – make mention of subtle or vital energies, categorized by me as the *Experiential-Life Force* dimension in my conceptual framework. Some perceive these energies to reside in landscapes or trees, and some even actively work with these energies in practical interventions such as tree planting and felling. The *Experiential-Aesthetical* dimension was only very weakly represented in this study.

5.4.3. Synthesis of the empirical findings

In this section, I discuss the commonalities and differences between the themes identified in the two empirical chapters. Some themes remain as they are, some others are combined or split because of this comparison. The result is six final themes in which the significance of forest spirituality in forest management is articulated.

Nature experience as aesthetical experience of spirituality

Nature experience is an important theme in forest management plans, in British Columbia as well as in the Netherlands (Chapter 3). The *Experiential-Aesthetical* and *Experiential-Unspecified* dimensions represent the highest number of dimensions found in all plans from both locations. They are also the most operationalized dimensions overall. The fact that spiritual experiences can be facilitated by straightforward measures, such as enabling access, clearing sightlines and enriching forest structure, may explain the high presence of these dimensions in the *operational* sections of the plans. This concurs with literature on the subject. Heintzman (2011), for instance, found that "naturalness of wilderness" (2011:91), solitude, nature-based recreation and education are conducive to visitors' spiritual experiences and could therefore be encouraged by means of forest management. In addition, government regulations[22] to stimulate the maintenance of scenic landscapes may also be an explanatory factor in British Columbia.

Nature experience and connectedness

Strikingly, the *Experiential-Aesthetical* dimension is among the least mentioned in the study on practices in the Netherlands (Chapter 4). Here, too, facilitation of nature experience is highly important, but it is mostly mentioned in references to the *Experiential-Relational* and *Philosophical-Ethical* dimensions. The difference in spiritual dimensions may be explained by the widely different natural and social settings in the two locations. Whereas British Columbian foresters can bank on naturalness and

[22] https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/visual-resource-management [Accessed on 27 November 2023].

aesthetic fascination for its 'wilderness', Dutch forest managers have to operate in man-made natural areas visited by a largely urban public. Beauty does play a role here, but it appears to be less spiritually laden than concerns about people's relationship to nature and behaviour. A dichotomy is revealed here between the nature *experience*, aiming at acquainting a large public with nature, and nature *connectedness*, engaging selected groups in deeper interrelationships with nature (Zylstra et al., 2014). The latter is better accommodated in private forests, but some public foresters are also making efforts to this effect. As nature connectedness encourages pro-nature conservation behaviour (Barrows et al., 2022), this is favourable for forest management too.

Spiritual use and ritual practices

'Spiritual use' was identified as an important theme in British Columbian forest management plans dominated by the *Practical-Ritual* dimension. I described this theme in Chapter 3 and observed that the theme was not fully operationalized, which may be due to the 'technical' nature of the planning framework. *'Spiritual use'* does not feature prominently in Dutch management plans nor in Dutch forest management practices. However, the *Practical-Ritual* dimension does dominate the most important theme found in Dutch forest management practices, 'Ritual practices for spiritual enrichment and healing'. Chapter 4 describes how forest managers in the Netherlands deal with people's increasing search for spiritual experiences and health restoration through ritual practices in the forest. Although the two themes are entirely different, I observe the same discrepancy in both locations, namely that plans and practices show discrepancies where involvement of the *Practical-Ritual* dimension is concerned. After all, spiritual practices are generally not reflected in Dutch forest management plans. My conclusion in Chapter 3, that *'spiritual use'* is better addressed in adaptive forms of forest management that offer room for different worldviews, can therefore be extended to the Netherlands. Here, too, planning *and* practices could benefit from a more open dialogue.

Ontological and relational underpinnings of tree felling

Dutch forest management *plans* rarely address the ontological and relational underpinnings of forest management, which is the second most important theme found in Dutch forest management *practices*. I described this theme in Chapter 4 and observed that it played out in, among others, tree felling. My conclusion about the complex issue of tree felling concurs with literature stating that more attention for deep emotions in forestry planning is needed for a better understanding of potential controversy. (Satterfield, 2002; Buijs et al., 2011; Buijs and Lawrence, 2013). This is also valid for British Columbian forest management plans, as I concluded earlier. In fact, diverging views on timber cutting and the ensuing 'war on the woods' were the very reason these plans came into being (see Chapter 3, Section 3.4.2). In both locations, more adaptive and inclusive planning approaches would be better suited to accommodating the different perspectives.

History and narratives

In both locations and in both plans and practices, the spiritual dimension of history is an important driver of people's connections with nature, place and identity. As such it is purposely deployed in Dutch management plans and practices in storytelling and communication to connect visitors with land and nature (Chapter 4). The same is done in the British Columbian forest management plans (Chapter 3), but here the theme *'History'* appears mainly in the abstract sections of plans and less in the operational sections. One of the reasons for this imbalance may be the aforementioned 'technical' formulation of the plans, which allows less room for stories and related expressions of spirituality (Artelle et al., 2018). Another reason may be found in the traumatic nature of history for the First Nations' participating in the planning process. Forests and landscape can long retain painful memories in the form of physical remnants, narratives or images of past violence, war actions or graves (Schama, 1995). However, if the pain of history is still alive in the present, it may hinder the affected parties' confidence in the future (Mercredi and Turpel, [1993], in Dale, 2013). This is different from the Netherlands, where some forests also retain remnants of a violent past, namely World War II, as mentioned in some plans, but although war memories also linger in elderly people's minds here, the history of that period was stored away when post-war development took over. Perhaps this explains why no negative attachments to forests are found in the study on forest practices. The counterpart of positive attachments to forests, primordial fear (Van den Berg and Heijne, 2005) is also absent. Forest managers' primarily positive disposition towards forests may therefore be another explanation.

Ineffable dimensions of forest spirituality

The *Experiential-Life Force* dimension hardly appears in the forest management plans at all. Only some British Columbian plans mention First Nations' references to the 'power' of the land, and they are generally not specific. As management plans are predominantly technical and material documents, such vagueness can be attributed to an understandable reluctance by spokespersons to share sensitive spiritual knowledge. In the study on practices, some Dutch foresters also hint at a vague and unspecified forest spirituality, which explains the occurrence of the *Experiential-Unspecified* dimension here. Other foresters occasionally mention the deployment of 'life force' in tree planting or landscaping. Some also refer to specific 'energetic balancing' treatments of forest areas, presupposing that the land's 'life force' is disturbed. These ineffable dimensions of spirituality practices resonate with literature on Chinese fengshui forests (Coggins et al., 2019), '*Qi*' or *'Prana'* energy and its workings in medical and other applications (Belal et al., 2023), all documented under the umbrella of 'Earth mysteries' by Ivakhiv (2005) in the *Encyclopedia of Religion and Nature* (Taylor, 2005).

5.5. Implications of a better understanding of forest spirituality in forest management

5.5.1. Implications for forest management

As for British Columbia, the findings in this dissertation confirm the complexities around forest management and its entanglement with Indigenous people's struggle for forest justice and environmental organizations calling for conservation and responsible use of forests. These complexities continued after the writing of Chapter 3, with a policy environment that is slowly moving forwards (Nikolakis, 2022). Meanwhile, First Nations' legal position is strengthening and arrangements between First Nations and industry are evolving, such as Indigenous-led resource planning. In February 2023, the government of British Columbia announced a number of measures that signified a value shift away from the primacy of the economy: slowing down the logging of old-growth forests, enabling alternatives to clearcut and a greater role for Indigenous nations in forest landscape planning. These and other developments may indicate a forestry transition towards more recognition of multiple values, but it still has a long way to go (Joseph & Brynaiwsky, 2023).

