IUCN Conservation Outlook Assessment 2017 **(archived)**
Finalised on 09 November 2017

Please note: this is an archived Conservation Outlook Assessment for Mount Athos. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

Mount Athos

SITE INFORMATION

Country:
Greece
Inscribed in: 1988
Criteria:
(i) (ii) (iv) (v) (vi) (vii)

Site description:
An Orthodox spiritual centre since 1054, Mount Athos has enjoyed an autonomous statute since Byzantine times. The 'Holy Mountain', which is forbidden to women and children, is also a recognized artistic site. The layout of the monasteries (about 20 of which are presently inhabited by some 1,400 monks) had an influence as far afield as Russia, and its school of painting influenced the history of Orthodox art. © UNESCO

SUMMARY

2017 Conservation Outlook

Good with some concerns

Although threats exist, and serious financial constraints have appeared due to the economic crisis in Greece, the conservation outlook for Mt Athos can be assessed as positive mainly because of (a) the assumption of collective responsibility for the management of the property by the Holy Community –representing all the 20 sovereign monasteries in the peninsula; and (b) the highly improved climate of cooperation between State and Monastic authorities, supported by the WHC. * For mixed sites Conservation Outlook Assessments only evaluate the natural values of these sites (criteria vii, viii, ix and x) and the overall assessment reflects the potential of a site to preserve its natural values over time.

Current state and trend of VALUES

Low Concern
Trend: Stable

The values of the site and its overall integrity are generally considered as not having been severely compromised, as pointed out in all recent reports (WHC, 2006; SOC, 2012; WHCF, 2012). It should however be noted that information for the evolution of trends over the past five years is largely missing in regard to natural heritage values; while it is estimated that these are more or less stable, this points out to the importance of conducting an integrated management study, as an up-to-date source of information. An important additional remark is that several activities of protection and enhancement of the natural and cultural heritage have been considerably scaled down these last three years of economic austerity. Of great importance in relation to the above is the decision of the Holy Community to proceed with an integrated strategic framework for the conservation of the natural and cultural heritage of the Athonite Peninsula, in collaboration with the Ministry of Culture and UNESCO’s World Heritage Centre. A preliminary report has been already approved by the Holy Community, and has

been officially communicated to the WHC in February 2013.

Overall THREATS

Low Threat

Most of the key threats facing the site today have been pointed out in several previous reports for the site. Fire hazard, seismic risk, illegal fishing, unsustainable forest exploitation, unplanned road construction and absence of solid waste management are considered as the key threats to the site's natural values and overall integrity. Based on empirical evidence, these threats seem to remain stable over the past ten five years; however, they still persist and in most cases remediation actions undertaken through a prioritised action plan are required. It is thus positive noting that the prospect of undertaking –as mentioned above– an integrated management plan and setting up a permanent monitoring mechanism seems to be finally on track, with cooperation and support from all involved, Athonite and State, parties. A potential threat, which is external to the site and largely surpasses the powers and jurisdiction of the Athonite Monastic community, could be the development of large-scale gold mining activities in the vicinity of the site, if the mining company overcomes the rejection of the Greek Ministry of Environment in 2016. The open air mining operations could entail significant threats to the biodiversity of Mount Athos, especially its marine ecosystems. Another important potential threat comes from expressed demands to allow commercial fishing inside the 500m peripheral buffer zone, an issue which reasonably raises concerns for the marine biodiversity of the site, since illegal commercial fishing is already happening in the buffer zone.

Overall PROTECTION and MANAGEMENT

Some Concern

Overall, there are two axes of concern. The first has to do with the ineffectiveness of the present management system of the site, which is partly due to the lack of coordination between local (Athonite) competent authorities and central government agencies, and mainly due to the absence of an overall management plan and monitoring mechanism. It is estimated that these issues may be resolved in the short term, since there seems to be growing consensus among all involved parties and there are increased possibilities for the management study to be launched soon, if the necessary funding can be

secured; apart from that, the required structures already exist yet they require strengthening in terms of staffing, with the establishment of permanent monitoring groups and procedures for regular updating. The second axe has to do with the management of external threats; this issue is largely depending on strengthening cooperation between the Monastic community and national authorities, where the situation seems to be improving as well, creating positive expectations for the short term.

FULL ASSESSMENT

Description of values

Values

World Heritage values

► **Exceptional natural beauty**
Criterion:(vii)

Mount Athos has retained the authenticity of its natural environment for more than a thousand years (SoOUV, 2012). Due to its special privileged status of self-governance –which has always been respected by state authorities– and the traditional way of life of the resident monastic community –that has remained relatively unchanged through the centuries– the 33,000 ha property has been protected from significant man-made threats, thus preserving its rich natural heritage almost intact today (SoOUV, 2012).

► **Cultural landscape of exceptional aesthetic importance**
Criterion:(vii)

Mount Athos is a distinctly characteristic cultural landscape where expanded forms of architectural creation and traditional practices (farming, handcrafting and other) co-exist harmoniously with the natural beauty of the site, producing a unique “artistic creation” of exceptional aesthetic importance (ICOMOS, 1988; SoOUV, 2012).

