

ICOMOS Guidelines for Protecting Cultural Heritage from Damage and Loss Caused by Fire

Draft submitted for approval to GA2026

PREAMBLE

- i. The relationship between fire, human societies and their cultures has existed and evolved for thousands of years. Fire, whether as a natural phenomenon or a domesticated feature, is integral to human activities and practices - both ancient and recent - associated with ways of life, beliefs, rituals, traditional knowledge, land management, and technological and scientific developments. This relationship is expressed across a diverse spectrum of tangible and intangible, moveable and immoveable, personal and collective heritage, where fire remains as a significant, if not essential component, contributing to significance, cultural heritage value, authenticity and integrity.
- ii. Fire is also a potential threat to our cultural heritage, including heritage sites, structures, ensembles and landscapes, objects, museums, libraries, archives, and associated intangible heritage (for example cultural identity, social cohesion, traditional knowledge, and relational and custodial responsibilities). Whether resulting from natural events, accidents linked to human activities (such as construction, rehabilitation and restoration work), or deliberate acts, fire can cause significant or unrecoverable damage and loss to cultural heritage. This risk is increased as a result of climate change, transformation or intensification of land-use, social unrest, and conflicts. Nevertheless, fire is one of the few hazards where effective prevention and preparedness can significantly reduce both the likelihood of ignition and the extent of damage to heritage and communities.

Objectives of these Guidelines

- iii. These Guidelines are adopted and promoted by ICOMOS to strengthen the protection of heritage sites, structures, ensembles and landscapes. This document sets out key principles to guide all stakeholders in safeguarding cultural heritage against damage and loss caused by fire. The principles emphasise the importance of a continuous, context-informed risk cycle of awareness, assessment, planning, implementation, monitoring, updating and improvement, to ensure that fire prevention, mitigation, preparedness, response, and recovery are integral components of heritage conservation and management.
- iv. These Guidelines are aligned with other ICOMOS guidance documents and definitions, including those developed and promoted by National Committees. They encourage adaptation to reflect local, national and regional conditions, cultural contexts, and available expertise and knowledge, including societies where heritage stewardship is transmitted through practice, ceremony, and community authority rather than through

formal documentation. They advocate collaborative engagement among a diverse range of stakeholders - across fire safety, heritage conservation, governance, and the contribution of a range of community domains - integrating local, national and international expertise to foster coordinated action between the heritage and fire protection sectors.

- v. These Guidelines support the implementation of the UNESCO World Heritage Convention and other relevant international and regional agreements. They complement and align with the UNESCO Fire Risk Management Guide - Protecting Cultural and Natural Heritage from Fire, published in 2024. All terminology used in this document is consistent with that publication.
- vi. These Guidelines urge stakeholders involved in caring for cultural heritage sites to develop, implement, and regularly review and update comprehensive, risk-informed Fire Risk Management Plans tailored to the specific conditions of their sites.

Who are these Guidelines for?

- vii. These Guidelines aim to assist stakeholders who use or own a cultural heritage site, those directly involved in the management and stewardship of the site, and other interest groups and official bodies, including communities, caretakers, managers and professionals, and those in the field of fire and risk management at all levels.
- viii. Stakeholders who will benefit from these Guidelines include: public and private site owners; insurance providers; site occupants and residents; visitors, worshippers and pilgrims; site managers, staff and volunteers; consultants and experts in fire safety engineering, cultural heritage, building design, services, construction and landscape; maintenance contractors and craftspeople; emergency responders including local firefighting services; civil society and community-based organisations (NGOs) with interests in the site; and governmental authorities at local, regional, national, and international levels.
- ix. These Guidelines apply to tangible and intangible cultural heritage.

The Principles of the Guidelines

- x. The Principles set out below provide a framework for guidance on protecting cultural heritage from damage and loss caused by fire:
 - Principle 1: Fire can be both a hazard and a valued part of heritage.
 - Principle 2: Fire risk management strategies must be informed by experiences with past fires.
 - Principle 3: Effective fire risk management draws on a diverse range of stakeholders throughout the entire planning and implementation process.