As for the Netherlands, the results of Chapter 4 showed that foresters generally see a growing trend in spiritual practices in forests. Many private foresters actively engage in forest spirituality and while some have significant experience in this practice, others are still exploring and searching for suitable approaches. Public foresters also appreciate opportunities to improve their knowledge on forest-related spiritualities to better deal with them in their work practice. An exchange of experiences and insights seems to be the best way to start. Foresters might benefit from knowledge exchange with colleagues, practitioners and experts in 'ecospirituality', who may acquaint them with knowledge from elsewhere. It could be the beginning of a learning process that would link in with new scientific and societal insights about the way forest management should look like in the future. Based on the results of this research, such knowledge exchange could have practical implications for management, such as more careful considerate treatment of 'old growth' forest and old trees, more attention for perceived 'earth energies' of the landscape, enrichment of foresters' and citizens' knowledge of spiritual dimensions of local socio-cultural history and better 'spiritually informed' management of special-use forests, such as memorial forests or natural burial areas. To summarize, practical forest management will benefit from knowledge about forest spirituality.

In Dutch forest management planning as well, the need for knowledge about forest spirituality is likely to be growing. My conclusion in Chapter 3, stating that forest spirituality is better accommodated by adaptive, 'values-led' or other holistic forms of forest management, is not only valid for British Columbia, but also for the Netherlands. The current implementation plan of the Dutch Forest Strategy proposes expanding the

citizen's role in forest management where possible (LNV & IPO, 2020) and it is already underway in some places. This holds for planning as well as practical implementation. As more citizens participate, the dialogue about planning and implementation will be enriched by increasingly diversifying worldviews and interests. Such a dialogue will require insight from the forest managers, not only in people's interests, but also in their emotions and spiritual value orientations. Therefore, inclusive forms of forest management planning will benefit from knowledge about forest spirituality among foresters and others involved.

Forest spirituality also has relevance to the wider society. This dissertation confirms that forest spirituality is important for people's connectedness with nature, which is conducive to health restoration, as well as to environmentally friendly lifestyles. Whether or not lifestyle 'greening' is sufficient to achieve a more sustainable society is subject to debate, but on a more down-to-earth level, the efforts in nature education to allow people to experience nature in the Netherlands could benefit, not only from expansion and upscaling, but also from knowledge about forest spirituality and fostering deeper nature connectedness.

5.5.2. Implications for research

This dissertation presents a conceptual framework specifically tailored towards *spiritual* values in relation to forest and nature. It thereby fills a gap in the broader frameworks for the valuation of nature mentioned in 1.3.7. I thereby recognize that forest spirituality is always embedded in broader socio-cultural settings, governance and power structures, and that research is therefore inherently interdisciplinary. Research in those domains is better accommodated by broader frameworks, such as the Millennium Ecosystem Assessment Conceptual Framework (MEA, 2005), the IPBES frameworks for 'Valuing nature's contributions to people' (Pascual et al., 2017) and the 'Assessment of the diverse values and valuation of nature' (Pascual et al., 2022) adapted to accommodate Indigenous worldviews by Raymond et al. (2023). All these frameworks have been based on the Ecosystem Services (ES) approach which has long struggled with its inherent incompatibility with non-commodifiable 'cultural ecosystem services' (Cooper et al., 2016; Kirchhoff, 2019). The latter IPBES frameworks make great efforts to amend this fault by adding *relational values* as a third value category next to the intrinsic and instrumental values of nature. As valuable as the merits of relational values are, spirituality remains hidden in the scheme and is only mentioned, at best, as an attribute in a few accompanying texts. This is appropriate for quantitative studies (e.g. distribution of spiritual values over large areas), but the question is how far spiritual values will be appreciated in their own right when they are 'unpacked' within the ES approach. The biocultural diversity approach is more suited to in-depth studies into human-nature relations, as it addresses 'culture' (including spirituality) with biodiversity as an integral whole. Here, too, spirituality often needs to be 'unpacked', mostly from cultural wrappings, but the result may be a better understanding of spirituality, not only as part of relational *values,* but also as part of relational *ontologies* in which spirituality is

deeply integrated (Verschuuren, 2017). It would therefore be worthwhile to explore the merits of this dissertation's conceptual framework in studies using a biocultural diversity approach. The framework may contribute even more to the Integral Ecology Framework developed by Esbjörn-Hargens & Zimmermans (2009), which places inner development ('spirituality') on a par with the development of the physical world ('ecology'). Knowledge about the dimensions of forest spirituality within one's self and others may be useful when integral ecology is applied in communal forest management, conservation, rewilding or other forms of human-nature interactions.

Lastly, as forest spirituality is basically not only about humans, but also about forests, it would be worthwhile to test the conceptual framework in a posthuman approach that attaches equal agency to all human and non-human bodies ('agential realism', Barad (2007) in Meesters et al., 2022). To elicit the spiritual in posthumanist forestry research might open new perspectives for transformative forest management.

This dissertation also contributes to the widely ramified debate on whether and how spiritualities and religions are beneficial or detrimental to nature conservation (Nugteren, 2005; Satterfield, 2002; Snodgrass & Tiedje, 2008; Taylor, 2010; Taylor et al., 2016). Ever since Lynn White's famous essay placed Christianity at the root of today's environmental crisis, this debate has known champions as well as sceptics and adversaries of the thesis that religions are conducive to environmental care (White, 1967; Grim and Tucker, 2014; Choné, 2017). Taylor et al. (2016) cautiously concluded *"Our analysis of the research indicates, in contrast to findings related to the world's predominant religions, that there are cultures and traditions, some old, others new and emerging, for which reverence for nature and corresponding ethical mores are central"* (p. 353). However, they also conclude that many questions remain open. This dissertation did not directly investigate these traditions, but approached spirituality from a practical angle (forest management). The conclusion that forest spirituality is a growing phenomenon, however, points in the same direction as Taylor et al.'s conclusion.

5.5.3. Implications for forest policies

This research started with the question of to what extent spiritual values prescribed in global forestry-related policies have impacted the implementation of forest management (1.3.1). Chapters 3 and 4 demonstrate that spiritual values have indeed been substantially operationalized in forest management plans as well as in practices. While it cannot be verified that this operationalization benefited from global policy processes, a closer analysis of forest management plans and practices from all parts of the globe might contribute to making these policies better equipped to support the articulation of forest spirituality in forest management planning and practices. In concrete terms, this might concern, for example: maintaining peace and quiet in and around designated locations and extending these areas to other spiritually important places; encouraging spiritually acceptable timber management systems, such as selective logging or minimalized clearcut areas; conservation of old-growth forests and

single old trees; protecting and expanding sacred forests and trees; mainstreaming participatory forms of management planning with due attention for multiple spiritual values; and taking spiritual values into account as one of the many elements in a dialogue or conflict about forest issues.

Forest conservation in protected areas is far ahead of other policies in operationalizing forest spirituality (Verschuuren et al., 2021), and I also gratefully made use of the insights obtained in this field. In return, the findings of this dissertation may contribute to a better understanding of the position of the formal or informal managers of protected areas and their often uncomfortable position between groups with different worldviews. In mainstream forestry too, the position of forest managers is often undervalued, yet several sources mention the importance of foresters' professional pride and ethos, which in some cases borders on spirituality, e.g. in communist Rumania before forest privatization in 1991 (Lawrence & Szabo, 2005), British Columbia (Vaillant, 2005) and the American Northwest, where attention for this aspect was important in solving environmental conflicts (Satterfield, 2004). Policies that stimulate more inclusive decision-making respecting the roles and positions of *all* parties are difficult to maintain, but have proven successful in the long run.