Other important biodiversity values

► Rich biodiversity and important natural habitats

Mount Athos functions as a closed ecosystem where local flora and fauna have been well preserved (SoOUV, 2012), as a result of the geographic isolation of the peninsula and of the very low degree of anthropogenic impact. The site is characterised by the predominance of forests and wooded areas (covering 93% of the total territory), which form a web of zones of forest vegetation, diversified according to altitude, geographic location, relief and climatic conditions, while no grazing pressures exist, since stockbreeding is traditionally not practiced and the entrance of herds is prohibited (HC, 2012). Mount Athos is included in its entirety in the European network of protected areas Natura 2000 (Directive EEC/92/43); it is considered one of the richest areas of Greece for its flora and characterised as one of the diversity hotspots of regional endemic species in Northern Greece. 1,453 species and subspecies of Pteridophyta and Spermadophyta have been found, a substantial percentage of which are endemic to the Peninsula (14), Greece (43), or the Balkans (70). Moreover, a plethora of habitat types of Community Interest (Appendix 1 of Directive EEC/92/43) are found in Athos; these include Quercus frainetto (Hungarian or Italian oak) and Quercus ilex (Holm oak), the latter reported as being at the optimum state of preservation for this type of ecosystem in Greece. Local fauna is also considered to be rich and in good condition, however it is insufficiently studied. According to most recent records, avifauna comprises 173 species, 60% of which nest in the area, 29 are considered endangered at the national level and 2 are considered endangered worldwide; wild fauna (mammals) is estimated to contain at least 41 species, 50% of which are considered endangered at the national level (deer, boar, jackal, predators, marine mammals et al.) (SES, 2006; HC, 2012).

Assessment information

Threats

Current Threats

High Threat

The list of threats described above contains issues which have already been identified in previous reports. Each of these threats has a direct impact on the site's values, different severity and scale, while their combined recurrence and continuity has a negative cumulative effect to the site's ecological and landscape integrity. The significance of threats is estimated against the severity and magnitude and/or the territorial expansion of their consequences; in this reasoning, fire hazard, absence of solid waste management, unsustainable forest exploitation and unplanned road construction are pointed out as the key threats to the site's values and overall ecological integrity. On the positive side, trends over the past five years indicate that these threats are not increasing, something that has to be attributed to several recent initiatives but also to increased awareness for sustainability issues in the Monastic community (it has to be noted though that the estimation of trends is largely based on qualitative assessments [expert knowledge] rather than on quantitative data). On the downside, these threats, along with their negative impacts, still persist, largely due to the absence of an integrated management framework and action plan that would support coordination of activities between competent authorities in a joint nature-culture conservation perspective, so as to maximise the added value of interventions. Therefore, although the site's values and overall ecological integrity are generally considered as not having been severely compromised, the overall assessment of current threats is marked as 'high', so as to highlight the necessity to promote a comprehensive management plan (which would also serve to fill the gaps of information for the current condition of the site's natural heritage and environmental parameters). It is positive to note that the process seems to be finally on track, having obtained consensus by all parties involved, and will begin as soon as the needed funding is obtained.

► Crops

Low Threat
Inside site, extent of threat not known

Since flat areas are very scarce in the Mount Athos peninsula, most croplands have been historically established in terraces. The mosaic of

croplands is found in small patches between the coast line and 700 m of altitude, covering less than 10% of the peninsula (Philippou & Kontos, 2010). Crops include diverse vegetable gardens, fruit tree groves, vineyards, olive groves, and medicinal plants gardens. Most crop products are consumed by the monastic population and pilgrims. Agricultural practices are diverse, and organic farming is spreading again, after a period when pesticides and agrochemicals had been used in several monasteries.

► Household Sewage/ Urban Waste Water

Data Deficient
Inside site, localised(<5%)

Low quantities of liquid waste produced, in relation to the large size of the receiving surface, permits natural self-regulation of the local ecosystems. Nevertheless, saturation of the capacity for self-cleaning is possible in some cases, like major celebrations in large monasteries, when several hundred pilgrims may gather, necessitating the need to develop more efficient systems (HC, 2012). This threat cannot be considered as very significant overall; however there is insufficient data on current needs, and challenges lie ahead at the technical (see the technology and functional design of the system) and financial (see funding) level.

► Tourism/ visitors/ recreation

Very Low Threat
Inside site, scattered(5-15%)

Although special regulations in place restrict the maximum number of visitors at 120 people per day, the actual number significantly increases by collaborators of the Monasteries and by pilgrims during periods of holidays to several hundreds per day (HC, 2012), amounting to around 100,000 pilgrims per year. This threat mostly affects the spirituality of Athonite daily life, rather than the natural environment of the Mount; thus, it is considered as very low from the point of view of the present assessment, whereas it is generally estimated to be manageable through appropriate measures. There is a need for restoration and recovery of a the main network of historic trails and footpaths, usually stone-paved (kaldirimi), among the main monasteries and sketes. This would make easier for pilgrims to walk on them, reducing or avoiding the use of cars, which should be highly encouraged both for environmental, health and spiritual reasons. In particular, the efforts

developed by Friends of Mount Athos to clearing, restoring and maintaining the old Athonite footpaths during the last years should be encouraged, supported and complemented. Moreover, many kilometres of old paths are still bordered by old broad-leave trees, which protect de stability of the path, limits soil erosion, provides shade in summer, increases beauty and biodiversity, etc. thus deserving strict preservation (Mallarach, 2013).

► Solid Waste

High Threat
Inside site, extent of threat not known

Larger monastic facilities use landfills, where solid waste is disposed or burnt, without differentiation between toxic and non-toxic waste. The need to develop a system for collection and sanitary treatment of solid waste is becoming pressing, as unregulated waste disposal not only contributes to environmental degradation, but also increases fire hazards (WHC, 2006; HC, 2012; SES, 2006). The increasing number of pilgrims in large monasteries and sketes in peak days, locally increases waste pressures. The threat is significant if not properly addressed (see funding of required installations on the basis of the study already prepared by the Holy Community and approved by the relevant State authorities).