- Principle 4: Understanding the significance, cultural heritage value, authenticity and integrity of a cultural heritage site is the foundation for informed fire risk management strategies.
- Principle 5: Emergency responders are key partners; their capabilities, resources, and operational challenges must be clearly understood and integrated into planning.
- Principle 6: Effective strategies are informed by risk assessments that address site-specific threats, vulnerabilities, and capacities.
- Principle 7: Engaging qualified fire engineering experts throughout the entire process will address the many interconnected aspects of fire risk management.
- Principle 8: Local communities, and Indigenous and traditional knowledge play vital roles in decision making and in developing appropriate fire risk management plans.
- Principle 9: During construction, rehabilitation and restoration works, having a tailored Fire Risk Management Plan will help to address the increased vulnerability and fire risk.
- Principle 10: Managing fire risks is most effective when integrated with all other disaster risk management efforts.
- Principle 11: The development and implementation of effective fire risk management plans rely on integrated and sustained advocacy programs, legal and policy frameworks, and community support.
- Principle 12: The cycle of risk assessment, response planning, plan implementation, monitoring, and plan updates should be continuous to remain effective.

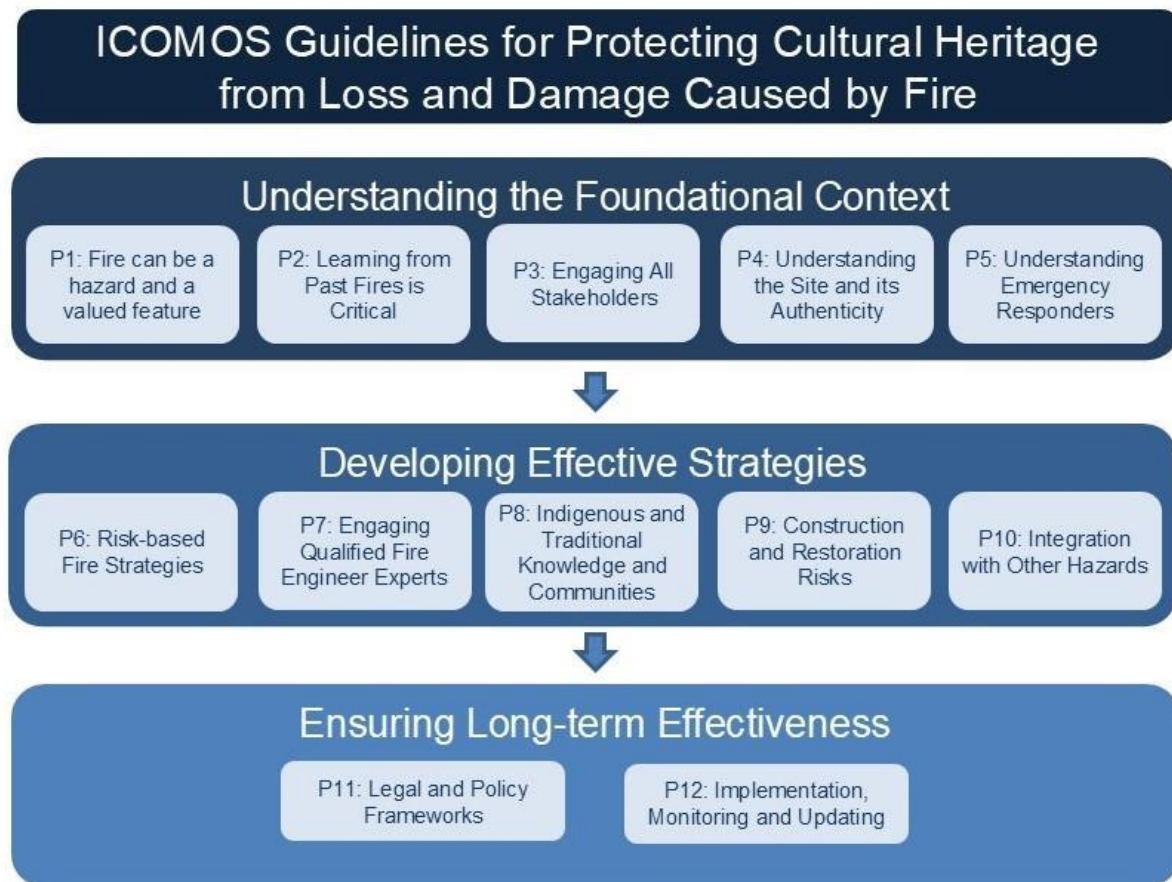


Fig.1: ICOMOS Guidelines for Protecting Cultural Heritage from Fire

Principle 1 : Fire can be both a hazard and a valued part of heritage.

- 1.1. Protecting cultural heritage from fire acknowledges that fire can be both a hazard and a valued part of traditions, rituals and cultural practices, and recognises that the fire-related risks of both need to be managed.
- 1.2. Fire and cultural heritage have a complex relationship. Fire must be prevented when it threatens catastrophic loss of cultural heritage, yet it serves as an essential part of many tangible and intangible cultural practices including:
 - its use as a traditional management practice for broader ecosystems, and cultural and agricultural landscapes;
 - its application in crafting cladding materials and other components of historic and vernacular buildings; and