5.5.4. Learning forest spirituality and implications for forestry education

While not one of my research questions, this research also begs the question: How can forest spirituality be learnt? The findings of this research have implications for the education, training and professional development of forest managers. I realize that answering this question might require another thesis (in the same vein as Ameyaw, 2018), but in this closing chapter I offer a speculative model informed by this research and the work of education experts such as Kolb and Bawden, which may offer an entry point for future research and the development of curricula and training programs.

Earlier, I referred to the importance of the exchange of knowledge, but here, I would like to present a more fundamental idea for how spiritual learning could be conceptualized. In the first place, spirituality is not understood as a momentary event, but as a 'journey' in which moments of experience reoccur regularly. They become a cycle of learning in the direction of 'the ultimate, or the 'core', described in Chapter 1. In spirituality literature, this journey is known as the *'via mystica'* (Waaijman, 2001). Forest spirituality learning can also assume such a cyclical form. In an earlier search for visualizing spiritual experience (De Pater, 2015), I found a suitable basis in the Integrated Critical Learning System for transformational sustainability learning by communities, designed by Richard Bawden (2010 [1997]). Bawden combined Kolb's experiential learning cycle (Kolb, 1984 in Bawden, 2010 [1997]) with an 'inspirational learning cycle', thus creating a dynamic, oscillating lemniscate. On this basis, I designed a learning model for forest spirituality (De Pater, 2015), which I present here with some adaptations based on the findings of this dissertation (Fig. 5.1).

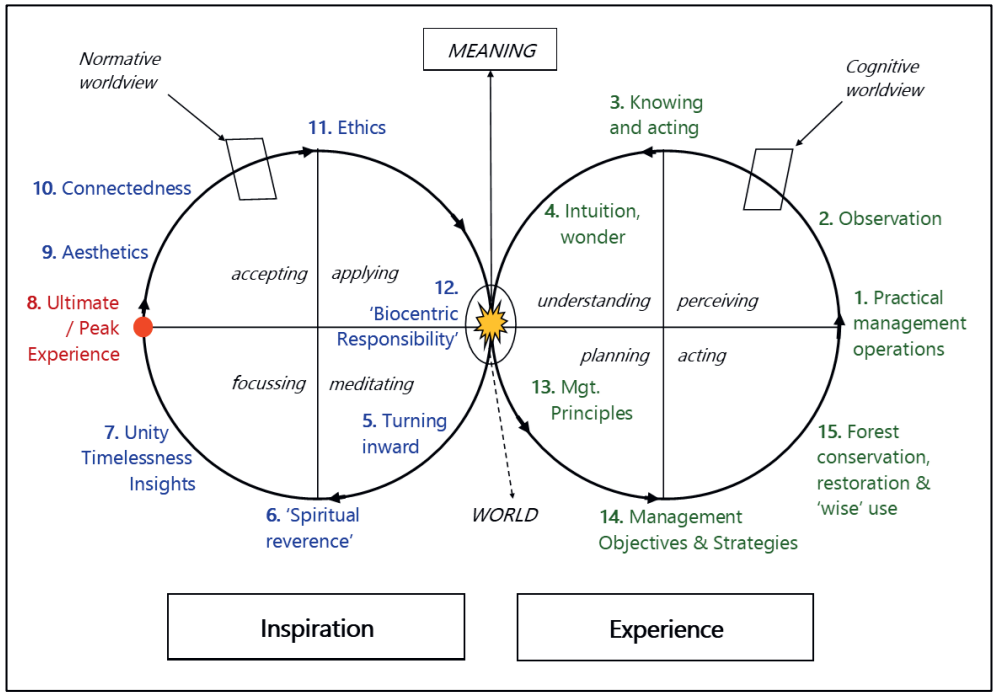


Figure 5.1. *Visualization of Forest Spiritual Learning (adapted from De Pater, 2015, based on Bawden (2010 [1997]). For explanation see Section 5.5.2.*

The model is applicable to forest managers or other persons caring for forests, individually or collectively. It runs as follows: Starting from practical forest management operations (1), they observe the effects on the forest (2) whereby their knowledge is coloured by a cognitive worldview. Reflecting on their observations, they become aware of the connection between knowing and acting (3), which could lead to a continuation of the cycle on the right with cognitive abstraction and subsequent experimentation. However, knowledge is also generated by insights obtained by taking the left bend. That route starts with intuition and wonder (4) and a search for meaning. This leads to an Inward retreat (5). By walking, meditating or whatever practice suits the occasion, they explore the spiritual domain, a stage here termed 'spiritual reverence' (6). When they continue, a sense of unity, timelessness or other insights evolve (7). At some unpredictable moment, they may meet the 'ultimate' in a brief, but deeply moving peak experience (8). Then the flow continues, now enriched by the inspiration, awe and sublimity that is known as 'aesthetics' (9). The flow extends outwards towards connectedness with nature (10). Ethical considerations arise (11), coloured by the persons' normative worldviews. These considerations can evoke a sense of responsibility for the world, culminating in 'Biocentric Responsibility' (12): inspiration-born responsibility prompting action. Here, the inner cycle meets the ratio in the cycle

on the right and in that collision, meaning is generated. The movement continues in the cycle on the right and informs management planning and practices; initially in the principles of management (13), which are in turn reflected in management objectives and strategies (14) and prescriptions for action (15). Then we are back to field operations again (1) and the next cycle takes off. Ideally, every round leads to a higher level of insight and meaning. The moments are not necessarily sequential, let alone causal, and they can even seem to occur simultaneously. The most impressive moment of all, 'meeting the ultimate', tends to happen in a flash (Terhaar, 2005, 2009) and one cannot dwell in it. Trying to do so is inadvisable, as many spiritual traditions explain. The traveller is urged to go on, back to the world. There are other pitfalls on this road, such as shortcutting the cycles or false perceptions of progress, which are described elsewhere (Hedlund-De Witt, 2011; de Pater, 2015).

The model presented here resembles recent visualizations of transformative capacity processes (Ziervogel et al., 2016) and practical wisdom (*phronesis*) in transformative change (Caniglia et al., 2023). Such processes and imagery are highly important for transformative research, but do not specifically address forest spirituality. This conceptual gap is filled by the model proposed here. After further improvement and practical testing it may contribute to visualizing a learning way for forest spirituality. The model does not have to stand alone, but could be integrated in broader programmes of nature-inclusive education and applied at all levels and curricula: vocational, professional or academic education.

5.6. Key findings and recommendations

This dissertation attempts to provide an answer to the question how spiritual values of forests (forest spirituality) is grounded in forest management and what the implications of this grounding are. The answer is formulated in the conclusions discussed above, which I briefly repeat here in combination with recommendations for further research:

1. As pointed out in the Introduction (Chapter 1), this research is set within the academic field of Religion and Nature, which is, by its very nature, interdisciplinary. Whereas many studies in this field draw upon social sciences such as anthropology and psychology, this study applied religious scholarship on the one hand and forest science on the other to obtain answers to the research questions. Two very different fields therefore had to be combined. Despite the differences, however, I found that it was nonetheless possible to do so, as was treating both disciplines in their own right without preferring one above the other.