► Logging/ Wood Harvesting

Low Threat
Inside site, extent of threat not known

A substantial part of the coppice forests of Mt Athos are logged for fuel wood resulting in various levels of forest degradation around most large monastic settlements (Kakouros, 2010). Furthermore, as identified by previous reports (see especially WHC, 2006), pressures for timber extraction have resulted in unsustainable practices and overexploitation in certain areas, through the monoculture of chestnut trees that subsequently increased vulnerability to attacks by parasites. Concerning the latter, parasite infection has already been treated successfully through systematic vaccination (SES, 2006). Best practices for chestnut forest management have been adopted by most monasteries, following the example that Simonopetra defined and implemented since 1993 (Kakouros, 2010). However, as the demand and price of fuel wood is rising in Greece due to increased diesel and gas prices, there is a danger of intensification of forest clear-cutting in the forests of

some monasteries, with potential negative impacts on their biodiversity (WHCF, 2012). It is estimated that this threat can be successfully dealt with through appropriate measures and systematic monitoring, in the framework of an integrated forest management plan, as mentioned above.
Traditional forest management methods in Mt Athos have focused on coppiced exploitation of perennial and deciduous broad-leaved forests. Environmental, landscape and productive reasons indicate the need for gradual restoration of coppiced oak forests to seedling and for increasing the cycle length of chestnut trees. Such actions have already been undertaken by several Monasteries, but they need to be systematically planned and carried out (SES, 2006; HC, 2012) based on the practices developed by certain monasteries (Philipou & Kontos, 2010).

► Fire/ Fire Suppression

Very High Threat
Inside site, extent of threat not known

The wildfire that consumed 2,200 ha of forest vegetation and threatened several Monasteries and sketes with total destruction in 1990, raised considerable concern to the need for fire protection of the Holy Mount territory (SES, 2006). The need to initiate an integrated fire protection plan, emphasising on coordination between the Fire Brigade and the Monasteries, and the potential responsibilities that could be assumed by monks (e.g. in the six watching towers), is an absolute priority, emphatically confirmed by the last great wildfire, in August 2012, that swept over a large proportion of the pine forests in the western part of the peninsula (HC, 2012). It is no wonder that the risk of wildfires is considered as the most significant threat facing Mount Athos today, as indicated by all relevant documentation (SOC, 2012; WHCF, 2012; HC, 2012; SES, 2006, Philipou & Kontos, 2010). Severity of this threat stems both from its likelihood, which is particularly accentuated by climate change (WHCF, 2012), and from its consequences, which could be devastating for both the natural and man-made environment of the property. Current management capacity is good in terms of manpower, experience and commitment; however it suffers from the lack of an overall plan (risk preparedness study) adequate training, and advanced. Recent research coupled with future regional climate models, can be used to address potential future changes of fire regimes, including increasing wildfire severity, shifts in fire risk distributions and, ultimately, implementing

adaptive forest and fuel management options, e.g. modifications of forest structures for reducing fire risk potential, by thinning, pruning, understory biomass removal or prescribed burning (Mallini et al, 2016). Additionally, the recovery of selected agricultural areas strategically located around monastic settlements would reduce wild fire risks, while increasing the beauty and the balance of the mosaic distribution of crop lands and forestlands, e.g. around Karyes.

► Roads/ Railroads

High Threat
Inside site, localised(<5%)

An excessive number of forest roads have been opened after 1980, for fire protection and transportation of goods and building materials, including timber, some of which are also used for pilgrims' transportation. Road construction has, in most cases, failed to meet appropriate design principles, and has not been integrated to a functional general plan and the main landscape features, causing significant degradation to the natural environment and the landscape (WHCF, 2012; HC, 2012). In the territories of 11 monasteries, road density is higher than the 15 m/ha limit considered appropriate (Kakouros, 2010). In addition, insensitive road construction has frequently impacted the extensive network of historic trails and footpaths, many of which are stone paved since late Byzantium times, leading to its abandonment and degradation.

The need to mitigate adverse effects of previous inadequate practices, restore useless roads, and reduce the volume of new constructions to the absolute minimum (in accordance with fire fighting and operational needs) has been widely agreed upon (HC, 2012; SES, 2006). The 2006 WHC mission report states that road construction has been completed and there is no indication that new roads had been opened since then. Furthermore, the prospect for overall re-examination of the network and implementation of rehabilitation measures in the framework of an integrated management plan creates positive expectations for the future.

Potential Threats

Low Threat

Seismic risk is a constant threat with potential direct catastrophic consequences to the site's cultural and aesthetic values, but very little to the natural values. The significance of this threat has been highlighted in several previous reports and should be subject to detailed analysis and a risk preparedness plan (foreseen to be carried out in the framework of the overall management plan).
The other potential threat, which is external to the site and largely surpasses the powers and jurisdiction of the Athonite Monastic community, is the potential development of large-scale gold mining activities in the vicinity of the site could entail significant threats to the biodiversity of Mount Athos, especially its marine ecosystems if the mining company overcomes the opposition of the Ministry of Environment. Further to the above, demand for opening the buffer zone to commercial fishing is also a significant threat which is driven by external factors.