 - its role in traditional rituals involving smoke and incense, fireworks, torches, candles, and butter lamps.
- 1.3. In the context of protecting cultural heritage sites, buildings, ensembles, and landscapes, fire must be recognised as both a hazard and a valued feature - an integral, and in many cases essential, part of cultural heritage and its associated values, practices, and rituals. Accordingly, fire risk management plans should be developed to mitigate potential threats, including measures to prevent intentional uses of fire from escalating into destructive events.

Principle 2 : Fire risk management strategies must be informed by experiences with past fires.

- 2.1. Understanding past fire incidents provides critical knowledge and experience that strengthens fire risk management strategies for cultural heritage sites. This includes what occurred, identifying failures and successes, and how these past experiences can inform future decisions to reduce fire risks.
- 2.2. Fires can be broadly characterised as controlled fires, structure fires, and wildfires:
 - Controlled fires: intentionally ignited and managed fires used for beneficial purposes such as land management and cultural practices,
 - Structure fires: uncontrolled and undesired fires, both intentional and unintentional, involving human-made structures, and built environments including cultural heritage resources.
 - Wildfires: any unplanned and uncontrolled vegetation fire that, regardless of ignition source, may negatively affect natural and cultural landscapes, cultural sites, and built environments.
- 2.3. Fires have the potential to develop and transition from one type to another with little warning. A thorough understanding of the different fire types, their interrelationships,

and potential to escalate, is essential for comprehensive risk assessment and response planning.

2.4. A comprehensive understanding of fire's dynamic nature, including its dual roles as both a hazard and a cultural feature, and its relationship with the values and significance of cultural heritage sites is essential for effective protection and prevention.

2.5. Three recurring themes emerge when researching and analysing fire events: elevated fire risks, deficiencies in fire risk management planning, and inadequate emergency response.

