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Chapter 21
Linking Biocultural Diversity and Sacred Sites: Evidence and Recommendations in the European Framework

Fabrizio Frascaroli and Bas Verschuuren

Abstract There is growing recognition that sacred natural sites (SNS) form hotspots of biocultural diversity and significantly contribute to conservation in traditional non-western societies. Using empirical evidence from SNS in Central Italy, we illustrate how a similar link between spiritual, cultural, and biological values can be fundamental also in relatively secular and modernized European contexts. We show that SNS are key to sustaining traditional practices and local identities, and represent important instances of biodiversity-rich cultural landscapes. Based on other case studies from across Europe, we suggest that these conclusions can be relevant also at a broader European scale. Greater awareness from planners and policy-makers, however, is needed to safeguard and emphasize the role of European sacred sites as refugia for biocultural diversity. We review policy guidelines on SNS previously developed by International Union for the Conservation for Nature (IUCN) and United Nations Educational, Scientific and Cultural Organization (UNESCO), and aimed at protected area managers and planners. We assess the applicability of these guidelines in European contexts, and complement them with findings and insight from Central Italy. We provide recommendations for guidelines that are suited to SNS related to mainstream faiths in Europe.

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21.1 Introduction

The paradigms of biocultural diversity and biocultural conservation place due emphasis on the religious and spiritual dimensions that characterize the relations between people and their environment (Maffi and Woodley 2010). The world's staggering varieties of spiritual beliefs, rituals, and celebrations constitute a primary instance of diversity across human cultures. The number of religions recorded in an area, often in combination with linguistic and ethnic diversity, has been repeatedly proposed as a robust proxy for cultural diversity at large (Loh and Harmon 2005; Maffi 2005). Religious and spiritual manifestations, such as myths, invocations, rituals, and taboos, also carry the teachings and norms of conduct that different societies have developed in synergy with their environment (Berkes 1999; Colding and Folke 2001). It is increasingly recognized that this living body of knowledge—which in conservation circles is frequently referred to as traditional (or indigenous) ecological knowledge (henceforth TEK; Berkes et al. 2000; Toledo 2002)—has played a central role in shaping and maintaining biodiversity-rich landscapes, as well as supporting sustainable livelihoods and resource management practices (Gadgil et al. 1993; Long et al. 2003; Tengö et al. 2007).

Sacred natural sites (SNS) are one of the clearest exemplifications of this tight interplay between spiritual beliefs, TEK, and biocultural diversity (Verschuuren and Wild 2012). SNS have been defined as 'areas of land or water having special spiritual significance to peoples and communities' (Wild and Mcleod 2008). As such, groves, forests, springs, rivers, caves, but also entire landscapes or nature patches surrounding particular human artifacts, like temples and shrines, can be SNS (Dudley et al. 2009). SNS have been recorded on every continent of Earth except for Antarctica (Bhagwat and Rutte 2006), and can be seen as universal manifestation of a deep bond connecting humans and nature (Hughes and Chandran 1998).

While this sacred bond between spatial features and people has been a source of inspiration and identity throughout human history (Eliade 1959; Tuan 1974), the biocultural importance of SNS has been consistently highlighted only in relatively recent times (Verschuuren 2010; Verschuuren et al. 2010; Pungetti et al. 2012). Over the last 15 years in particular, ecologists have shown that sacred areas in Asia and Africa tend to harbor especially valuable biodiversity, as reviewed by Dudley et al. (2010). Others have explored the spiritual significance of particular ecosystems, such as wetlands (Papayannis and Pritchard 2010) and mountains (Bernbaum 2006, 2010).

The importance of SNS as life-enhancing human activities (Zent and López-Zent 2007), hotspots of biocultural diversity (Verschuuren et al. 2010; Pungetti et al. 2012), and sources of human well-being (Guri and Verschuuren 2008; Delgado et al. 2010) has received recognition in policy frameworks internationally. The United Nations Educational, Scientific and Cultural Organization (UNESCO), the Convention for Biological Diversity, and the International Union for the Conservation for Nature (IUCN) alike have dedicated significant attention to the phenomenon (Lee and Schaaf 2003; Secretariat of the Convention on Biological Diversity 2004; Schaaf and Lee 2006; Wild and Mcleod 2008). These policy implications, however, have mostly concerned the SNS of indigenous populations, and barely touched on the relation between biodiversity and 'mainstream' faiths in the Western world. So far, and despite a few notable exceptions (Mallarach and Papayannis 2007; Papayannis and Mallarach 2009; Mallarach et al. 2012; Frascaroli 2013), the role of spiritual traditions in the relationship between biological and cultural diversity remains largely underexplored in Western modernized contexts. As a consequence, it is practically ignored at the level of European policy-making.

In this chapter, we pursue two objectives. First, we attempt to demonstrate the importance of SNS as biocultural hotspots in a Western European context. Second, we review the IUCN–UNESCO's *Best Practice Guidelines. SNS: Guidelines for Protected Area Managers* (Wild and Mcleod 2008), in light of our findings about European SNS. Based on this review, we make recommendations for the development of guidance that would be suitable to religious and holy sites in Europe. Our evidence and examples are mostly drawn from an ongoing socio-ecological investigation of SNS in Central Italy.

21.2 Sacred Natural Sites and Biocultural Linkages in Europe

21.2.1 Central Italy as a Case Study

The nexus between SNS and biocultural diversity in Central Italy has been addressed by a comprehensive research project, started in 2010 (Frascaroli 2013; Frascaroli et al. 2014). This specific regional focus discourages too broad generalizations of the results, but at the same time has permitted to establish a systematic investigation using quantitative as well as qualitative methods. We summarize the available conclusions and offer preliminary results from parts of the project that are currently underway.

21.2.1.1 Methods

The research project is sited in the six administrative regions that constitute Central Italy: Tuscany, Marche, Umbria, Lazio, Abruzzi, and Molise. Hills and mountains

(the Apennine and pre-Apennine ranges) cover nearly 97 % of the total land and overlaps with one of the main biodiversity hotspots in Europe and the Mediterranean (Myers et al. 2000; Olson and Dinerstein 2002). The religious heritage covers a number of settlements related to seminal figures such as St Benedict of Norcia and St Francis of Assisi (who both had their birthplace in this area) and their respective orders. A number of smaller hermitages, shrines, and sanctuaries also dot the landscape.

The project design consists of three distinct phases: (1) identification, categorization, and mapping of SNS in the area; (2) floristic assessment and comparison of a sample of thirty representative SNS and equally many control non-sacred sites; and (3) interviews and participant observations at the same sample SNS.