► Mining/ Quarrying

Low Threat
Outside site

A large-scale project for gold mining (surface extraction) was approved in 2010 in the adjacent territory of Chalkidiki (area of Skouries). The planned activity could pose a major potential threat to the ecosystems of the wider area, including Mount Athos, particularly in case of leakage. The feasibility to adopt an alternative processing technique for the high arsenic ores (instead of using cyanide) was also contested because it would generate extremely large volumes of toxic off-gasses and cause multiple technical issues in downstream processing. The Greek Ministry of Environment rejected the technical plan for the copper-gold metallurgical unit on July 5, 2016. A remedy petition filed by the mining company was met with a final rejection on November 2, 2016. Although is unclear that the gold mining project could develop, it is important that the Ministry of Environment keeps the strictest requirements.

► Renewable Energy

Very Low Threat
Inside site, extent of threat not known

Mount Athos is not connected to the main power grid, for reasons directly

relating to its spiritual character, the same reason that decided the Holy Community not to connect the peninsula by road with the mainland. A number of monastic settlements have chosen not to have electricity and use either renewal sources or fossil fuel-powered electric generators for lighting. A large percentage of electricity consumption is now covered by solar photo-voltaic and hydro-electric. There is strong demand for installation of photovoltaic parks to cover growing needs and this threat could be a significant threat to the landscape quality and visual integrity of some sites site if not properly addressed. It is ranked as ‘low’ because renewal sources had already been carefully implemented in some of the major monasteries (e.g. Simonopetra) and sketes (e.g. Agia Anna), and it should reasonably be considered that the Monastic authorities will not allow the development of such an activity in an uncontrolled and inappropriate manner. A significant study on solar energy production has been prepared by the Holy Community, and it is envisaged to be promoted for implementation in the framework of the integrated management study (HC, 2012). Most energy for heating monastic facilities continue to come from local biomass, which has diverse implications on forest management.

► Earthquakes/ Tsunamis

Data Deficient
Inside site, extent of threat not known
Outside site

The 29th session of the WHC recommended the elaboration of a risk preparedness study for all 20 Monasteries on Athos, including seismic preparedness (WHC, 2006). The need to conduct detailed seismic analysis and prepare an associated risk study is highlighted by the history of intense seismic activity of the Athonite Peninsula (which is surrounded by seismic faults of diverse directions and depth) and the vulnerability of many constructions (supporting walls, technical road-works, parts of the Monasteries that have not yet been restored, dry stone walls and terraces, etc). Due to the seismic risk zoning (Tselentis and Danciu, 2010), the unpredictable nature of the threat and the lack of comprehensive knowledge on the condition and vulnerability of most constructions, the degree of threat cannot be assessed. In any case, this is a high priority issue due to its potential catastrophic impacts for the cultural heritage, thus it is positive noting that the risk preparedness study is planned

to be carried out in the framework of the integrated management plan of Athos.

► Habitat Shifting/ Alteration

Data Deficient
Inside site, throughout(>50%)
Outside site

expressed several times, posing a significant potential threat to the marine and coastal environment of the site, whereas local habitats and ecosystems are considered to be in a good conservation state, as previously mentioned. However, climate change impacts are becoming visible all over the Mediterranean and Greece in particular, therefore this issue should be considered (it is planned to be included as part of the integrated management study).

► Fishing / Harvesting Aquatic Resources

High Threat
Inside site, scattered(5-15%)
Outside site

Marginal subsistence fishing is traditionally carried out by monks, extracting limited quantities for self-subsistence, a fact which cannot be considered as a threat. Some illegal commercial fishing is already happening in the buffer zone, specially during the night, creating a threat for marine biodiversity conservation (Mallarach, 2013). Demands for lifting restrictions in the peripheral 500m no-fishing buffer zone and opening the area to commercial fishing have been expressed several times, posing a significant potential threat to the marine and coastal environment of the site.

Protection and management

Assessing Protection and Management

► Relationships with local people

Mostly Effective

The particular self-governing system of Mount Athos by its very definition

places the local stakeholders at the heart of the governance and management processes. The Holy Community, representing the 20 Monasteries, has the final say in all management and conservation matters; this ensures that their views and aspirations are taken into account, providing for equitable sharing of benefits and active involvement in site management. Furthermore, this process supports the use of traditional management practices in natural and cultural resource management (particularly in regards to forest management, agricultural and fishing practices), bringing significant benefits to the conservation of site's values. The key problem is the lack of an effective programme of outreach, communication and exchange, which reflects the overall difficulties of coordination between the Monastic community and State authorities.

► Legal framework

Some Concern

Mount Athos is protected by a series of legal instruments, which address the requirements for conservation of its rich natural and cultural heritage according to national legislation, while reflecting / respecting its particular self-governing administrative status. The legal framework in place is thus adequate, especially after the integration of the entire property to the European network Natura 2000. However, the multiplicity of instruments and competent authorities inevitably creates problems of coordination and does not allow for the necessary streamlining of policies and effective monitoring of their implementation, thus raising some concerns. It should also be noted that the Special Environmental Study of 2006, although concluded and approved, has not yet acquired legal status. Further complications arise from the uncertainty concerning the definition of internal boundaries of the 20 sovereign Monasteries, which hinders the efforts for coordinated management and planning of the site (this is particularly evident in the case of the road network).

► Enforcement

Data Deficient

Data deficient.