2.6. Elevated fire risks include:

- multiple ignition sources present, including open flames used for ceremonial or operational purposes, and heating appliances used by staff,
- combustible materials that support the development and spread of fire, including construction elements, unmanaged forest understory and landscape fuel loads, interior finishes, furnishings and other contents;
- outdated, damaged or defective electrical and lighting installations;
- automatic fire detectors not located in all areas, or systems not operational, allowing fires to start and grow undetected;
- inadequately maintained automatic fire suppression systems;
- inadequate or absent compartmentation of spaces or areas allowing fire and smoke to spread throughout a floor and to other floors;
- inadequate or absent measures to maintain the integrity of fire-resisting elements including the sealing of service penetrations and joints in fire-separating construction and compartmentation;
- construction activities, including conservation, restoration, repairs and adaptation, that introduce new ignition sources and combustible materials, and that may compromise existing prevention and mitigation measures;
- large gatherings
- increased lightning strikes exacerbated by environmental change;
- inadequately maintained equipment in or near cultural heritage sites; and
- misused or vacant properties;
- abandoned land in rural regions, in particular the interface between abandoned land and established forest.

2.7. Inadequate fire risk management planning can include:

- absence or insufficiency of tailored, risk-informed fire risk management plans addressing prevention, mitigation, preparedness, emergency response and recovery;
- insufficient fire safety education and awareness among staff and stakeholders;
- inadequate training and capacity building for staff and personnel on site;
- failure to integrate disaster risk management plans addressing other hazards;
- insufficient vegetation management in landscape ecosystems resulting in high fuel loads and increased wildfire risk; and

- lack of coordination and communication among key stakeholders.

2.8. Inadequate fire responses can include:

- delays in alerting local emergency responders often due to limited or absent automatic detection systems, lack of automatic alarm transmission, absence of manual alarms, and unclear response protocols;
- limited availability or absence of local firefighting teams;
- restricted or inadequate access for the local firefighting teams, particularly in remote or rural sites;
- insufficient resources for emergency responders, including limited manual suppression capability, capacity, equipment, water supplies and familiarity with the site; and
- inadequate financial resources to procure and maintain basic equipment such as fire extinguishers and detectors.

2.9. Knowledge gained from understanding past fire events should be systematically applied to future planning and responses. It is essential to research and study fire incidents, including hazards, risks, and fire behaviour, and all the prevention, mitigation, preparedness, and emergency response and recovery efforts, and to understand the causes, failures, and successes of these events, so that property custodians and stakeholders can prepare effective fire risk management plans.

Principle 3 : Effective fire risk management draws on a diverse range of stakeholders throughout the entire planning and implementation process.

3.1. Protecting cultural heritage against the damaging effects of fire while preserving heritage values, depends on the awareness, knowledge, engagement, and collaboration of a broad range of stakeholders to guide decision-making and fire risk management planning.

Accordingly, at the outset of the fire risk management planning process all parties with an interest in the site should be identified, including:

- those who should participate directly in decision-making and planning;
- those who might wish to be consulted about the fire risk management plan; and
- those who need to be kept informed.

3.2. An effective fire risk management plan must be inclusive, context-responsive and tailored to the needs of all users and stakeholders. They will include those who use the site, those directly involved in its care and management, and other interest groups and statutory agencies, including:

- site owners both public and private, including Indigenous, traditional, and local communities;
- site occupants and residents;

- visitors, worshippers and pilgrims,
- site managers, staff, and volunteers;
- consultants and experts in fire, cultural heritage, building design, services, construction, and landscape;
- maintenance contractors and craftspeople;
- emergency responders including local firefighting services;
- non-profit, voluntary organisations with interest in the site; and
- governmental authorities at local, regional, national, international levels as appropriate.

Principle 4 : Understanding the significance, authenticity, and integrity of a cultural heritage site is the foundation for informed fire risk management strategies.

Understanding the Site:

- 4.1. Documentation is a first step in assessing fire risk and is an essential measure for mitigating the potential damage and loss caused by fire. The importance of documentation for cultural heritage has been widely recognised in many national and international heritage instruments. Documentation includes, where available, the capture of all the information regarding physical structures and landscape features, their physical characteristics, condition, history, vulnerabilities, and known problems.
- 4.2. Documentation should also describe and reflect the site in all its aspects for the discussion of values and significance which should follow. It should provide an understanding of the site and its use by the community, including communities where knowledge of a site is held collectively and transmitted orally or through practice rather than through written records, and an overall description of its development over time. This should include a description of the site today, how it is used and perceived, and identify gaps in knowledge and areas requiring further research.