2. The conceptual framework developed in Chapter 2 is a useful tool for empirical analysis as it captures a broad range of spiritual phenomena and issues related to forestry planning and implementation. As it has only been used on a limited scale

so far, the framework should be applied and tested in further studies to validate its use. The conceptual framework is also a suitable tool for studying the substance of forest spirituality within larger frameworks for research, such as biocultural diversity, integral ecology or posthuman approaches. It is less compatible with the Ecosystem Services (ES) theory, but it may be useful for some applications of the ES theory such as the IPBES Multiple Values Assessment Typology. This requires more investigation.

3. Forest spirituality is articulated in forest management plans as well as in forest management practices in both British Columbia and the Netherlands. This contrasts with long-held perceptions that cultural and spiritual values are predominantly the domain of Indigenous peoples and local rural communities in the Global South. As the evidence base for the Global North in this respect is still small, it is recommended that that this research be extended to other areas in the Global North.

4. In forest management plans in both British Columbia and the Netherlands, spirituality is not only articulated in principles and objectives, but also in prescriptions for concrete implementation. In terms of spiritual content in the plans, forest spirituality is strongly articulated in nature experience, in the responsible use of forests and in forest-related history.

5. Forest spirituality is better operationalized in adaptive, 'values-led' and other, holistic forms of management planning than in formal 'technical' planning structures, both in British Columbia and the Netherlands.

6. In the practice of forest management in the Netherlands, forest spirituality is entangled with broader and diverging 'ecospiritual' tendencies in society, which are increasingly expressed in ritual practices in forests, nature experience, nature connection, history and concrete interventions such as tree planting and felling. The *Experiential-Life Force* dimension is virtually absent in the forest management plans, but it is manifest in forest management practices in the Netherlands.

7. Forest spirituality is a potentially motivational and transformational factor for forest management and inspires professional forest managers as well as spiritual practitioners and the public. Whereas many studies on human-nature relationships focus on the general public or sections of the public, far less attention has been paid to professional forest managers than this study does. As better knowledge of forest managers' spiritual concerns is important for the development of holistic forms of forest management, further studies into this subject are recommended.

8. Not all forest spirituality is pleasant. Painful history living on in the present can cause grief and spiritual distress. Spiritual discomfort can also be rooted in a primordial fear of nature. Forestry communication programmes should take this

'dark side of spirituality' into account, as it may inhibit the deployment of cultural history as a motivational driver for nature connection.

9. Knowledge of forest spirituality in forest management among forest managers and other parties may not only enhance motivation, but prevent or mitigate conflicts about forests. There is therefore a need for education in forest spirituality, in the first place, of forest managers in the Netherlands, but also of students in forest and nature management. The forest spirituality learning model could thereby serve as inspiration. It is recommended that learning needs be investigated further and that the learning model be developed and validated in future research.

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SUMMARY

This dissertation investigates spiritual values of forests (forest spirituality) and their grounding in forest management. The research starts with the finding that major global forest-related policies include cultural and spiritual values, but that little is known about how spiritual values are articulated in field-level forest management. Overall, research into the role of spiritual values in forest management has remained under-systematized and under-theorized. In the Global South, the role and importance of spiritual practices and beliefs in forest management have been well documented, especially in the fields of protected areas, traditional forest knowledge and participatory forest management by Indigenous and local people. In the Global North, evidence in these fields is slowly building up where the importance of spirituality for human-nature connections, human well-being and pro-environmental behaviour is increasingly being demonstrated. However, the role of forest spirituality in nature connectedness and its potential for improving health and behaviour is not yet fully understood. In the Netherlands, a growing and diversifying demand for spiritual enrichment in forests has been observed, which is entangled with citizens' growing concerns about forests and demands to be involved in forest management. Forest managers need to accommodate these diversifying spiritual concerns in their management. However, knowledge on how they deal with these challenges and what they need in this respect is scarce. Therefore, the research objective of this dissertation is to better understand how forest spirituality is grounded in forest management and what the implications of this understanding are for the planning and practices of forest management.

Chapter 1 positions this research within the interdisciplinary academic domain of Religion and Nature. Recognizing the on-going definitional debates on spirituality and spiritual values, I conceptualize 'spirituality' as engrained in the highest level of people's value systems, enriching the human and non-human spirit, and, at the same time, hard to define, hard to measure, elusive and only apprehensible by experiencing it. 'Forest spirituality' is a shorthand for spiritual values of forests and 'forests' are defined as any landscape occupied or potentially occupied by trees or other woody vegetation. In order to achieve the aforementioned research objective, I propose a research design centred around three questions. Research Question *1: How can forest spirituality be investigated with due regard for its complex nature?* originates from the need to find a researchable conceptualization of forest spirituality that represents the spiritual phenomena in all their complexity without reducing them to mere instrumentalities. The answer was found in a conceptual framework for the empirical study of forest spirituality ('forest spirituality framework') based on religious scholarship and scientific literature. Question 2: *How is forest spirituality articulated in forest management plans?* is answered by applying this conceptual framework in an empirical study of spiritual values in forest management plans, because management plans are the nexus between policies and practices. Research Question 3: *What is the significance of forest spirituality*

for forest management practices? is answered by an empirical study of spiritual values in the practices of forest management. The two empirical studies are located in areas where Indigenous or 'nature-based' spiritual traditions are somehow present, as these had been evaluated in literature as possibly conducive to sustainable behaviour, contrary to other religious traditions. On this criterion, and for practical reasons, British Columbia (Canada) was selected for Research Question 2 and the Netherlands for both Research Questions 2 and 3.

Chapter 2 details the construction of the conceptual framework for studying forest spirituality. The framework is based on the Family Resemblances Approach (FRA) which enables the study of a wide range of religious and spiritual phenomena with multiple characteristics without emphasizing definitional boundaries. The FRA accommodates all spiritual traditions and underlying ontologies and epistemologies on an equal basis, including those that attribute agency to non-human persons. The conceptual framework is composed of dimensions of spiritual values and elements of forest management. The dimensions of spiritual values (in short, 'spiritual dimensions') are derived from the seven 'dimensions of religion' theorized by Ninian Smart (1996, 2002). Spiritual phenomena may show some, many, or all dimensions. They can be expressed to varying degrees of clarity, and some phenomena can feature in more than one dimension. I adapted Smart's dimensions to accommodate forest-related spiritual values, and identified the following spiritual dimensions: 1) *Experiential-Aesthetical,* 2) *Experiential-Restorative*, 3) *Experiential-Relational*, 4) *Experiential-'Life Force'*, 5) *Practical-Ritual*, 6) *Mythical-Narrative*, 7) *Philosophical*, 8) *Ethical*, 9) *Social-Institutional*, and 10) *Spiritual-Material*. The numbering and content is adaptable and varies slightly in the different studies. These dimensions can be applied as analytical units set off against elements of forest management or other units reflecting the research questions to be addressed.

Chapter 3 describes how the conceptual framework is applied to investigate the articulation of spiritual values in forest management plans in British Columbia – with varying representation of First Nations - and in the Netherlands. For both locations, the findings demonstrate that forest management plans include a variety of spiritual values, not only in sections on principles and objectives, but also in operational sections. The study reveals three themes in which spiritual dimensions stand out in the plans. Firstly, *'Nature experience'* has strong spiritual connotations in plans from both locations, confirming forests' potential for spiritual experience in nature which may possibly induce pro-environmental behaviour. The second theme, *'Spiritual use'*, indicates that forest spirituality is also strongly related to 'wise' (responsible) use of forests in British Columbia, which suggests that aside from experiential dimensions, practical-ritual and philosophical-ethical spiritual dimensions can be drivers for pro-environmental behaviour. However, although 'wise use' is often mentioned as a principle or objective, it is not prominently operationalized in the plans. This may be due to a formal, predetermined planning structure. Adaptive and other holistic forms of management planning might therefore be better suited to bring forest spirituality into practice.