► Integration into regional and national planning systems

Mostly Effective

The Athonite Peninsula is generally excluded from the scope of national and regional spatial planning studies. Nevertheless it is subject to national level legislation, as demonstrated by its incorporation in its entirety to the European Natura 2000 network and the elaboration of the Special Environmental Study. The most important issue which pertains to regional level planning policy is solid waste management; in this respect, the incorporation of the study prepared by the Holy Community to the regional system of Central Macedonia is a very positive development.

► Management system

Some Concern

Mount Athos has a legitimate and widely accepted self-governing system with general administrative (Holy Community) and conservation-specific (KEDAK, Forest Service) bodies. Thus, management competences which are normally exercised by State agencies, either at the central (Ministries of Environment, of Culture, and of Agricultural Development) or at the local level (Region of Central Macedonia, 10th Ephorate of Byzantine Antiquities, Forest Service), have been delegated, in the case of Mt Athos, to the KEDAK and the Forest Ephorate; the State has retained responsibility for overall monitoring of activities to ensure their adherence to national and EU legislation, and provides necessary financing (mostly through Community funds) for projects and works approved by the KEDAK. However, the past years have been marked by a lack of coordination, which has been quite evident in the representation of the Athonite community to international fora, and the WHC in particular; most importantly, the diachronic absence of a comprehensive management plan is an issue of concern. Today it is vital to promote the elaboration of an integrated management study according to the guidelines set out in the preliminary report (prepared by the Holy Community and communicated officially to the WHC in February 2013), and set up a functional mechanism to monitor its implementation.

► Management effectiveness

Some Concern

The past years have been marked by a lack of coordination, which has been quite evident in the representation of the Athonite community to international fora, and the WHC in particular; most importantly, the diachronic absence of a comprehensive management plan is an issue of concern. Today it is vital to promote the elaboration of an integrated management study according to the guidelines set out in the preliminary report (prepared by the Holy Community in February 2013), and set up a functional mechanism to monitor its implementation.

► Implementation of Committee decisions and recommendations

Mostly Effective

The State Party has positively responded to decisions and recommendations of the WHC in the past, particularly in relation to issues of restoration of antiquities and heirlooms. However, matters of nature conservation and overall management of the site have not progressed equally satisfactorily so far, largely due to the above described coordination deficiencies. The current conservation issues, as described in the 2012 SOC report and included in Decision 36 COM 7B.38, rely on timely preparation and effective implementation of the integrated management study, which has been initiated yet.

► Boundaries

Some Concern

Mount Athos is a distinct case of a site with clearly identified and well protected boundaries. It has a 500m marine buffer zone; no terrestrial buffer zone is defined, however its territorial expansion, and the existence of a wall blocking road connectivity, guarantees protection of its values from external activities. The approved Special Environmental Study provides for internal zones of varying protection status (i.e. absolute protection and buffer zones), which have not yet acquired legal status –and will in any case be examined and refined by the land use study of the integrated management plan. Concerns are expressed in regard to demands to allow commercial fishing inside the marine buffer zone.

► Sustainable finance

Serious Concern

The current conjuncture of economic crisis in Greece may lead to reduced financial support, hindering the capacity to carry out necessary works for restoration of buildings, nature conservation and risk mitigation. Financial needs for carrying out activities aiming to maintain the site's values have been defined by the 'Athos Programme', prepared in the mid-1990s by the Holy Community. Their total amount has been estimated at one billion euros, over a twenty-year period span. Funding of the first phase of the Programme, which focused on works of immediate urgency, mostly for restoration, has been secured through the 3rd Community Support Framework 2000-2006 (approx. eighty million Euros). Other important restoration works have been integrated in the National Strategic Reference Framework (NSRF) 2007-2013 (EU 4th Programmatic Period) and are currently being implemented. However, the second phase of the Athos Programme, which involves a much wider range of activities, has not yet secured funding; given the unfavourable financial situation of the State and the limited implementation of the NSRF so far, serious concerns are expressed for the future. The integrated management plan will have to seek alternative funding sources through a clearly prioritised action plan.

► Staff training and development

Mostly Effective

Technical expertise is provided by experienced staff of State authorities, renowned scientists with interest and friendly relationships with the Monastic community, but also by highly-educated monks with deep knowledge of the local conditions; establishing a permanent group of experts (Environmental Management Agency) to assist the Monastic community in nature conservation and forest management issues, has been reported by the Holy Community and other experts as a useful addition, which has to be examined in the near future. This includes both monks and laymen who carry out activities of buildings' restoration and forest management. The Holy Community is reported to have proceeded to additional staffing of its services the past years; however further training is required in regard to fire fighting. In terms of equipment, the Monasteries have acquired basic fire

extinguishing equipment; furthermore, the provision and installation of an advanced surveillance system is being discussed and will be examined in the framework of the risk-preparedness study of the integrated management plan.

► Sustainable use

Some Concern

The key issue of concern is sustainable forest management. Logging for timber and fuel wood is regulated in forest management plans that are updated every 10 years. However, particular attention should be paid to rising pressures as a result of increased prices of other conventional heating sources in order to safeguard habitats for all species of the area (also taking into account that diversity and population status for fauna species is still largely unknown). In particular, the expansion of maquis at the expense of broad-leaved forests is a quite worrisome trend, since it implies a reduction of biodiversity, an increase of wildfire risks, and reduction of aesthetic quality. The Holy Community has demonstrated particular interest in this direction, by successfully implementing a programme for aria and oak tree forests rehabilitation, the results of which may be used to guide sustainable forest management across the entire site. At the institutional level, the Forest Ephorate is responsible for monitoring the state and condition of resources; establishing a permanent expert working group as indicated above, would be a useful addition.