Assessing Significance, Cultural Heritage Value, Authenticity and Integrity:

- 4.3. Understanding the significance, cultural heritage value, authenticity and integrity of a heritage site underpins the conservation management process and should inform fire risk management planning. Strategic and practical decisions about fire prevention and mitigation at cultural heritage sites must therefore take into account the values that are at risk.
- 4.4. The understanding of a site's authenticity and integrity must draw on multiple sources because each can reveal different kinds of significance. Achieving this may require collaboration between communities and professionals to develop analytical processes and tools tailored to suit the unique characteristics and needs of the site, especially concerning fire risk assessment, prevention, and mitigation strategies, recognising that in many cultural contexts, authority over the interpretation of significance resides with community elders, spiritual leaders, or custodial groups rather than with professional specialists.

- 4.5. The significance, cultural heritage value, authenticity and integrity of the site must be systematically evaluated and integrated into a fire risk assessment, for the site as a whole and for its individual components.

Vulnerabilities and Risks:

- 4.6. The assessment of a site's fire risk vulnerabilities should examine factors and issues affecting the site's significance, cultural heritage value, authenticity and integrity, or which have the potential to affect them in the future. This should consider all the issues that influence, adversely or otherwise, what has been established as significant about the site.

Issues affecting the site, its context and contents should be assessed. This will entail an analysis of how the significance and authenticity of the place is vulnerable to fire risks and identify factors that have had an impact in the past, and those likely to have an impact in the future. These might include:

- natural factors, for example water, grasslands, forests;
 - building construction factors like electrical installations;
 - human and intangible factors, for example large gatherings and landscape burns; and
 - resource issues, including a lack of resources that would make it a challenge to care for the site (human, water, access to fire services, etc);
 - environmental changes, evident or predicted, that may increase future vulnerabilities and risk.
- 4.7. Areas of potential divergence with other cultural or policy values should be explored. These may arise from perceived or actual conflicts of values, for example:
- flexible open spaces created to enhance the significance of musical traditions;
 - the requirements of recent legislation and policy regarding environmental sustainability and inclusive access;
 - measures implemented to protect against wildfires;
 - vulnerability of traditional materials to fire.

Principle 5 : Emergency responders are key partners; their capabilities, resources, and operational challenges must be clearly understood and integrated into planning.

- 5.1. Emergency responders are people with specialised training who are typically first on the scene and are responsible for saving lives, protecting property, minimising injuries, providing assistance, and managing emergency incidents.
- 5.2. The role of emergency responders is often perceived narrowly as limited to fire suppression and life-saving during an incident. This view underestimates the complexity of their responsibilities and the expertise they bring. Proactive engagement and

knowledge exchange with emergency responders, understanding their operational protocols, and supporting their resource needs during planning stages will enhance overall response effectiveness and reduce the impact of fire events on cultural heritage.

5.3. The effectiveness of emergency responders can be significantly hindered by a range of operational and environmental factors. These must be anticipated and addressed in fire risk management plans, including:

- delays in fire detection and notification due to limited or inadequate systems, unclear protocols, off-hour incidents, and inaccurate or incomplete information during notification;
- response and arrival issues such as travel time to the site, weather conditions, traffic, clear directions, gaining site access, access around structures, identifying fire location(s), and time needed to evaluate and develop a tactical strategy;
- search and rescue operations;
- equipment setup restricted or delayed by limited access, historic landscape features, long distances to fire, and obstructions like gates, scaffolding, or restricted entry points;
- firefighting operations hindered by limited water, difficult access, concealed fires, risk to historic features, and insufficient personnel, equipment, or specialized tools; and
- limited planning, training, procedures, and coordination for prioritizing, handling, or safely relocating collections and artifacts during a fire.