During the first phase, in 2010, baseline information on sacred sites in Central Italy was derived from literature including the Ministry of Cultural Heritage's national census of Christian shrines in Italy (CSC 2003). Details on the environmental setting, historic development, and religious heritage of each site were inventoried and categorized into a database. Descriptive statistics were calculated to identify significant patterns in the distribution of sacred sites across different land covers. A list of SNS was compiled, including all the sacred sites located in 'natural' settings—forests, grasslands, cliffs, riverbanks, etc.—away from human infrastructures and populated areas (Frascaroli 2013).

Floristic assessments at a sample of thirty sites were carried out in Summer 2011 and 2012. These sites were selected among the overall pool of SNS so as to represent a balanced geographical distribution, different types of habitat, a gradient of religious importance, and different degrees of formal protection (some were included in official protected areas (PAs), while an equal number were not). Each SNS in the sample was paired with a non-sacred control site located nearby and with comparable environmental conditions (i.e., altitude, aspect, habitat type). The floristic assessments measured diversity and composition of herb, shrub, and tree layers, forest structure, and occurrence of endemic, threatened, and useful plants at all sites. Pairwise tests of statistical significance were performed to compare diversity measures at SNS and control sites. The impact of other anthropogenic variables (such as the presence of an official PA or the religious importance of the site) on floristic composition at all sites was also analyzed through analysis of variance (Frascaroli et al. 2014, in press).

Social science data have been collected regularly since 2010 at the same SNS on which the floristic assessment had focused. Observations were also carried out at several additional sites, in the context of a distinct sub-project in 2012. Religious rituals and ceremonies at the sites were attended as a form of participant observation. Further, semi-structured face-to-face interviews were conducted at each site with key informants, and additional informants were identified through snowball sampling (Bernard 2006). The interviews covered a range of subjects, including oral history, beliefs, and ritual practices related to the sites. Also, they collected information on site management and governance, and the relation of the sites with traditional livelihoods and economies. Data collection for this part of the research has continued in 2015.

21.2.1.2 Overview of Main Findings

The results obtained thus far highlight both the biological and cultural importance of SNS in Central Italy, and offer insight into the linkages between the two. Of all 539 sacred sites inventoried, more than half are located in natural or semi-natural settings, such as forests, tree stands, mountain grasslands, and agricultural lands. Moreover, natural features such as grottos, caves, and single trees were found to be explicit objects of worship at a large number of SNS.

These data suggest a much stronger prominence of nature-related spiritualities in Central Italy than originally hypothesized. Also, they suggest that the relation to the environment varies considerably not only between different strands of Christianity (Mallarach 2012b), but also within Catholicism itself. Indeed, variants closer to local folk beliefs and specific families like the Camaldolese are associated with significantly higher numbers of SNS than other groups. Nonetheless, the importance of nature-related worships seems to have been on the wane overall since the fourteenth century (Frascaroli 2013; see also Byrne 2010).

Biological values Floristic analyses of SNS in the area showed that SNS are significantly connected with old-growth forest and monumental trees (Frascaroli et al. 2014). Generally, the portions of old-growth forest in question are small patches of one to few hectares, although in some cases they can have a much larger extent, like the beech forests surrounding the shrines of Vallepietra and Canneto. Also, there are a few but noticeable cases where SNS are characterized by types of forest cover (mostly thermophilous forests dominated by *Quercus ilex*) that do not occur anywhere else at a landscape scale.

Significantly, higher species richness was recorded at SNS than at control sites. This appears to be largely related to the more heterogeneous habitat composition measured at SNS. SNS were also found to significantly contribute to diversity at the landscape scale. Indeed the number of species found uniquely at SNS was significantly higher than the number of species found only at control sites. Moreover, of the 97 plants found only at SNS, four are endemic and more than one-third are typical of forest and open-range habitats, such as Eastern white oak woods and *Festuco-brometalia* dry grasslands, considered priorities by the EU's Habitat Directive (EC 2013; Frascaroli et al., in press). SNS also harbor a greater number of plants of ethnobotanical importance. This difference is significant for species that have or used to have animal-related applications such as traditional veterinary practices (Frascaroli et al. 2014).

Finally, the floristic analyses revealed that being included in official PAs had a negative influence on the plant richness of SNS. Whereas SNS are significantly more diverse than control sides outside of PAs, this difference levels out within PAs (Frascaroli et al., in press).

Cultural values While social science data are still being collected, some themes have already emerged. There are indications that a spectrum of cultural values is consistently associated with SNS, and that these sites are important anchors of traditional practices and cultural distinctiveness.

The SNS investigated are often characterized by syncretism where a dominant religion, Roman Catholicism, has merged with previous indigenous and folks beliefs, resulting in *sui generis* variants (see also Verschuuren et al. 2010; Byrne 2010). Archeological evidence indicates that approximately 10 % of SNS in the area were also sites of worship in pre-Christian times (Frascaroli 2013). The presence of pre-Christian worships, however, is not a pre-condition for the occurrence of local folk variants, which appear to be a much broader phenomenon.

Claiming that each of these variants is a unique entity would be exaggerated, as numerous characteristics are shared across sites. For example, foundation stories tend to be quite similar, and revolve around two main themes: the original presence of a hermit and his miracles, or the accidental discovery of the site by a herder in search of a lost animal. Some ritual practices are also common, like the collection of miraculous spring water for therapeutic purposes, and the devotion to specific natural features (mostly rocks or trees) that are ritually rubbed. There are a few instances, however, where local customs display a much more distinctive character. Thus, some of the festivities annually held at SNS (named *festas*) remain manifestations of unique intangible heritage. Examples in this sense are the 'marriages of the trees' that are still celebrated in various places from Lazio to Basilicata (Fig. 21.1). Others are the pilgrimages and rituals at the Shrines of Madonna del

Fig. 21.1 Sacred natural sites in Central Italy are often locations of ritual practices and celebrations focusing on natural elements. In this 'marriage of the trees,' two live oaks are symbolically united in marriage in front of the Convent of St. Angel on Mount Fogliano, Vetralla (Lazio) (*Photos* K. Marsh)