► Education and interpretation programs

Mostly Effective

The Monastic community has undertaken a series of actions to support knowledge / information, education and training, ultimately aiming to raise awareness on the site’s natural and cultural values. These activities have focused on cultural heritage and restoration, including IT applications, setting up of a relevant postgraduate programme in cooperation with the University of Thessaloniki, and establishing a trans-disciplinary institute for conservation. Furthermore, in regard to broader environmental concerns, the Holy Community has achieved the establishment by the State of an Institute of Professional Formation of Ecclesiastic Arts and Environment, aiming to further training of the monks, with departments for conservation of

heirlooms, environmental protection and management, Athonite handicrafts and arts, etc. This ambitious project has not been realised yet, and should be given priority in the coming years. Some concern is generally expressed for the planned activities due to the unfavourable financial conditions.

► Tourism and visitation management

Some Concern

Mount Athos can be approached only by sea, with morning departures from Ouranopolis serving the Peninsula's west side and from Ierissos for the eastern part. A small office of the Holy Community operates in Ouranoupolis. Hosting of the pilgrims is the responsibility of the monastery or skete to which they are directed. Although current Special regulations restrict the maximum number of visitors at 120 people per day, and the length of the stay to four days, this number significantly increases during periods of holidays, up to several hundreds.
Impacts from increasing numbers of pilgrims, and the way pilgrimage has evolved during the last decades, because most use motorised vehicles. The negative impacts of pilgrims, when they overcome a certain threshold, are being felt in some monasteries, The carrying capacity could be defined based on objective parameters, e.g. number of pilgrims that can be accepted in the catholicon. The restoration and recovery of the network of historic footpaths would allow pilgrims to walk among the main monasteries, sketes and arsanas, reducing or avoiding the use of cars or vans, an option that should be promoted for environmental, health and spiritual reasons. Therefore, a comprehensive pilgrim management programme is required and will be initiated through the integrated management study.

► Monitoring

Some Concern

Systematic monitoring of the site's values is absent today, mainly due to the deficiencies of the overall management system and the lack of an integrated plan and monitoring mechanism. This is an issue of concern, which has to be dealt with in tandem with the elaboration of the site's management plan.

► Research

Some Concern

Several research programmes (in relation to forest management, remediation of parasite threats, conservation and restoration works) have been elaborated in the past 15 years, with cooperation between the local management services (KEDAK, Forest Service), academic institutions (most notably the University of Thessaloniki) and professionals; their results have been used to improve management and conservation practices, thus providing useful feedback on necessary adaptive measures. It is nevertheless clearly realised today that these programmes and initiatives have to be continued, completed and streamlined so that their results cover the existing gaps, including agrobiodiversity and historical agricultural practices, and feed in a more systematic way into the management system of the site.

Overall assessment of protection and management

Some Concern

Overall, there are two axes of concern. The first has to do with the ineffectiveness of the present management system of the site, which is partly due to the lack of coordination between local (Athonite) competent authorities and central government agencies, and mainly due to the absence of an overall management plan and monitoring mechanism. It is estimated that these issues may be resolved in the short term, since there seems to be growing consensus among all involved parties and there are increased possibilities for the management study to be launched soon, if the necessary funding can be secured; apart from that, the required structures already exist yet they require strengthening in terms of staffing, with the establishment of permanent monitoring groups and procedures for regular updating. The second axe has to do with the management of external threats; this issue is largely depending on strengthening cooperation between the Monastic community and national authorities, where the situation seems to be improving as well, creating positive expectations for the short term.

▶ Assessment of the effectiveness of protection and management in addressing threats outside the site

Some Concern

yet they require strengthening in terms of staffing, with the establishment of permanent monitoring groups and procedures for regular updating. The

second axe has to do with the management of external threats; this issue is largely depending on strengthening cooperation between the Monastic community and national authorities, where the situation seems to be improving as well, creating positive expectations for the short term. Serious concerns have also been expressed in relation to the potential impacts on marine biodiversity of the planned large scale open air gold mining activities in the adjacent territory of Chalkidiki, which had been stopped in 2016 by the Ministry of Environment, since this issue surpasses the authority of Mt Athos management structures,.

► **Best practice examples**

The overall administrative status of Mount Athos can be considered as a best-practice example of self-governance, or territorial democracy in decision-making. In terms of management structure, Mt Athos is an iconic CCA (Community Conservation Area), as it is managed by the same community that inhabits it; and this for more than a millennium. In terms of operational efficiency, there is of course much room for improvement, something that is realised nowadays by the Holy Community. Particular management issues which could serve as best-practices for other protected or conserved areas are those pertaining to the implementation of traditional methods in forest management, farming and fishing practices. Apart from these, the absence of pressures from development / construction and grazing are also unique at international scale, however they are directly stemming from the particular spiritual character of the site, therefore they could hardly be transferred in other places, with the exception of similar religious areas, in particular those that are managed by monastic communities. It has to be remembered that connection between sound environmental practices and religious and spiritual Orthodox principles have been widely developed by the Ecumenical “Green Patriarch” Bartholomew I in numerous documents since 1991 (Nantsou, 2010).