Thirdly, the theme of *'History'* is often deployed in forestry communication and storytelling in the Netherlands. In contrast, this theme is less operationalized in British Columbia, perhaps due to painful memories of the colonial past. Finally, the emergence of spiritual values in the forest-poor, urban environment of the Netherlands confirms that forest spirituality is not only the domain of Indigenous peoples and rural communities in the Global South, but a worldwide phenomenon.

Chapter 4 investigates the significance of spiritual values for forest management practices in the Netherlands. For this purpose, managers of public and private forest areas were interviewed. As a result, four distinct themes were found in which forest spirituality is articulated in forest management practices. Firstly, forests are increasingly used by visitors for ritual practices aimed at spiritual enrichment and health. While private foresters encourage these practices on their estates, public foresters struggle to reconcile such practices with ecological management objectives and other stakeholders' claims. Secondly, foresters are faced with stakeholders' different ontological and relational views on forests. These differences affect practices such as tree felling and nature communication. Tree felling sometimes raises complex debates between parties with divergent views on trees and ecologies. Foresters have learnt to mitigate these debates by communicating openly, but untangling the spiritual elements from these debates might encourage better understanding and help avoid conflicts. Nature experience programmes are widely implemented by public foresters. Although nature experience is not necessarily 'spiritual', it may be a gateway to nature *connectedness,* a deeper process that may be spirituality enriching. This is better accommodated in smaller groups on private estates than in public forests. Thirdly, forest spirituality appears in local legends in connection with historical monuments, the mystery of which is deployed to raise the public's interest in forests. Fourthly, and in contrast with forest management plans, ineffable aspects of spirituality emerge in references to unspecified spiritual experiences and occasional cases of intuitive forest management. The chapter concludes that forest spirituality is not only significant for nature *experience* (as suggested in the forest management plans), but also for *ritual practices* in forests, 'wise' forest use and deeper nature connectedness. The rise of forest spirituality in the Netherlands is in line with the recently proposed 'forest re-spiritualization' hypothesis (Roux et al., 2022) and concurs with reviving local nature spiritualities and increasing influxes of 'Eastern' and 'Indigenous' spiritualities. Foresters have to learn how to cope with these trends and how to reconcile their management with these increasing and diversifying 'spiritual' claims.

Chapter 5 reflects on the methodology and results and discusses implications for research, policy, and education. The forest spirituality framework developed in this research has so far proved to be a useful tool for studying spiritual phenomena and issues related to forest management. As such it may contribute to existing Ecosystem Services-based frameworks such as the IPBES frameworks for 'Valuing nature's contributions to people' and 'Assessment of the diverse values and valuation of nature', where spiritual values are 'packaged' in relational and intrinsic values, making it harder

to study forest spirituality profoundly in its own right. The forest spirituality framework may be better applicable in more integrative approaches such as the biocultural diversity approach and 'Integral Ecology'. It should in any case be further tested to improve its design and robustness and to assess its applicability.

This dissertation further demonstrates that spiritual values have indeed been substantially operationalized in forest management plans as well as practices, at least in the study areas. A closer analysis of forest management plans and practices worldwide might lead to better support from global or sub-global policies for further implementation of forest spirituality in forest management. In concrete terms, this may include maintaining quiet areas, encouraging responsible (spiritually acceptable) timber management systems and conservation of old growth and sacred forests. Policy support may also encourage the mainstreaming of participatory forest management planning which better accommodates forest spirituality and may contribute to mitigating forest conflicts.

Forest managers in the Netherlands are seeing a rise in spiritual practices in forests and need to improve their knowledge and skills in forest spirituality. They may benefit from knowledge exchange with colleagues and 'ecospiritual' practitioners. Specifically, this could concern 'old growth' forest and trees, perceived 'Earth energies' of the landscape, spiritual dimensions of local social-cultural history, memorial forests and natural burial areas. I conclude with a speculative learning model in which I conceptualize spirituality as a two-cycle learning way in which 'inspirational learning' is integrated with 'experiential learning'. Such learning would link in with new scientific and societal insights about more transformative ways of forest management in the future.

SAMENVATTING

Dit proefschrift belicht de spirituele waarden van bossen (bosspiritualiteit) en onderzoekt hoe deze waarden zijn verankerd in het bosbeheer. Uitgangspunt was de constatering dat veel internationaal beleid op bossengebied wel melding maakt van spirituele waarden, maar dat er weinig bekend is over hoe spirituele waarden worden uitgewerkt in de praktijk van het bosbeheer. Over het algemeen is er nog weinig sprake van systematisering en theorievorming in het onderzoek naar de rol van spirituele waarden bij bosbeheer. Dit geldt minder voor het Zuiden van de wereld; hier is de rol en het belang van spiritualiteit voor het bosbeheer uitgebreid gedocumenteerd, vooral ten aanzien van beschermde gebieden, traditionele kennis van bos, en participatief bosbeheer door inheemse en lokale gemeenschappen. In het Noorden van de wereld neemt de kennis hierover langzamerhand toe. Het belang van spiritualiteit voor mens-natuurrelaties, menselijk welzijn en milieuvriendelijk gedrag wordt hier steeds evidenter. Er is echter nog niet voldoende inzicht in de rol van bosspiritualiteit in mens-natuurverbondenheid en het potentieel daarvan voor verbetering van gezondheid en gedrag. In Nederland zien we een groeiende 'vraag' naar spirituele groei, die vaak wordt gezocht in bossen, in allerlei vormen. Die vraag hangt nauw samen met een toenemende bezorgdheid van burgers over bossen en hun steeds dringender wens om betrokken te worden bij bosbeheer. Bosbeheerders moeten in hun terreinbeheer aan deze uiteenlopende spirituele vragen tegemoetkomen. Kennis over hoe ze daarmee omgaan en wat ze in dit opzicht nodig hebben, is echter schaars. Het doel van dit proefschrift is dan ook om beter te begrijpen hoe bosspiritualiteit is verankerd in het bosbeheer, en wat de implicaties zijn voor de planning en de praktijk van het bosbeheer.

Hoofdstuk 1 plaatst dit onderzoek binnen het interdisciplinaire academische domein van religie en natuur. De definitie van spiritualiteit en spirituele waarden is nog steeds onderwerp van debat. Daarom conceptualiseer ik 'spiritualiteit ' als een fenomeen wat is verankerd in het hoogste niveau van ons waardesysteem, dat de menselijke en niet-menselijke geest verrijkt, en tegelijkertijd gekenschetst wordt als moeilijk te definiëren, moeilijk te meten, ongrijpbaar en alleen door ervaring te bevatten. Ik gebruik de term 'bosspiritualiteit' als afkorting voor 'spirituele waarden van bossen'. Onder 'bossen' versta ik elk landschap waarin bomen of of andere houtige vegetatie voorkomt, of mogelijk kan voorkomen.