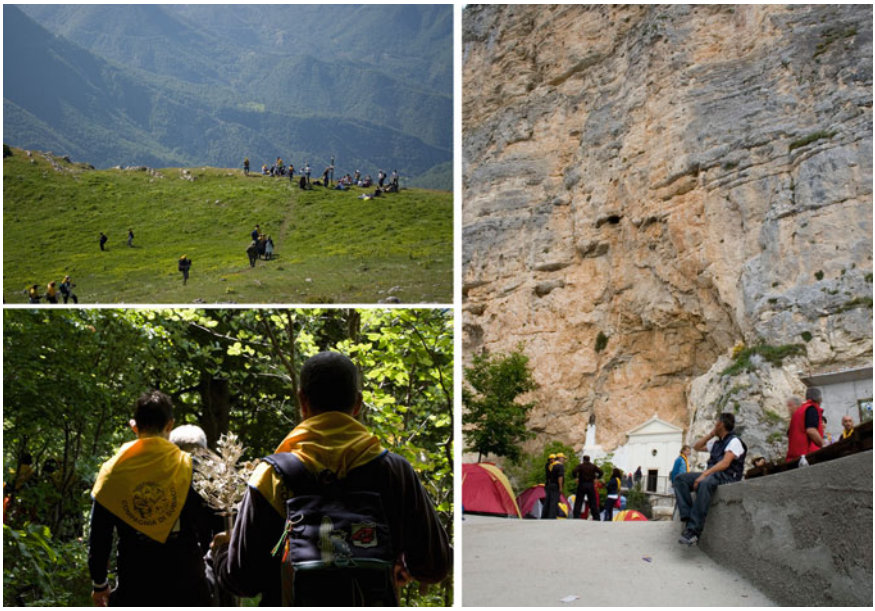

Fig. 21.2 The confraternity Santissima Trinità of Subiaco (*left*) undertaking the annual pilgrimage to the sanctuary of Vallepietra (*right*) (*Photos* T. Fjeldsted)

Canneto and Santissima Trinità (Fig. 21.2). Here, Roman Catholicism, folk spiritualities, and Greek Orthodox influences fuse with the local passion for horseback riding and animal husbandry, giving rise to an incredible syncretism (see also Bernardini 2000).

To the organization of rituals and *festas* is connected another prominent trait of SNS, that is, the long-standing importance of local lay brotherhoods. Associations of this kind, which cooperate with but can be visibly independent from the local clergy, play a prominent role at several sites. For example, they can be charged with the maintenance of the shrines or organization of the main celebrations. Where ceremonies require intense planning and fundraising, the brotherhoods can be active during the whole year round and form a pivotal reference institution for local communities beyond the mere religious ambit. Similar instances are the confraternity in the town of Subiaco that supervises the complicated rituality around the *festa* of Santissima Trinità, or the 'brothers' of St. Angel in the small village of Balsorano (Marucci 1999).

The importance of animal husbandry is also a structural element in the symbolism and historical development of many SNS. The ancient relation between SNS and pastoralism in Central Italy is known (De Waal 2012), although not fully explicated. Plants used in traditional veterinary and animal feeding are especially common at SNS, which additionally confirms that deep connection (Frascaroli et al. 2014). Herders are still found to be amongst the most fervent devotees at many

SNS, and some are directly involved with care taking of the sites. Statements of herders recorded in Abruzzi and Lazio testify the pride in claiming that their profession is 'the closest to Christ.' Others commemorate days when animals grazing the mountain pastures were plentiful, and herders would find refuge within the shrine's walls during stormy nights.

Overall, SNS are emerging from this research as symbolic places connected to an important sense of existential and identity-making *continuity*. This is true at the personal level, as underlined by the many stories of individuals undertaking intimate pilgrimage to these sites to periodically mark special recurrences (return from emigration, anniversaries of healings or losses, etc.). However, continuity has also an inter-generational dimension. Thus, SNS are often described by informants as vehicles for transmitting a body of moral values and traditions from forefathers to descendants. And continuity, finally, can span over centuries if not millennia. SNS, in this case, are loci where historic identities, even from pre-Roman times, are grounded and conserved.

Biocultural linkages and SNS as *biocultural refugia* The research findings so far already provide some insight into the interplay between spiritual, biological, and cultural values at SNS in Central Italy.

A first indication is that the biological uniqueness of SNS is the result of anthropogenic practices, as well as original features. Indeed many of these SNS are found in outstanding geomorphological locations (Nolan and Nolan 1989; Frascaroli 2013), but their vegetation patterns also appear to be significantly influenced by specific human activities. This is visible in the selective conservation of individual trees (Schama 1995; Turner et al. 2009), and in the diversification of the microhabitat mosaic due to trampling, and in activities of traditional management, such as weeding, pruning, and pollarding. Indeed, it is known that moderate anthropogenic disturbances of this sort can have a positive influence on local species richness and habitat diversity (Naveh and Whittaker 1980; Selvi and Valleri 2012).

At a larger scale, the relation between SNS and biodiversity-rich cultural landscapes also involves the effects of pastoralism. Ongoing herbivore grazing, indeed, has maintained significant areas around several SNS as species-rich grasslands, or created distinct silvopastoral landscapes characterized by alternating pastures and stands of old-growth pollarded trees (cf. Oteros-Rozas 2013; Agnoletti 2014). The deep bond between religious symbolism and pastoralism at SNS may have contributed to the survival of transhumance and open-range herding in some of these areas, in spite of the general decline of such practices in the rest of the country.

The role of SNS in rural landscapes and livelihoods in Central Italy extends beyond pastoralism and acts (or used to act) as an important reference for farming at large. This view is supported by the temporal cadence of many *festas*, which often coincide with the dates of transhumance or key moments in the agricultural calendar. Similarly, informants at different sites revealed how the bell from the hilltop shrines marked the timings of the daily work in the fields, or warned against a coming storm, or was frantically rung by the local peasants to 'fight off' extreme weather events (cf. Gómez-Baggethun et al. 2012).

In this context, it is also relevant that there is a significant spatial association between SNS and portions of rural land collectively owned by local village communities (*usi civici*). These lands are largely managed for summer grazing and light extraction of forest products. The hypothesis that SNS may represent a particular variant of the common properties described by institutional economists (Ostrom 1990) had already been advanced (Rutte 2011). While the SNS in Central Italy are not conceived as common properties per se, they seem to act as symbolic centers that contribute to the sound functioning and management of collective areas. Admittedly, this distinction is based on a strict demarcation between sacred and non-sacred portions of land, which might have been perceived as scarcely meaningful or artificial in the traditional worldview of rural people up to a few decades ago.

In Central Italy as elsewhere, in conclusion, SNS appear as particular instances of biocultural landscapes, where both human practices and biodiversity are embedded in a system of symbolic and transcendental meanings. The presence of this religious framework has contributed not only to creating an aesthetic and environmental specificity, but also to strengthening socio-ecological resilience (Gómez-Baggethun et al. 2012) and maintaining relevant social memory throughout time (Barthel et al. 2013). In this sense, SNS can also be seen as *biocultural refugia*, that is, places that shelter not only defined species but also living knowledge and memory about biodiversity and ecosystems (Barthel et al. 2013).

21.2.2 From Regional to European Relevance

While the evidence presented strongly supports a view of SNS in Central Italy as biocultural refugia, the specific focus of the research makes it problematic to simply generalize the findings to the national or European level. Some additional indications on the biocultural importance of SNS across Europe, however, can be drawn based on case studies from the Delos Initiative.