5.4. A number of actions can be undertaken in advance to mitigate the numerous challenges emergency responders face, including:

- engage emergency responders throughout the process;
- understand, create awareness, and develop realistic expectations of the capabilities, resources and challenges faced;
- provide the means to automatically detect smoke/ fire and automatically notify them;
- provide clear access routes to and around the site, and into the building;
- provide details such as internal layouts, and access to upper/lower floors, water supply details, and hazardous materials;
- gather feedback and input from emergency responders, using their expertise and experience, to help in protecting the site and structure;
- enhance site infrastructure in ways that support firefighting without compromising heritage values;
- deliver targeted training to familiarise responders with site characteristics, emergency priorities, and logistical challenges;
- deliver general cultural heritage training to equip responders with the knowledge and awareness to protect cultural heritage sites and artifacts during crises, and to foster respect for community values, ensuring response actions support both safety and heritage protection.

Principle 6 : Effective strategies are informed by risk assessments that address all site threats, vulnerabilities, and capacities.

Assessing Fire Risk to Cultural Heritage

- 6.1. A comprehensive and well-informed, context-based fire risk assessment is essential for guiding the development of effective mitigation strategies and policies within a fire risk management plan. This process helps ensure that the significance, cultural heritage value, authenticity and integrity of the site are retained and protected, and where possible enhanced through future management, use, or interventions.
- 6.2. Fire risk assessments will help property owners, users, and stakeholders to:
 - understand the site and its use by the community;
 - assess the significance, cultural heritage value, authenticity and integrity of the site;
 - evaluate vulnerabilities, threats, and potential risks to the cultural heritage value and significance;
 - develop fire risk management strategies and policies that are aligned with conservation objectives.

Risk-Informed, Performance-Based Approach

- 6.3. A risk-informed, performance-based approach to developing fire strategies and management policies prioritises outcomes and results rather than prescriptive requirements. This approach supports the development of an overall fire risk management plan and may deliver benefits such as: integrated and efficient fire protection systems; the incorporation of Indigenous, local, and practice-based traditions and sustainability practices; minimal impact on historic fabric; greater design flexibility; achieving the desired level of functionality; and the identification of cost-effective solutions.
- 6.4. The adoption of a performance-based, risk-informed approach focuses on achieving outcomes tailored to the specific characteristics and values of the site. This approach includes:
 - preparing a fire risk and vulnerability assessment that gathers information and knowledge about the site including historical development; current use and management; significance, cultural heritage value, authenticity and integrity of the site; and vulnerabilities and risks;
 - identifying fire safety goals and objectives such as life safety, heritage conservation, environmental protection, operational and functional continuity;
 - establishing performance criteria against which the goals and objectives can be assessed, for example: escape and object rescue timings, temperature, smoke layer depths;
 - developing fire scenarios based on the probability of likely events and events of significant concern occurring, and on varying spatial conditions;

- developing design options for fire protection components, systems, and strategies to achieve project goals and objectives;
- evaluating the design options and selecting a preferred solution; and
- preparing final design documentation including documenting the analysis and design and preparing specifications.