Om de bovengenoemde doelstelling te bereiken, structureer ik het onderzoek rondom drie onderzoeksvragen. Onderzoeksvraag 1 luidt: 'Hoe kan bosspiritualiteit worden onderzocht met inachtneming van het complexe karakter ervan?' Deze vraag komt voort uit de noodzaak om een onderzoekbare conceptualisering van bosspiritualiteit te vinden die spirituele fenomenen in al hun complexiteit representeert, zonder ze te reduceren tot instrumentaliteiten. Het antwoord werd gevonden in een conceptueel raamwerk voor de empirische studie van bosspiritualiteit ('bosspiritualiteit-raamwerk'),

gebaseerd op religiewetenschappelijke en natuurwetenschappelijke literatuur. Onderzoeksvraag 2, *'Hoe komt bosspiritualiteit tot uiting in bosbeheerplannen?'* wordt beantwoord door dit conceptuele raamwerk toe te passen in een empirische studie naar spirituele waarden in bosbeheerplannen, aangezien beheerplannen het knooppunt zijn tussen beleid en praktijk. Onderzoeksvraag 3, *'Wat is de betekenis van bosspiritualiteit voor de praktijk van het bosbeheer?'* wordt beantwoord door een empirische studie naar spirituele waarden in de praktijk van het bosbeheer. De twee empirische studies werden uitgevoerd in gebieden waar ofwel inheemse spirituele tradities, ofwel hedendaagse natuurspiritualiteit' op de een of andere manier aanwezig zijn. Deze spiritualiteiten waren in de literatuur geëvalueerd als mogelijk bevorderlijk voor duurzaam gedrag, in tegenstelling tot andere religieuze tradities. Op grond van dit criterium, en om praktische redenen, werden de locaties geselecteerd: British Columbia (Canada) voor onderzoeksvraag 2, en Nederland voor zowel onderzoeksvragen 2 als 3.

Hoofdstuk 2 beschrijft de constructie van het conceptuele raamwerk voor de studie van bosspiritualiteit in detail. De theoretische basis is de 'Family Resemblances Approach' (FRA). Deze maakt de studie van een breed scala aan religieuze en spirituele verschijnselen met meerdere kenmerken mogelijk zonder nadruk te leggen op de grenzen van definities. De FRA biedt een goed kader om spirituele tradities en onderliggende ontologieën en epistomologieën op gelijke basis te behandelen, inclusief tradities die 'agency' toekennen aan niet-menselijke personen. Om het conceptuele raamwerk op te bouwen, gebruikte ik twee soorten 'bouwstenen': dimensies van spirituele waarden, en elementen van bosbeheer. De dimensies van spirituele waarden (kortweg 'spirituele dimensies') zijn ontleend aan de theorieën van Ninian Smart (1996, 2002) over de zeven 'dimensies van religie'. Spirituele verschijnselen kunnen enkele, vele of alle dimensies vertonen. Dimensies kunnen in verschillende mate aanwezig zijn, en sommige verschijnselen kunnen in meer dan één dimensie voorkomen. Ik spitste Smart's dimensies toe op bos-gerelateerde spirituele waarden, met als uitkomst de volgende spirituele dimensies: 1) *Experientieel-Esthetisch*, 2) *Experientieel-Herstellend*, 3) *Experientieel-Relationeel,* 4) *Experientieel-'Levenskracht'*, 5) *Praktisch-Ritueel*, 6) *Mythisch-Narratief,* 7) *Filosofisch*, 8) *Ethisch*, 9) *Sociaal-Institutioneel* en 10) *Spiritueel-Materieel*. De nummering en inhoud is aanpasbaar en varieert enigszins in de verschillende onderzoeken. Deze dimensies kunnen worden toegepast als analytische eenheden en kunnen worden afgezet tegen elementen van bosbeheer of andere eenheden die betrekking hebben op de onderzoeksvragen in kwestie.

Hoofdstuk 3 beschrijft hoe het bosspiritualiteit-raamwerk wordt toegepast in het onderzoek naar spirituele in bosbeheerplannen uit British Columbia (Canada) – vaak met vertegenwoordiging van First Nations - en uit Nederland. De uitkomsten in beide locaties lieten zien dat bosbeheerplannen een verscheidenheid aan spirituele waarden herbergen, niet alleen in de hoofdstukken over principes en doelstellingen, maar ook in operationele hoofdstukken. De studie onthult drie thema's waarin spirituele dimensies in de plannen tot uiting komen. Ten eerste heeft 'natuurervaring' sterk spirituele

connotaties in plannen van beide locaties, wat bevestigt dat bossen potentie hebben om spirituele ervaring in de natuur op te doen, hetgeen mogelijk kan leiden tot milieuvriendelijk gedrag. Ten tweede is bosspiritualiteit ook sterk gerelateerd aan 'verstandig (verantwoordelijk) gebruik van bossen' in British Columbia. Dit suggereert dat, afgezien van ervaringsdimensies, de *Praktisch-Rituele* en *Filosofisch-Ethische* spirituele dimensies drijfveren kunnen zijn voor milieuvriendelijk gedrag. Hoewel 'verstandig gebruik' vaak wordt genoemd als een principe of doelstelling, wordt het niet prominent geoperationaliseerd in de plannen. Dit is misschien te wijten aan de formele, vooraf vastgestelde planningsstructuur. Adaptieve en andere holistische vormen van bosbeheerplanning zijn daarom wellicht beter geschikt om bosspiritualiteit te operationaliseren. Ten derde wordt het thema 'geschiedenis' in Nederland vaak ingezet in bosbouwcommunicatie en het vertellen van verhalen. Daarentegen is dit thema minder geoperationaliseerd in British Columbia, misschien vanwege pijnlijke herinneringen aan het koloniale verleden. Ten slotte bevestigt de opkomst van spirituele waarden in een bosarme, stedelijke omgeving als die van Nederland dat bosspiritualiteit niet alleen het domein is van inheemse volkeren en plattelandsgemeenschappen in het Zuiden van de wereld, maar een wereldwijd fenomeen.

Hoofdstuk 4 onderzoekt de betekenis van spirituele waarden voor het bosbeheer in Nederland in de praktijk. Hiervoor werden bosbeheerders geïnterviewd van grote terreinbeherende organisaties (tbo's) en van particuliere bossen. Het bleek dat bosspiritualiteit in de beheerpraktijk tot uiting kwam in vier verschillende thema's. Ten eerste worden bossen door bezoekers steeds vaker gebruikt voor rituele praktijken die gericht zijn op spirituele verrijking en gezondheid. Particuliere bosbeheerders moedigen deze praktijken vaak aan op hun landgoederen, maar veel bosbeheerders van tbo's worstelen met de vraag hoe dergelijke praktijken te verenigen met de ecologische doelstellingen van het gebied, en met andere gebruikersclaims op het bos. Ten tweede hebben beheerders te maken met verschillen in ontologische en relationele opvattingen over bos tussen de diverse betrokkenen. Deze verschillen beïnvloeden praktijken zoals het kappen van bomen en natuurcommunicatie. Boomkap roept soms complexe debatten op tussen partijen met uiteenlopende opvattingen over bomen en ecologie. Bosbouwers hebben geleerd deze debatten te temperen door open te communiceren. Verheldering van de 'spirituele' ondergrond in deze debatten zou nog beter helpen om eventuele conflicten te voorkomen. Verder voeren beheerders van tbo's op grote schaal natuurbelevingsprogramma's uit. Natuurbeleving is niet noodzakelijkerwijs 'spiritueel', maar het kan de weg banen voor natuur*verbondenheid*, een dieper proces dat spiritueel verrijkend kan zijn. Dit wordt beter gerealiseerd in kleinere groepen op particuliere landgoederen dan in bossen van grote tbo's. Ten derde komt bosspiritualiteit voor in lokale legendes en historische monumenten. De mysterieuze aspecten daarvan spreken het publiek aan, en dit wordt in communicatie over bossen ingezet om belangstelling voor bossen te genereren. Ten vierde - en in tegenstelling tot de bosbeheerplannen - komt het 'onzegbare' aspect van spiritualiteit naar voren in verwijzingen naar niet verder omschreven spirituele ervaringen en incidentele gevallen van intuïtief bosbeheer.