The initiative, launched in 2005, was built around the identification and analysis of prominent SNS and landscapes located within PAs in the modernized world. Some 30 case studies, of which 22 in Europe, were investigated by local experts, and discussed at the three international workshops of the Delos Initiative (Mallarach and Papayannis 2007; Papayannis and Mallarach 2009; Mallarach et al. 2012). The conclusions reached through this process support that there is a significant overlap between biodiversity-rich areas and spiritual heritage, and that SNS and landscapes play a significant role in biological conservation even in Western and modernized contexts. Moreover, they confirm that nature maintains important spiritual and symbolic values also in those contexts, and that this offers potential for conservation approaches in modernized countries (Mallarach and Papayannis 2010).

European case studies of the Delos Initiative highlighted a range of cultural values that are comparable to those that we reviewed referring to Central Italy. For example, some of the sites revealed an important historical continuity between

pre-Christian and Christian worships (Lyratzaki 2007; Wild 2012). Others keep hosting particular rituals, beliefs, and forms of veneration that are often linked to the sanctification of natural elements (Bosch and Varela 2007; De Waal 2012). Still in other instances, the location of SNS coincides with that of ethnic or linguistic minorities. In these cases, it was emphasized how they have historically contributed to the conservation of local and national identities, especially in the face of foreign occupations (Catanoiu 2007, 2009; Mallarach and Catanoiu 2009; Pesic et al. 2012).

21.3 Improving Management and Policy for European Sacred Natural Sites

Although additional studies are needed to assess regional variations and specificities in the relations between spiritual and biocultural heritages, our evidence underlines the significance of such linkages, and the important roles that sacred sites and landscapes have played in supporting biocultural diversity across Europe. These findings stand in stark contrast with the scarce attention accorded to spiritual and religious traditions in European land management and conservation approaches. While this lack of attention represents a significant hindrance to both theoretical and policy developments, it is not particularly surprising. In fact, it can be understood considering three possible causes.

The first cause is the biased and ideological self-perception of a fully modern, rational, and secularized "West," as opposed to a traditional, exotic, and superstitious "Rest" of the world (Latour 1993; Herzfeld 2001). Needless to say, according to this construct, talks of sacred forests, healing waters, or miraculous caves belong with the latter rather than the former (Tiedje 2007; Mallarach et al. 2012).

The second cause lies in the common assumption that Christianity (the dominant religion in Europe) is essentially anti-naturalistic, or at best scarcely interested in the world of nature (White 1967). The possibility that a monolithic understanding of Christianity may be a pure abstraction of a more diverse reality including a myriad of spiritual variants is hardly considered.

Whereas these issues stem from engrained perceptions, the third cause involves the modernistic regimes of land management that have been implemented across Europe since the nineteenth century. Changes in patterns of ownership and the role of expert scientific knowledge became distinctive tools in the pursuit of systematic control over natural and agricultural resources (Sponsel 2012). These developments were also key passages in the formation of nation states and the modernization of national economies (Scott 1998). In this process, the holdings of many religious communities were confiscated by the state (Mallarach and Papayannis 2009; Mallarach 2012a; Frascaroli 2013). Community rights over common properties and resources of local communities were also largely altered into private property regimes (Scott 1998). At the biological level, these changes acted as triggers for

widespread and detrimental effects that were only partially compensated by the creation of protected areas and 'land-sparing' approaches to conservation (Antinori 2009; Mallarach and Papayannis 2009). The suppression of traditional land tenures also had destructive impacts on customary forms of resource management, TEK, and other cultural values of biodiversity (Mallarach 2012a). Overall, these developments created a permanent rift between many local and religious communities and secular authorities, and further contributed to the exclusion of the former ones from matters of land management.

Ethnographic and anthropological research can help to unpack and overcome the preconceptions that have stood against an unbiased understanding of SNS as biocultural refugia in Europe. Land management regimes, however, cannot be changed through research alone; they require adequate policies and management actions. In the next section we explore what guidance may be developed to achieve this purpose.

21.3.1 Assessing the IUCN–UNESCO Guidelines in the Context of European Sacred Natural Sites

The best practice guidelines of the World Commission on Protected Areas *SNS, Guidelines for Protected Area Managers* (henceforth 'IUCN-UNESCO Guidelines'), were devised by IUCN and UNESCO to enhance management and conservation of SNS in and around protected areas worldwide (Wild and Mcleod 2008; see Box 1). These guidelines were primarily focused on the SNS of indigenous people, as defined by Borrini-Feyerabend et al. (2004) and under the principle of self-determination of the United Nations Declaration on the Rights of indigenous peoples (UNDRIP 2008). In Europe, groups that self-identify or are officially recognized as indigenous are few, and most SNS are related to mainstream faiths. While the application of management guidelines would be beneficial also for SNS in Europe, that guidance will need to be adjusted to the specific spiritual and cultural contexts of European SNS.

In this last section, we present the results of an expert assessment that we conducted on the IUCN–UNESCO Guidelines. This effort responds to a call made in the IUCN–UNESCO Guidelines themselves, which state that more research should be undertaken to better understand the SNS of mainstream faiths and Western countries (Wild and McLeod 2008).

Box. 1 The IUCN–UNESCO Guidelines *Sacred Natural Sites: Guidelines for Protected Area Managers* have been developed by IUCN and UNESCO to promote cooperation between PA managers and site custodians, and thus enhance management and conservation of SNS around the world.

The Guidelines are clustered under six general principles. These principles were conceived as sufficiently broad and universal to allow their application across different cultural and religious settings. They are

Principle 1: Recognize SNS already located in protected areas
Principle 2: Integrate SNS located in protected areas into planning processes and management programs
Principle 3: Promote stakeholder consent, participation, inclusion, and collaboration
Principle 4: Encourage improved knowledge and understanding of SNS
Principle 5: Protect SNS while providing appropriate management access and use
Principle 6: Respect the rights of sacred natural site custodians within an appropriate framework of national policy

Thus far, the Guidelines have been translated into seven languages: English, Russian, Spanish, Estonian, French, Korean, and Japanese. The essential parts have also been translated into Italian, Persian, and Greek.

Sources: Wild and McLeod (2008); Verschuuren et al. (2015).

21.3.1.1 Methods

The IUCN–UNESCO Guidelines consist of 44 guidance points (see Appendix), grouped in six general principles (Box 1). We reviewed the 44 guidance points in light of our own findings on European SNS. We distinguished between guidance points that are 'applicable,' 'partly applicable,' and 'irrelevant or not applicable,' and noted any concerns with their application. We also identified gaps in thematic areas and concepts that are pertinent to European SNS and mainstream faiths, but not covered or treated only marginally in the current Guidelines. We develop our findings into recommendations for guidelines that are suitable to the SNS of mainstream faiths in Europe. This approach is similar to a survey conducted on the same topic in 2010 among participants in the third workshop of the Delos Initiative (Mallarach 2012b).