Development of a Fire Risk Management Plan

- 6.5. A performance-based, risk-informed approach is the foundation of a comprehensive fire risk management plan.
- 6.6. A fire risk management plan should be developed by individuals with demonstrated expertise in fire risk management, emergency response, and cultural heritage conservation.
- 6.7. A fire risk management plan should:
- provide recommendations to enhance fire prevention, mitigation, and life safety measures specific to the cultural heritage site;
 - evaluate each space, structure, and element individually against the site's conservation goals and objectives;
 - adopt measures to limit ignition sources;
 - adopt strategies and policies to mitigate the effects of a fire (assuming ignition occurs);
 - provide effective strategies not only for fire mitigation and prevention, but also for response and recovery;
 - develop emergency response procedures, such as resource allocation, assignment of roles and responsibilities to ensure coordinated and efficient response, and actionable steps to intervene, including evacuation, rescue, and use of resources.
 - allow stakeholders to determine which of these mitigation measures are appropriate to address the objectives when exposed to different fires scenarios;
 - consider whether selected mitigation features and systems are readily available, and whether they will be effective in existing environmental conditions (temperatures, humidity, wind);
 - acknowledge and draw upon local knowledge and traditions, and Indigenous cultural heritage as foundational inputs alongside technical expertise;
 - plan for regular monitoring and maintenance, including regular inspections of alarm systems, water storage and access, physical access and the like;
 - allow for ongoing learning including sharing of knowledge, staff training, drills, post-event reviews, and manuals; and
 - include provisions for its implementation, enforcement, regular review, and periodic updates to ensure it remains effective and responsive to evolving risks, site conditions, and conservation priorities.
- 6.8. An effective fire strategy necessitates the seamless integration of multiple fire and life safety systems, all functioning cohesively during an emergency. Achieving this requires a comprehensive understanding of the interrelationships between all fire safety features

and systems. By adopting an integrated, risk-informed, performance-based approach, strategies can be tailored to the site's specific risks, operational needs, and heritage values, ensuring coordinated, outcome-focused, and effective fire protection.

- 6.9. Conservation of authenticity must be a core objective of fire risk strategies. Criteria should be developed to ensure that authenticity is addressed in the prevention and mitigation planning phases so that appropriate fire safety measures are in place, including for prevention, mitigation, emergency response, and recovery.

Present-Day Materials, Technologies and Alterations as Prevention/ Mitigation Measures:

- 6.10. Risk assessments and fire strategies should also consider the impact of present-day materials, technologies, and spatial and structural alterations used as prevention or mitigation measures.
- Present-day materials and technologies used to prevent fires or protect cultural heritage from the damaging effects of fires may include: chemical suppressants, retardant coatings, fire-resistant wraps, firebarriers, sprinkler systems, and landscape materials and planting to inhibit the spread of fire.
 - Prevention and mitigation solutions which alter historic and traditional plan forms and spatial volumes include the introduction of lobbies, additional stairs, partitions and similar sub-divisions.
- 6.11. Present-day materials, technologies and spatial and structural alterations used as fire prevention or mitigation measures should only be used where and in a manner that does not affect a heritage site's significance, cultural heritage value, authenticity and integrity - whether visually, structurally, or symbolically. These should be considered only where significant long-term protection is demonstrated, and where public and environmental safety will not be affected. The impact on the visual appearance, material integrity and structural performance of historic fabric should be reversible.

Links With Other Plans

- 6.12. An effective fire strategy should align with other supporting management tools, including: a fire safety plan, an emergency evacuation plan, a fire brigade pre-plan, effective capacity building and training, and construction project specifications and site procedures designed to prevent fires, local fire and wildfire emergency plans, and other local or national security and civil protection plans.
- 6.13. Fire risk assessments and related prevention and mitigation strategies should be incorporated into conservation management plans and the specifications for construction, rehabilitation and restoration projects at all cultural heritage sites.
- 6.14. Fire risk management plans, risk assessments and related prevention and mitigation strategies, should be incorporated into the documentation of all cultural heritage sites

including nominations, periodic reports, reactive-monitoring missions and state of conservation reports for all inscribed and tentative World Heritage Sites.

Principle 7 : Engaging qualified Fire Engineering Experts throughout the entire process will address the many interconnected aspects of fire risk management.