Het hoofdstuk concludeert dat bosspiritualiteit niet alleen belangrijk is voor natuurbeleving (zoals gesuggereerd in de bosbeheerplannen), maar ook voor rituele praktijken in bos, verstandig bosgebruik, en diepere natuurverbondenheid. De opkomst van bosspiritualiteit in Nederland is in lijn met de onlangs geponeerde 'forest re-spiritualization'-hypothese (Roux et al., 2022), en ook met de huidige heropleving van lokale natuurspiritualiteiten en de toenemende instroom van Oosterse en Inheemse spiritualiteiten. Bosbouwers moeten leren omgaan met deze trends, en ook hoe ze hun beheer kunnen verenigen met deze toenemende en steeds diversere 'spirituele' claims.

Hoofdstuk 5 reflecteert op de methodologie en resultaten en bespreekt implicaties voor onderzoek, beleid en onderwijs. Het bosspiritualiteit-raamwerk dat ik voor dit onderzoek heb ontwikkeld, blijkt een nuttig hulpmiddel te zijn bij het bestuderen van spirituele fenomenen en vraagstukken in verband met bosbeheer. Als zodanig kan het bijdragen aan bestaande op Ecosystem Services gebaseerde raamwerken, zoals de IPBES-raamwerken voor 'Valuing nature's contributions to people' ('*Waardering van de bijdragen van de natuur voor mensen*) en 'Assessment of the diverse values and valuation of nature' ('*Beoordeling van de diverse waarden en waardering van de natuur'*). Hier zijn spirituele waarden 'verpakt' in relationele en intrinsieke waarden, waardoor het moeilijk is om bosspiritualiteit diepgaand op zichzelf te bestuderen. Het bosspiritualiteit-raamwerk is mogelijk beter toepasbaar in meer integratieve benaderingen zoals bioculturele diversiteit en 'Integral Ecology'. In ieder geval moet het raamwerk verder worden getest om het ontwerp en de robuustheid ervan te verbeteren en de toepasbaarheid ervan te testen.

Dit proefschrift toont verder aan dat spirituele waarden inderdaad aanzienlijk zijn geoperationaliseerd in bosbeheerplannen en praktijken, althans in de studiegebieden. Een nadere analyse van plannen en praktijken voor bosbeheer wereldwijd kan leiden tot betere ondersteuning vanuit mondiale of sub-mondiale beleidskaders voor meer aandacht voor bosspiritualiteit in de uitvoering van het beheer. Concreet kan dit onder meer betrekking hebben op het onderhouden van stiltegebieden, het bevorderen van verantwoorde bosbeheersystemen en het behoud van oude en heilige bossen. Beleidsondersteuning kan ook de mainstreaming bevorderen van participatieve bosbeheerplanning, waarin bosspiritualiteit beter tot zijn recht komt. Dit kan mogelijk bijdragen tot het verminderen van bosconflicten.

Bosbeheerders in Nederland zien een toename van spirituele praktijken in bossen. Velen van hen willen hun kennis en vaardigheden op het gebied van bosspiritualiteit verbeteren. Ze kunnen profiteren van kennisuitwisseling met collega's en 'ecospirituele ' beoefenaars. Dit kan met name betrekking hebben op oude bomen en bos, waarnemingen van 'Aarde-energieën' van het landschap, spirituele dimensies van lokale sociaal-culturele geschiedenis, gedenkbossen en natuurbegraafplaatsen. Ik eindig met een speculatief leermodel waarin ik spiritualiteit conceptualiseer als een leerweg met twee cycli waarin 'inspirationeel leren' is geïntegreerd met 'ervaringsleren'. Deze leerweg sluit mogelijk aan bij nieuwe wetenschappelijke en maatschappelijke inzichten over meer transformatieve wijzen van bosbeheer in de toekomst.

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This thesis' journey was a long road with some steep slopes, surprising turnings and beautiful views. As the saying goes, the road was as important as the destination. Not only did I meet many human and non-human persons along the way who helped me and kept me on track, but also I learnt a lot from them. Their inspiration and support were, in many ways, vital for me to complete this thesis. I would like to express my gratitude to them all.

This thesis is dedicated to my co-promotor Birgit Elands who invited me to start the journey in our shared desire to investigate forest spirituality. Sadly, she passed away in February 2022. Her enthusiasm and support until the end of her life are sorely missed and remembered with gratitude.

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Many thanks to all those who provided the data for this research: the makers of the forest management plans. Many thanks to all those who provided the data for this research: the makers of the forest management plans in British Columbia and the Netherlands and those who helped me access these plans; the forest managers who gave interviews and/or hosted the few field visits not thwarted by COVID-19 and all

others who shared their insights. Kees van Son, thank you for hosting our unforgettable field visit to the Strubben-Kniphorst forest and, in addition, the TV appearance at RTV Drenthe. I am also greatly indebted to the organizers of the Area Managers' Day 2022 for arranging the workshop on forest spirituality. Aranka Röthengatter, thank you for your support with this workshop. I would also like to gratefully mention the editors of the Vakblad Natuur Bos Landschap for publishing our outreach paper on forest spirituality in early 2023. Hans Andeweg, Jeroen Heindijk and Maja Kooistra, thank you for providing important background information by sharing your expert views on Earth spirituality with me. Jeannne-Layza Roux, I am grateful to you for coining the term 'forest spirituality', which I have been glad to adopt for this thesis.

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I have been greatly encouraged by the support of numerous friends during this thesis project. Thanks to all of you! Special thanks to my late Aikido teacher, Terry Ezra Sr., for offering me a glimpse of his spiritual world that I will never fully enter. I have always felt that nature and martial arts are connected, but after 35 years of practice, I have yet to find out how. I am grateful to the Aikido community for accompanying me on this search for understanding.

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ABOUT THE AUTHOR

Catharina Henriëtte de Pater was born in Bilthoven, the Netherlands, in 1953. She obtained an MSc in tropical forestry at Wageningen University in 1979 and an MA (with honours) in Interreligious Spirituality Studies at the Radboud University Nijmegen (2007). She also holds a 4th dan in Aikido, a non-competitive martial art.

In the course of her forestry study she completed an internship in the then Soviet Republic of Georgia (1975) and carried out fieldwork for tropical sylviculture in Cape Verde (1977). She majored in tropical sylviculture, added a minor in vegetation science, and another minor on the deforestation of Kalimantan (Indonesia) and its ruinous effects on the local Indigenous people in that region.