21.3.1.2 Results

Of the 44 guidance points, we concluded that 27 (61 %) can be directly applicable to SNS of mainstream faiths in European contexts, 11 (25 %) are at least partly applicable, while the remaining 6 (14 %) are irrelevant or non-applicable (see Table 21.1). The guidance points grouped under Principles 2, 3, and 5 appeared the least suitable to European and mainstream faith contexts. We found most difficulties

Table 21.1 Results of the expert assessment about the applicability of the IUCN–UNESCO Guidelines to SNS of mainstream faiths in Europe

Assessment outcome	Principles						Tot	Guidance points
	1	2	3	4	5	6		
Applicable	4 (80 %)	6 (55 %)	2 (40 %)	6 (75 %)	5 (50 %)	4 (80 %)	27 (61 %)	1.1, 1.2, 1.3, 1.5, 2.1, 2.6, 2.7, 2.8, 2.9, 2.10, 3.3, 3.5, 4.1, 4.2, 4.4, 4.5, 4.7, 4.8, 5.2, 5.3, 5.5, 5.5, 5.6, 5.7, 6.1, 6.2, 6.4, 6.5
Partly applicable	1 (20 %)	3 (27 %)	3 (60 %)	2 (25 %)	2 (20 %)	0 (0 %)	11 (25 %)	1.4, 2.2, 2.4, 2.5, 3.1, 3.2, 3.4, 4.3, 4.6, 5.1, 5.8
Irrelevant or non-applicable	0 (0 %)	2 (18 %)	0 (0 %)	0 (0 %)	3 (30 %)	1 (20 %)	6 (14 %)	2.3, 2.11, 5.4, 5.9, 5.10, 6.3

Number and proportion of applicable, partly applicable, and non-applicable guidance points in each General Principle are displayed

to lie with the applicability of two terms, 'Indigenous' and 'secrecy.' Also, four concepts that hold particular significance with regard to SNS in European and mainstream faith contexts are not covered, or only partially developed in the IUCN–UNESCO Guidelines. They are (1) monasticism, (2) religious syncretism and layering, (3) pilgrimage, and (4) connectivity. A fifth concept, tourism, is mentioned in the IUCN–UNESCO Guidelines but is likely to have a substantial impact on European SNS, and therefore requires further elaboration into appropriate guidance. Our results are essentially in line with the 2011 Delos Initiative's survey regarding both the number of not directly applicable guidelines, and the absence of key concepts relevant to mainstream faiths and modernized contexts (Mallarach 2012b).

21.3.1.3 Discussion and Recommendations

Publicity in mapping and registration Several guidance points in the IUCN–UNESCO Guidelines (1.4, 2.2, 2.3, 2.4, 4.6) advise secrecy and confidentiality regarding the identification and public inventorying of SNS. This is done to secure that cultural protocol is followed and custodians remain in control over the information about their SNS. These indications, however, appear less relevant in relation to European SNS, as in many cases national policies have already led to disclosure and documentation of sites of worship. This means that the locations of most of these places are well known and possibly listed in heritage inventories or other public registers.

Because of legal protection and effective enforcement, SNS in European countries are under relatively little threat from destructive activities, excluding the need for secrecy and confidentiality as tools for their preservation. Nonetheless, care should be taken that SNS remain appropriately protected in those places where religious institutions, the state, and free market development pose threats to their preservation, and where effective law implementation fails. In such cases, mapping has often revealed itself to be an important tool for the conservation of SNS in Europe. In Lithuania, for example, special surveys recently identified and mapped over 2500 pre-Christian SNS that had originally fallen between the cracks of natural and cultural heritage protection (Vaitkevic 2010). With an increasing influence from the Christian Orthodox Church, some of those places were being forgotten or exposed to threats. Similar trends have been underway also in Estonia (Kaasik 2012; Valk 2012).

Furthermore, many local communities within Europe seem keen to celebrate their SNS and make them better known, rather than to conceal them. This is often motivated by religious reasons, and the genuine drive to make more people part of an important revelation. Social and economic considerations, however, including tourism development and the prestige that comes from well-attended celebrations, are also very common.

Managing tourism The IUCN–UNESCO Guidelines indicate tourism as offering 'the potential for economic benefits to indigenous and local communities'

(point 5.4). European SNS appear to be consistently tied up with expectations about tourism development, and their potential to attract visitors and generate revenue (Shackley 2001). In many post-industrial economies, tourism is indeed perceived as one the most desirable forms of economic activity. Yet, tourism at SNS has revealed itself to be a double-edged sword. Excessive visitor pressures can have negative impacts on both the spiritual and biological values of SNS, which is visible at numerous monasteries in Central Italy (Frascaroli 2013), Spain (Mallarach and Papayannis 2010), and England (Wild 2012).

The reasons for inadequate visitor management can be diverse. Especially in countries where religious estates were once confiscated by the state—such as Italy, Spain, France, and the former communist countries—secular authorities may exclude monastic communities from the planning process, or have little consideration for the spiritual values of their sacred sites. In other instances, monastic communities themselves have embraced habits scarcely compatible with the original vocations of refrain and austerity, and give exclusive priority to generating revenue and increasing visitor access in the management of their sites (Mallarach and Papayannis 2009; Mallarach 2012a). Still in other cases, monastic communities may only be aware of the liturgical, artistic, and historical importance of their sites, and largely ignore their biological value (Frascaroli 2013).

Managing pilgrimage Together with tourism development, changes in the practice of pilgrimage can also lead to excessive visitor flows at many SNS. Since time immemorial, pilgrimage has represented a fundamental mode to experience and shape the environment. Some landscapes would not be what they are, without the networks of paths and the periodic disturbances that marching pilgrims have maintained over the centuries. This situation, though, has been dramatically modified in the last four decades, as even some of the most remote SNS in Europe have been connected to the road network, and walking or horseback riding has been replaced by private cars and coaches (cf. Mallarach and Papayannis 2010). While the wish of custodians to have as many people as possible partaking in the grace of a site is understandable, this can have severe repercussions on both the ecology and spiritual atmosphere of some SNS. Guidance for European SNS should expand on the current Guidelines (where pilgrimage is mentioned at point 5.2), and specifically address the challenges posed by current forms of pilgrimage in Europe.

Indigenous and mainstream faiths, syncretism, and layering The notion of 'Indigenous,' as presented in points 4.3 and 5.9 of the IUCN–UNESCO Guidelines, would require elaboration and complementation in the context of many European SNS. Besides the groups that are officially recognized as indigenous peoples, such as the Sami, much of the unique TEK and intangible heritage encountered at European SNS derives from pre-Christian or folk spiritualities. Although not formally defined as 'Indigenous,' these instances of syncretism and layering of religious traditions at SNS can pose similar management and ethical challenges, and practical guidance would be necessary on how to address them.