State and trend of values

Assessing the current state and trend of values

World Heritage values

► Exceptional natural beauty

High Concern
Trend:Deteriorating

Mount Athos has retained the authenticity of its natural environment for more than a thousand years (SoOUV, 2012). Due to its special privileged status of self-governance –which has always been respected by state authorities– and the traditional way of life of the resident monastic community –that has remained relatively unchanged through the centuries– the 33,000 ha property has been protected from many significant man-made threats, thus preserving its rich natural heritage without major losses almost intact today (SoOUV, 2012). The main negative impacts to the beauty and harmony of the landscape are wildfires, non planned roads, and some forest clear cuts.

► Cultural landscape of exceptional aesthetic importance

Low Concern
Trend:Deteriorating

Significant restoration works which have been carried out since the site's inscription –particularly during the 2000s through funding from the 3rd Community Support Framework– have contributed positively to the enhancement of the unique cultural landscape. Possible financial limitations due to the on-going crisis pose the largest threat concerning the continuation of required works, in accordance to the 'Athos Programme' of the Holy Community. The other threats are common to those affecting value V1 – inappropriate road construction probably constituting the most important one from the aesthetic point of view. Mount Athos is a distinctly characteristic mountain cultural landscape where expanded forms of architectural creation and traditional practices (forestry, farming, fishing, handcrafting and other) co-exist harmoniously with the natural beauty of the site, producing a unique "artistic creation" of exceptional aesthetic importance (ICOMOS, 1988; SoOUV, 2012).

Summary of the Values

► Assessment of the current state and trend of World Heritage values

Low Concern

Trend: Stable

The values of the site and its overall integrity are generally considered as not having been severely compromised, as pointed out in all recent reports (WHC, 2006; SOC, 2012; WHCF, 2012). It should however be noted that information for the evolution of trends over the past five years is largely missing in regard to natural heritage values; while it is estimated that these are more or less stable, this points out to the importance of conducting an integrated management study, as an up-to-date source of information. An important additional remark is that several activities of protection and enhancement of the natural and cultural heritage have been considerably scaled down these last three years of economic austerity. Of great importance in relation to the above is the decision of the Holy Community to proceed with an integrated strategic framework for the conservation of the natural and cultural heritage of the Athonite Peninsula, in collaboration with the Ministry of Culture and UNESCO’s World Heritage Centre. A preliminary report has been already approved by the Holy Community, and has been officially communicated to the WHC in February 2013.

► Assessment of the current state and trend of other important biodiversity values

Data Deficient

Trend: Data Deficient

Mount Athos largely maintains its biodiversity values. It should be pointed out here that although the site has not been inscribed due to its significance for the protection of species of international importance, the fact that it is largely unaffected by the rapid pace of change (including biodiversity degradation) that takes place all over, gradually increases its importance for the protection of species which are endemic of the area (local, national or Balkan context). That said, trends in the evolution of species populations are not known for the past five years; it is though estimated that they are

healthy, given the good condition of the forest ecosystems that sustain them. It must also be noted that the 2006 Special Environmental Study indicates a weak knowledge for the fauna of the area –particularly wild mammals, but also birds.

Additional information

Benefits

Understanding Benefits

▶ **Wilderness and iconic features**

The sacred peninsula of Mount Athos, a holy place in the Christian world, is the principal spiritual home of the Orthodox Church for the past 1000 years. Throughout its long existence, this living and constantly evolving site has displayed an unparalleled resilience to external turmoil which have seen nation states and empires around it come and go, retaining even today its universal and exceptional significance. The harmonious coexistence of nature and man has been a constituent element and aim of Christian monasticism from its origins, creating an inseparable connection between the invaluable material heritage –displayed through the wealth of architectural creations and movable heirlooms– and intangible values of the religious living heritage and the ascetic life in this uniquely preserved cultural landscape of outstanding natural value and beauty.

▶ **Traditional agriculture**

The species, structure and composition of vegetation, the methods and general management of cultivation including organic farming practices, land reclamation and clearing of arable land, and the traditional forest management practices, testify to the harmonious century-long interaction of man and nature in this community conserved area, providing potential benefits for agro-biodiversity conservation and sustainable agro-forestry

management at a wider scale.

► Importance for research

Mount Athos is a major source of knowledge for, inter alia, spirituality and asceticism, the history and practices of the Orthodox religion, religious architecture and monumental painting, studying the historic values of the Mediterranean cultural landscape, and traditional medicine, farming and forest practices. Its benefits in relation to the above have not been fully investigated, and could be further promoted through appropriate education programmes, in cooperation with universities, scientific and cultural organisations.

► Natural beauty and scenery

The unique status of self-governance of Mount Athos, combined with the traditional way of life of the resident monastic community, has largely protected the site from significant anthropic threats; as such, the property has retained the authenticity of its natural environment, preserving its rich natural heritage. Today, the Mt Athos peninsula is highly valued for the state of conservation of its ecosystems, landscapes, habitats, and endemic species, presenting significant potential benefits for nature conservation at national and supra-national scale.

Summary of benefits

The most significant benefit of Mount Athos is its cultural and spiritual values, which exceed the boundaries of the Orthodox world and acquire global importance both in relation to its outstanding cultural heritage and in terms of the influence exerted by monastic ideals and the spirit of harmonious coexistence of man with his natural surroundings. Directly related to its cultural and spiritual values, are the benefits the site provides as an invaluable knowledge source for religious history and monastic practice, Byzantine architecture and restoration, monumental painting et al.; these benefits are estimated as not having been fully exploited, posing challenges for improving education in related fields. Mount Athos also offers significant nature conservation benefits, being a biodiversity hotspot for the wider South Balkan area; systematic recording and monitoring of the condition and evolution of its natural habitats and the populations of species of fauna and flora would

provide an important source of information for nature conservation in Greece. Further to the above, the study of traditional practices exercised in the site may provide benefits for sustainable agro-forestry management at a wider scale.