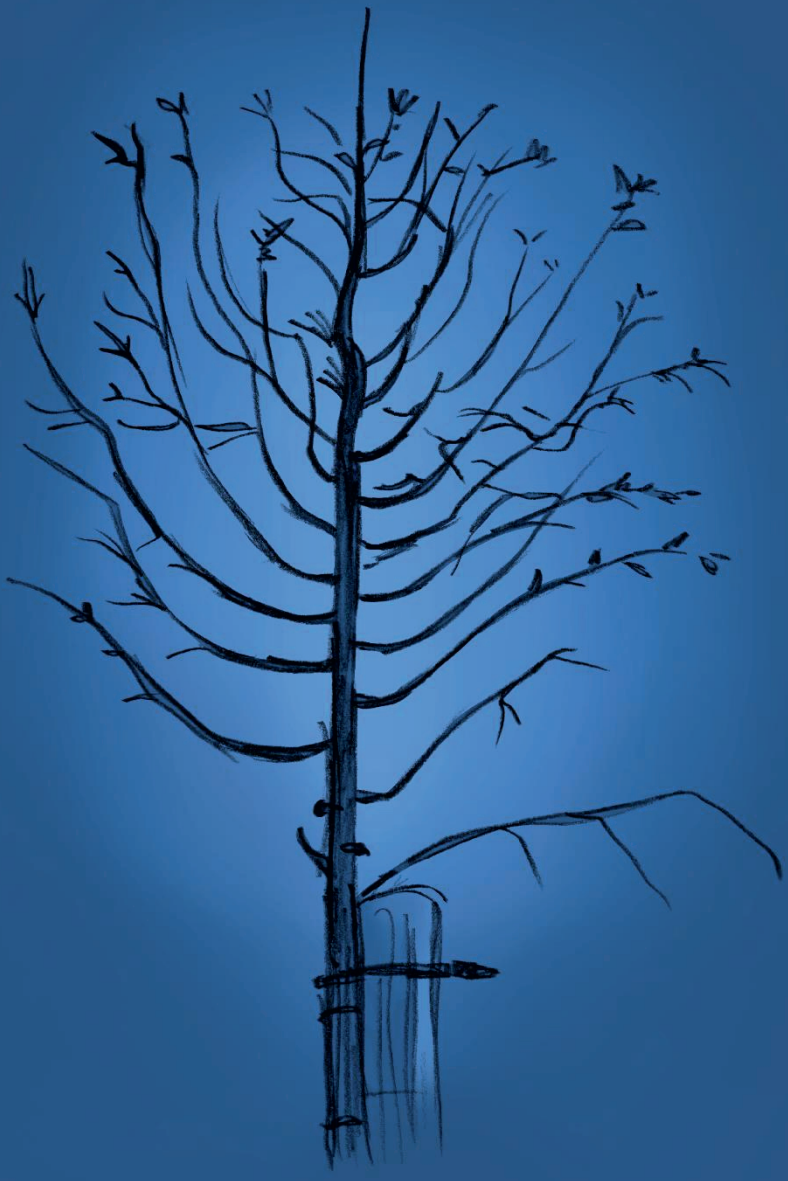
After graduating in 1979 she returned to Cape Verde for reforestation planning on the island of Santo Antão. In 1982 she became an associate forestry expert for FAO. She first worked in the Multiple-Use Forest Management Project in the Philippines for the establishment of forest management plans in Luzon. Meanwhile, the concept of social forestry had begun to emerge in this country and elsewhere. In 1983 she joined the Nepal-FAO Community Forestry Development Project. She spent two years in Ilam District, where she assisted in the development of village forest nurseries, plantations, woodstoves and community forest management planning. She then moved to the Agricultural University of Nicaragua in Managua (1985-87) as part of a cooperation programme with Wageningen University, where she assisted the Forestry Department in introducing social forestry, wood fuel development and agroforestry in higher education.

In 1987 she became a forestry adviser for the Dutch government at the Ministry of Agriculture, Nature and Food Quality (LNV). There she joined the Forestry and Biodiversity Support Group for delivering technical support to the Ministry of International Cooperation to ensure the technical and social quality of forestry cooperation projects and programmes. She travelled extensively, mainly in Asia, where she worked with local and Indigenous farmers, foresters, administrators and policy-makers in the field and also in international conferences. Her work in that period was fuelled by the flow of newly emerging approaches to international forestry cooperation, such as biodiversity conservation, sustainable forest management, gender equity, endogenous development and grassroots empowerment.

During all these years, she became gradually aware of the importance of religion and spirituality in people-nature relationships. When she obtained a part-time

position at LNV (2001), she also embarked on a master's study in Interreligious Spirituality at Radboud University Nijmegen (RU), during which she explored the world's religions on their views on nature and forests in her assignments. She graduated with honours on a thesis on Dutch forest managers' spiritual concerns (2007).

After her study, she co-ordinated a Radboud University conference on 'Religious Studies and Theology Exploring Sustainable Development' (2007), participated in the RU programme 'Indigenous Spirituality and Sustainable Development,' with courses and a book chapter on Indigenous spirituality and forest management (2007-2009), joined the International Society for the Study of Religion, Nature and Culture (ISSRNC), participated in the organization of the 3rd ISSRNC Conference on Religion, Nature and Progress (Amsterdam, 2009) and wrote several publications. Meanwhile, she continued working part-time at LNV on biodiversity communication and, from 2012 onward, on forestry again. She participated in the EU Forestry Commission and assisted in the introduction of the EU Timber Regulation in the Netherlands. In 2014, she retired from LNV. After a period of searching and probing, she came into contact with FNP where she was welcomed as a PhD candidate in 2016. The journey leading towards this dissertation had begun.



Completed Training and Supervision Plan

Catharina Henriëtte de Pater

Wageningen School of Social Sciences (WASS)

Name of the learning activity	Department/Institute	Year	ECTS*
A) Project related competences **A1 Managing a research project**			
WASS Introduction Course	WASS	2017	1
Research Proposal Writing	WUR	2017-2018	6
Book Review: Choné et al., 2017. 'Rethinking nature: Challenging Disciplinary Boundaries'	Journal for the Study of Religion, Nature and Culture (13)1: 110-112.	2018	1
'Spiritual Values and Forest Management'	WASS PhD Day 2019, Wageningen	2019	0.5
'Spiritual Values in the Practice of Forest Management'	WASS PhD Day 2022	2022	0.5
'Spiritual Values and Sustainable Forest Management'	Bi-annual ISSR Conference Religion, Cooperation, and Conflict in Diverse Societies, Lausanne	2017	1
'Articulation of Spiritual Values in Forest Management Plans'	Conference European Forests – our Cultural Heritage, Austria / IUFRO	2018	1
'Spiritual Values in Forest Management; a Conceptual Framework for Empirical Research'	Spring Meeting Ned. Genootschap voor Godsdienstwetenschap (NGG)	2021	1
'Spiritual Values in Forest Management; a Conceptual Framework for Empirical Research'	Conference Religion and the Experience of Nature: Comparative Perspectives (online), L.M. Universität Munich	2021	1

A2 Integrating research in the corresponding discipline			
From Topic to Proposal	WASS	2017	4
Advanced Qualitative Research Design and Data Collection methods	WASS	2018	4
Qualitative Data Analysis MAT 50806	WUR	2019	6
Practice-Based Approaches& Environmental Governance	WASS	2018	0.5
B) General research related competences **B1 Placing research in a broader scientific context**			
WASS Writing Retreat 1	WASS	2017	1
WASS Writing Retreat 2	WASS	2018	1
WASS Writing Retreat 3	WASS	2022	1
B2 Placing research in a societal context			
'Spiritualiteit in het Bosbeheer'	Nationale Beheerdersdag 2022 (Ver. Bos- en Natuureigenaren, KNBV, Bosgroepen e.a.)	2022	0.5
'De Rol van Spiritualiteit in het Bosbeheer'	Kon. Ned. Bosbouw Vereniging (KNBV) najaarsvergadering	2023	0.5
'De rol van spiritualiteit in het bosbeheer'	Vakblad Natuur Bos Landschap	2023	0.5
C) Career related competences/personal development **C1 Employing transferable skills in different domains/careers**			
Competence assessment	WGS	2017	0.3
Supervision of 3 BSc theses	WUR	2019-20	1
Supervision of 5 MSc theses	WUR	2017-21	2.5
Supervision of student in 'Engaging Scientists with the Public'	Utrecht University	2022	0.5
Total			**36.0**

*One credit according to ECTS is on average equivalent to 28 hours of study load

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