It should be recognized that mainstream religions are 'multi-scale' phenomena that vary at different levels of organization. Underneath the top layer of the highest clerical hierarchies, we find an intermediate level consisting of different strands of

the same faith. In the case of Catholicism, examples of these strands include the different monastic and mendicant traditions (e.g., Franciscans, Benedictines, Carthusians, etc.), all with their distinctive features and forms of spirituality, which they maintain across regional and even national borders. A bottom layer, finally, consists of all place-bound and regional variants, characterized by the encounter of a mainstream faith with more specifically local beliefs and sensibilities.

Needless to say, situations of open or latent conflict between two or more of these layers are far from uncommon. Guidelines designed for SNS of mainstream faiths in Europe should acknowledge similar situations and help to sensitize managers about potential tensions. Whenever feasible, they should solicit the negotiation of agreements aimed to preserve local variants and syncretic spiritualities, without raising conflicts with the higher levels of religious organization. These local spiritual manifestations, indeed, often carry very high biocultural value, but tend to be opposed and normalized over time by religious hierarchies. Trying to mediate similar conflicts can be an important process, also in the perspective of renewing the dialog between religious authorities, conservationists, and other stakeholders at a broader scale.

In a similar way, and consistently with what the IUCN–UNESCO Guidelines already suggest for the SNS of indigenous peoples (4.3, 5.1, 5.6, 6.4), the TEK, cultural uses, and landscape preferences of local rural communities should be recorded and carefully considered by land managers and planners in and around SNS. Over the centuries, those communities have created the unique biocultural landscapes, which in many countries form the backbone of the present-day PA network. As illustrated, their agricultural and pastoral activities were often the part of a rich system of spiritual meanings and practices. Priority, therefore, should be given to guaranteeing survival, transformation, and full valorization of those activities, in ways that they are perceived meaningful by local communities. Other forms of management frequently favored by PA mangers, such as rewilding, should follow consensual process and appropriate zoning, especially in culturally sensitive areas with SNS.

Monasticism, tenure rights, and shared governance Monasticism is a fundamental way of organizing religious life typical of many mainstream faiths from Western Europe to East Asia. In Europe, monasticism is particularly associated with the Orthodox and Catholic traditions, and its impacts on European history and culture can hardly be overestimated (e.g., Salvatorelli 1929; Lawrence 1984). Despite many examples of how monastic practices have contributed to nature conservation (Romano 2010), the influence of monasticism on European nature is only seldom acknowledged (Frascaroli 2013). This also holds true for the substantial overlap between PAs and current or former monastic lands (Mallarach and Papayannis 2009).

The IUCN–UNESCO Guidelines do not expressly cover the particularities of monasticism with regard to SNS management. They do offer guidance points that affirm the rights of traditional custodians to govern and participate in the use and management of SNS (mostly 1.3, 1.4, 3.1, 3.2, 5.1, 5.4, 5.5, 6.4). These can form a

starting point for guidance tailored to monastic lands. Such guidance, however, should also address the shifting values and habits of monastic communities, help to raise awareness of the biological values of monastic sites, and consider conflicts over tenure rights.

Tenure can be a primary source of contention in countries where religious estates were at some point expropriated by the State. Conversations with a number of informants in Central Italy indicated that even when confiscation programs were enacted over 100 years ago, they have left a profound drift between monastic communities and secular authorities. Property rights, in contrast, are often fundamental for the involvement of local communities in land management and planning (Agrawal 2005; Borrini-Feyerabend et al. 2007). This state of affairs can pose significant obstacles when attempting to incorporate monastic communities in the management of SNS, or soliciting greater sensibility toward conservation issues from their side. While a radical modification of land tenure may not be conceivable, ad hoc compromises and innovative solutions should be explored and experimented with. The current economic crisis, which has struck many PAs and public land management services especially in southern Europe, can represent an opportunity to return conservation of some SNS to local and religious communities.

Restoration and connectivity The IUCN–UNESCO Guidelines suggest revitalizing damaged or desecrated SNS, also as an important step in the restoration of wider areas (2.6, 5.8). These indications can be especially pertinent in European settings, where a number of SNS were abandoned for different reasons, and especially following state confiscations (Mallarach 2012a; Frascaroli 2013). Guidelines aimed at mainstream faiths and European SNS should more strongly emphasize the potential of abandoned SNS as nodes of biocultural diversity. Despite their current disrepair, in fact, many of these sites still harbor significant biodiversity and heritage values (Frascaroli 2013). As such, they can be starting points not only of ecological restoration (as the IUCN–UNESCO Guidelines already suggest), but also of social and cultural revitalization of conservation practices.

Similarly, the IUCN–UNESCO Guidelines underline the potential role of SNS for ecological connectivity (2.6, 2.8). These points should be expanded and contemplate other ways of networking, such as ‘cultural heritage connectivity’ (e.g., Mikusiński et al. 2013). Our review of SNS in Central Italy showed that these sites seldom exist in isolation. Rather, they tend to be nodes in existing webs of symbolic as well as physical relations. For example, SNS can be landmarks in a network of pilgrimage trails (Serenelli 2012), or settlements established along the itineraries of a charismatic founder (e.g., the Benedictine monasteries between Subiaco and Cassino). Strengthening, emphasizing, or reviving this network of relations can be important in the perspective of supporting the cultural identity of wider areas, or elaborating landscape scale management plans. Systematic and rigorous research would be pivotal to address this underexplored topic, and assist with the planning of cultural as well as ecological networks.

Stakeholder involvement and interconnectedness of values One of the key points in the IUCN–UNESCO Guidelines is that traditional custodians, as well as

other possible stakeholders, should be recognized and actively included in the management and planning of SNS (1.3, 3.3). This can be a central tenet also in guidance aimed at the SNS of mainstream faiths in Europe. Our review, however, suggests that some common difficulties regarding the identification and involvement of relevant stakeholders in the European context should be considered.

Problems can be posed by the layering of religious traditions and institutions. For example, a number of shrines in Central Italy are tended by monastic communities, but have traditionally held their greatest significance to rural communities in the area. In some instances, these communities even retain the organization of some of the most intense pilgrimages and rituals celebrated at SNS in the area. Care should therefore be taken to include this 'local community layer' in participatory planning of SNS. Our observations suggest that this is very rarely the case, and groups of local believers are seldom acknowledged as stakeholders by PA managers and other administrators, even when they play an important role in the customary use of SNS.

Identifying and recognizing relevant stakeholders can also be a challenge with regard to abandoned SNS. In this case, representatives could be found among the last religious orders that inhabited the sites, or local communities that have maintained a special bond with them. As a last resort, management and governance of abandoned sites should be assigned to public institutions, such as heritage agencies, as already advised in the current Guidelines (point 6.1).