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	Holy Community / Business Architects Consultancy		Special Environmental Study of Mount Athos [completed and approved, pending for ratification as Presidential Decree]
2	Holy Community / KEDAK		‘Athos Programme’ second phase: Restoration and enhancement of buildings, preservation and enhancement of heirlooms, protection of the natural environment and ecosystems, development of solid and liquid waste management infrastructures, construction of fire protection infrastructures, development of renewable energy sources, etc. [being implemented in cooperation with the Ministry of Environment, Energy and Climate Change]
3	Holy Community		‘Digital Ark’: Classification and digitisation of manuscripts, sacristies and other heirlooms [partly implemented, seeking integration to Community Operational Programme ‘Information Society’ for funding its final stage]

Compilation of potential site needs

№	Site need title	Brief description of potential site needs	Support needed for following years
1	Holy Community / ETHIAGE	Application of best practice management methods in chestnut coppice forests (Castanea Sativa woods 9260) of Mount Athos [submitted in the framework of the LIFE + 2007 programme, pending for approval]	

№	Site need title	Brief description of potential site needs	Support needed for following years
2	Holy Community / Interdisciplinary scientific team	Strategic Framework for the conservation and management of the cultural and natural heritage of Mount Athos [Preliminary report submitted to the General Secretariat for Culture and the WHC]	

REFERENCES

№	References
1	Archimandrite Élisaios, Higoumène de Simonos Pétra (2013) Caractéristiques fondamentales de la société athonite. Séminaire pluridisciplinaire, Thessalonique 29 août 2013 (French traslation by Father Makarios of Simonopetra)
2	Babalonas, D. (2001) Fora and endemism of Mount Athos, in S. Dafis, N. Tsigaridas and M. Fountoulis (eds.) Holy Mountain: Nature-Worship-Art, Thessaloniki: Cultural Capital of Europe - Thessaloniki 97, Thessaloniki, p.7
3	Concerning gold mining threats: http://miningwatch.ca/blog/2017/5/29/eldorado-gold-s-unspok...
4	Friends of Mount Athos- Footpath restoration project: http://www.athosfriends.org/footpaths/
5	Friends of Mount Athos- Footpath restoration project: http://www.athosfriends.org/footpaths/
6	Holy Community (HC), 2012. Strategic Framework for the conservation and management of the cultural and natural heritage of Mount Athos, Preliminary Report.
7	ICOMOS, 1988. Recommendation to World Heritage Centre for Mount Athos, September 1988.
8	IUCN World Heritage Consultation Form, 2012.
9	Mallarach, Josep-Maria (2013) Comments about the preliminary report on the “Strategic Framework for the Conservation and Management of the Cultural and Natural Heritage of Mount Athos. Non published report, Thesaloniki workshop. Mallinis, Giorgos, Ioannis Mitsopoulos Esteban Beltran, and Johann Georg Goldammer (2016) AssessingWildfire Risk in Cultural Heritage Properties Using High Spatial and Temporal Resolution Satellite Imagery and Spatially Explicit Fire Simulations: The Case of Holy Mount Athos, Greece, Forests 2016, 7, 46; doi:10.3390/f7020046. www.mdpi.com/journal/forests
10	Nantsou, Theodota (2010) Environmental action by the Ecumenical Patriarchate, in Thymio Papaynnis & Josep-Maria Mallarach, editors. The Sacred Dimension of Protected Areas. Proceedings of the Second Workshop of The Delos Initiative. Ouranoupolis 2007. IUCN Med-INA, pages 241-248.
11	Phlilipou, Ioannis & Konstantinos Kontos (2010) The protected area of the peninsula of the Athos Holy Mountain, Halkidiki, Greece, in Thymio Papaynnis & Josep-Maria Mallarach, editors. The Sacred Dimension of Protected Areas. Proceedings of the Second Workshop of The Delos Initiative. Ouranoupolis 2007. IUCN Med-INA, p. 107-126.

№	References
12	SES, 2006. Business Architects Consultants, Special Environmental Study for Mount Athos (in Greek).
13	SOC, 2012. State of Conservation of World Heritage properties inscribed on the World Heritage List.
14	SoOUV, 2012. Statement of Outstanding Universal Value, General Secretariat of Culture.
15	Tselentis, G-A and L. Danciu (2010) Probabilistic seismic hazard assessment in Greece – Part 1: Engineering ground motion parameters. Natural Hazards Earth Systems Science, 10, 25–39.
16	Vavalekas, C. (2001) The fauna of the Holy Mountain, in in S. Dafis, N. Tsigaridas and M. Fountoulis (eds.) Holy Mountain: Nature-Worship-Art, Thessaloniki: Cultural Capital of Europe - Thessaloniki 97, Thessaloniki, p.7
17	WHC, 2006. Report on the Joint Mission UNESCO - ICOMOS - IUCN to Mount Athos, Greece, from 30 January to 3 February 2006.
18	WHC, 2012. Decision 36 COM 7B.38 for Mount Athos (Greece) (C/N 454).
19	WWF, 2012. Greece, then and now. Diachronic mapping of land cover, 1987-2007. Available online: http://issuu.com/wwf-greece/docs/diahroniki-hartografisi/1 (in Greek).