Evidently, the diverse values that different stakeholders carry can have implications in the planning process. Occasionally, this might lead to the emergence of conflicts over the meanings and values of particular sites, which can be further exacerbated by the erosion of traditional worldviews among custodians and worshippers. In such cases, adequate safeguarding of the biological value of SNS might no longer be guaranteed by local stakeholders alone. Nonetheless, care should be taken that the conservation measures implemented by land managers are not detrimental of local spiritual values and traditional uses of SNS.

In general, awareness of the interconnectedness of spiritual, biological, and cultural values of SNS is key and needs to be promoted through specific policy actions. In Central Italy, the trumping of one aspect over others often lies at the heart of poor and ineffective SNS management. A balance between those three sets of values should be indicated as a management priority, and achieved through forms of participatory planning, education, and mutual learning inclusive of traditional stakeholders as well as public administrators.

21.4 Conclusions

After its widespread secularization, incorporating spiritual values into biodiversity management has been a slow process across Europe. This has resulted in under-appreciating the contribution of spiritual and religious traditions to shaping and conserving local biocultural heritage, and in fact overlooking some of the deepest linkages between biological and cultural diversity.

Evidence from sacred sites in Central Italy supports the understanding that deep connections between spirituality and biocultural heritage are relevant also in a European context involving a mainstream faith. Empirical data demonstrate that SNS in Central Italy harbor important biological and cultural values, and support the conservation of habitats maintained through traditional livelihoods, such as pastoralism, which are otherwise quickly eroding across Europe (Fernández-Giménez and Fillat Estaque 2012). In all, SNS in Central Italy appear to act as biocultural refugia, that is, places that shelter significant biodiversity as well as practical knowledge on how to manage the environment (Barthel et al. 2013). These findings show similarities with those of case studies from the Delos Initiative, which in turn suggests that they might be at least partly generalizable to the wider European context.

Recognizing the importance of the spiritual, biological, and cultural values of SNS at the policy level, including their function as biocultural networks, would be essential to biocultural conservation in Europe. Guidance on how to achieve this is currently lacking. The IUCN–UNESCO *SNS, Guidelines for Protected Areas Managers,* offer a reference framework for conserving and valorizing SNS, but they need to be complemented with guidance specific to SNS of mainstream faiths in Europe. Based on research experience in Central Italy and an expert assessment of the IUCN–UNESCO Guidelines, we conclude that about two-thirds of the original guidance points could be retained in drafting guidelines applicable to European and mainstream faith contexts. At the same time, some gaps in the original guidelines should be filled. In particular, we suggest that policy guidelines aimed at Europe would need

- to move beyond the concept of 'Indigenous' in ways that can better fit modernized and syncretic settings;
- to reassess the need for confidentiality in SNS identification and mapping;
- to acknowledge the specificities of monastic SNS and historical conflicts regarding land tenure;
- to account for the syncretism and layering of religious traditions that characterize many SNS in Europe;
- to address the challenges posed by tourism and current forms of pilgrimage;
- to better integrate SNS in conservation planning as a means for linking biological, cultural, and spiritual values across biocultural networks.

The effectiveness of conservation efforts is often hampered by insufficient consideration for the traditions and heritage of local populations. This can lead to mistrust and resentment toward conservation planners, and European countries are no exception. Biocultural approaches, including more explicit recognition of SNS and their values, can contribute to ameliorating similar miscomprehensions. In the most positive cases, local sacred sites and beliefs can act as effective symbolic and social platforms for establishing partnerships between local communities and PA managers, even after initial mistrust (Frascaroli 2014). Producing and applying appropriate policy guidelines can help maximizing the full potential of SNS for conserving the precious biocultural heritage of Europe.

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Appendix: The Forty-Four Guidance Points of IUCN–UNESCO's *Sacred Natural Sites: Guidelines for Protected Area Managers*

Guideline 1.1 **Natural and cultural values:** Recognize that sacred natural sites (SNS) are of vital importance to the safeguarding of natural and cultural values for current and future generations

Guideline 1.2 **Ecosystem services and human well-being:** Recognize that sacred natural sites have great significance for the spiritual well-being of many people and that cultural and spiritual inspirations are part of the ecosystem services that nature provides

Guideline 1.3 **Recognition:** Initiate policies that formally recognize the existence of sacred natural sites within or near government or private protected areas and affirm the rights of traditional custodians to access and play an appropriate, ideally key, role in managing sacred natural sites now located within formal protected areas

Guideline 1.4 **Consultation:** Include the appropriate traditional cultural custodians, practitioners, and leaders in all discussions and seek their consent regarding the recognition and management of sacred natural sites within or near protected areas

Guideline 1.5 **Holistic models:** Recognize that sacred natural sites integrate social, cultural, environmental, and economic values into holistic management models that are part of the tangible and intangible heritage of humankind

Guideline 2.1 **Park planning:** Initiate planning processes to revise management plans to include the management of sacred natural sites located inside protected area boundaries

Guideline 2.2 **Identify sacred natural sites:** Where secrecy is not an issue and in close collaboration and respecting the rights of traditional custodians, identify the location, nature, use, and governance arrangements of sacred sites within and around protected areas as part of a participatory management planning process

Guideline 2.3 **Respect confidentiality:** Ensure that pressure is not exerted on custodians to reveal the location or other information about sacred natural sites and, whenever requested, establish mechanisms to safeguard confidential information shared with protected area agencies

Guideline 2.4 **Demarcate or conceal:** Where appropriate and to enhance protection, either clearly demarcate specific sacred natural sites, or alternatively, to respect the need for secrecy, locate sacred natural sites within larger strictly protected zones so exact locations remain confidential

Guideline 2.5 **Zoning:** Establish support, buffer, and transition zones around and near sacred sites, especially those that are vulnerable to adverse external impacts

Guideline 2.6 **Linkages and restoration:** Create ecological corridors between sacred natural sites and other suitable areas of similar ecology for connectivity, and in degraded landscapes consider restoring sacred natural sites as an important initial step to reviving a wider area

Guideline 2.7 **Ecosystem approach:** Adopt the ecosystem approach as the key strategy for the integrated management of land, water, and living resources that promote conservation and sustainable use in an equitable way and also include cultural and spiritual values

Guideline 2.8 **Landscape approach:** Take a landscape approach to sacred natural sites, recognizing their role in wider cultural landscapes, protected area systems, ecological corridors, and other land uses

Guideline 2.9 **Support development planning recognition:** Development planning authorities are the main planners of land use in areas outside many protected area systems. Seek their and other stakeholders' support for the recognition of sacred natural sites in the wider countryside

Guideline 2.10 **Protected area categories and governance:** Recognize that sacred natural sites exist in all of the IUCN protected area categories and governance types, and that those that fall outside formal protected area systems can be recognized and supported through different legal and traditional mechanisms according to the desires of their custodians, including as community conserved areas when appropriate

Guideline 2.11 **International dimension:** Recognize that some sacred natural sites, and the cultures that hold them sacred, cross international boundaries and that some may be within or may surround existing or potential transboundary peace parks

Guideline 3.1 **Prior consent:** Ascertain the free, prior and informed consent of appropriate custodians before including sacred natural sites within new formal protected areas and protected area systems and when developing management policies affecting sacred places

Guideline 3.2 **Voluntary participation:** Ensure that state or other stakeholder involvement in the management of sacred natural sites is with the consent and voluntary participation of appropriate custodians

Guideline 3.3 **Inclusion:** Make all efforts to ensure the full inclusion of all relevant custodians and key stakeholders, including marginalized parties, in decision making about sacred natural sites, and carefully define the processes for such decision making, including those related to higher level and national level policies

Guideline 3.4 **Legitimacy:** Recognize that different individuals and groups have different levels of legitimacy and authority in decision making about sacred natural sites

Guideline 3.5 **Conflict management:** Where relevant and appropriate, use conflict management, mediation, and resolution methods to promote mutual understanding between traditional custodians and more recent occupants, resource users, and managers

Guideline 4.1 **Multidisciplinary approach:** Promote a multidisciplinary and integrated approach to the management of sacred natural sites calling on, for example, local elders, religious and spiritual leaders, local communities, protected area managers, natural and social scientists, artists, nongovernmental organizations, and the private sector

Guideline 4.2 **Integrated research:** Develop an integrated biological and social research program that studies biodiversity values, assesses the contribution of sacred natural sites to biodiversity conservation, and understands the social dimension, especially how culturally rooted behavior has conserved biodiversity

Guideline 4.3 **Traditional knowledge:** Consistent with article 8(j) of the Convention on Biological Diversity (CBD), support the respect, preservation, maintenance and use of the traditional knowledge, innovations and practices of indigenous, and local communities specifically regarding sacred natural sites

Guideline 4.4 **Networking:** Facilitate the meeting of, and sharing of information between, traditional custodians of sacred natural sites, their supporters, protected area managers, and more recent occupants and users

Guideline 4.5 **Communication and public awareness:** Develop supportive communication, education, and public awareness programs and accommodate and integrate different ways of knowing, expression and appreciation in the development of policies, and educational materials regarding the protection and management of sacred natural sites

Guideline 4.6 **Inventories:** Subject to the free, prior, and informed consent of custodians, especially of vulnerable sites and consistent with the need for secrecy in specific cases, carry out regional, national, and international inventories of sacred natural sites and support the inclusion of relevant information in the UN World Database on Protected Areas. Develop mechanisms for safeguarding information intended for limited distribution

Guideline 4.7 **Cultural renewal:** Recognize the role of sacred natural sites in maintaining and revitalizing the tangible and intangible heritage of local cultures, their diverse cultural expressions, and the environmental ethics of indigenous, local, and mainstream spiritual traditions

Guideline 4.8 **Intercultural dialog:** Promote intercultural dialog through the medium of sacred natural sites in efforts to build mutual understanding, respect, tolerance, reconciliation, and peace

Guideline 5.1 **Access and use:** Develop appropriate policies and practices that respect traditional custodian access and use, where sacred natural sites fall within formal protected areas

Guideline 5.2 **Visitor pressures:** Understand and manage visitor pressures and develop appropriate policies, rules, codes of conduct, facilities, and practices for visitor access to sacred sites, making special provisions for pressures brought about by pilgrimages and other seasonal variations in usage

Guideline 5.3 **Dialog and respect:** Encourage ongoing dialog among the relevant spiritual traditions, community leaders, and recreational users to control inappropriate use of sacred natural sites through both protected area regulations and public education programs that promote respect for diverse cultural values

Guideline 5.4 **Tourism:** Well-managed, responsible tourism provides the potential for economic benefits to indigenous and local communities, but tourism activities must be culturally appropriate, respectful, and guided by the value systems of custodian communities. Wherever possible, support tourism enterprises that are owned and operated by indigenous and local communities, provided they have a proven record of environmental and cultural sensitivity

Guideline 5.5 **Decision-making control:** Strong efforts should be made to ensure that custodians of sacred natural sites retain decision-making control over tourist and other activities within such sites, and that checks and balances are instituted to reduce damaging economic and other pressures from protected area programs

Guideline 5.6 **Cultural use:** While ensuring that use is sustainable, do not impose unnecessary controls on the careful harvest or use of culturally significant animals and plants from within sacred natural sites. Base decisions on joint resources assessments and consensus decision-making

Guideline 5.7 **Protection:** Enhance the protection of sacred natural sites by identifying, researching, managing, and mitigating overuse, sources of pollution, natural disasters, and the effects of climate change and other socially derived threats, such as vandalism and

theft. Develop disaster management plans for unpredictable natural and human caused events

Guideline 5.8 **Desecrations and re-sanctifying:** Safeguard against the unintended or deliberate desecration of sacred natural sites and promote the recovery, regeneration, and re-sanctifying of damaged sites where appropriate

Guideline 5.9 **Development pressures:** Apply integrated environmental and social impact assessment procedures for developments affecting sacred natural sites and in the case of the land of indigenous and local communities support the application of the Convention on Biological Diversity's Akwé: Kon Guidelines for minimizing the impacts of development actions

Guideline 5.10 **Financing:** Where appropriate, pay due attention to the suitable financing of sacred natural site management and protection, and develop mechanisms for generating and sharing revenue that take into account considerations of transparency, ethics, equity, and sustainability. Recognize that in many parts of the world poverty is a cause of the degradation of sacred natural sites

Guideline 6.1 **Institutional analysis:** Understand traditional management institutions and enable and strengthen the continued management of sacred natural sites by these institutions. Make appropriate arrangements for the adoption and management of sacred natural sites that have no current custodians, for example by heritage agencies

Guideline 6.2 **Legal protection:** Advocate for legal, policy, and management changes that reduce human and natural threats to sacred natural sites, especially those not protected within national protected areas and other land planning frameworks

Guideline 6.3 **Rights-based approach:** Root the management of sacred natural sites in a rights-based approach respecting basic human rights, rights to freedom of religion and worship, and to self-development, self-government, and self-determination as appropriate

Guideline 6.4 **Confirm custodians' rights:** Support the recognition, within the overall national protected area framework, of the rights of custodians to their autonomous control and management of their sacred sites and guard against the imposition of conflicting dominant values

Guideline 6.5 **Tenure:** Where sacred natural sites have been incorporated within government or private protected areas in ways that have affected the tenure rights of their custodians, explore options for the devolution of such rights and for their long-term tenure security

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