- 7.1. Qualified fire engineering professionals should be engaged in the protection of cultural heritage sites from fire. These individuals must possess up-to-date and relevant expertise, training and experience in fire safety, fire risk management, emergency response, and heritage conservation, and be able to integrate these knowledge systems into a multidisciplinary approach for cultural heritage sites and structures. Their involvement is particularly critical in activities including hazard, risk, and vulnerability assessments, the development of effective and efficient fire risk management plans, and the planning, design, commissioning, documentation, and implementation of those plans. Additionally, their expertise is essential in the ongoing inspections, testing, and maintenance of fire safety systems; the implementation, monitoring and updating of fire risk management plans; training, drills and capacity building; and emergency response procedures at heritage sites.
- 7.2. Fire engineers engaged in the protection of cultural heritage must, at a minimum, demonstrate competence in the following areas:
 - fire engineering and performance-based design, and analysis;
 - fire dynamics and fire behaviour;
 - disaster risk management including prevention, mitigation, emergency response and recovery phases;
 - fire hazard, vulnerability, and risk assessments;
 - fire safety systems including detection, alarm, and suppression systems;
 - fire separations and compartmentation;
 - wildfires including prevention, mitigation, preparedness, response and recovery;
 - construction materials and methods, both traditional and modern;
 - cultural heritage conservation principles, methods, procedures and applied techniques;
 - human behaviour in fire and evacuation events;
 - Indigenous and traditional knowledge systems;
 - community engagement and communication;
 - integration with overall disaster risk management plans;
 - capacity building, raising awareness, training, drills;
 - emergency planning and incident management including emergency response and recovery; and
 - understanding and appropriately addressing fire challenges unique to heritage contexts.
- 7.3. The qualifications of fire engineering experts should be formally recognised through appropriate certification and licensing processes administered by relevant professional

agencies and scientific bodies, and with appropriate documentation provided. These experts should also provide documented evidence of significant, practical experience in these areas, particularly in relation to fire risk management and the protection of cultural heritage.

- 7.4. Fire engineering experts are a key stakeholder group. They must be integral members of the planning team and active contributors throughout the project life cycle, from early scoping of the project and its processes through to the development, implementation, monitoring and review of the fire risk management plan.

Principle 8 : Local communities, and Indigenous and traditional knowledge play vital roles in decision-making and in developing appropriate fire risk management plans.

Community Engagement

- 8.1. Community engagement can contribute to effective fire risk management in various ways:
- identifying the role of fire in the heritage site's significance; for example, as part of domestic life, rituals or traditional crafts, or as a medium of spiritual communication, social reciprocity, and intergenerational obligation;
 - identifying ignition sources and combustible materials;
 - applying Indigenous, traditional and local knowledge;
 - assessing compartmentation issues such as the maximum size of fires that responders and community members can effectively control, and limiting the spread of fire between structures and landscape areas;
 - improving detection and notification;
 - strengthening local capacity for manual suppression, prevention, and immediate response activities;
 - using site knowledge to support access, prevention and evacuation-related activities; and
 - supporting emergency preparedness-related activities, including training, sharing knowledge of the site and its heritage, drills, and collective awareness.
- 8.2. A more informed fire risk management plan is developed when the community comes together to identify risks, mitigate them, and maintain the work over time. Community engagement and fire adaptation involve the participation of various stakeholders, including community members, fire responders, religious organisations, businesses and suppliers, utilities, and property managers and users. Each stakeholder brings expertise, cultural knowledge, and considerations that may otherwise be overlooked. Each stakeholder will play a crucial role in creating fire-adapted communities.
- 8.3. Fire risk management planning at all levels should recognise oral testimony and collective memory as valid forms of evidence and consider them as foundational inputs for identifying site-specific vulnerabilities, adaptive capacities, and appropriate fire risk management strategies. Transmitted across generations, this knowledge reflects

sustained observation of environmental conditions, seasonal patterns, and human practices, and often informs when, where, and how fire can be used or avoided safely.

- 8.4. A community that actively manages fire risk works collaboratively to identify, reduce, and manage fire hazards. Shared responsibilities enhance the protection of responders, users, and structures, while reinforcing collective resilience against fire-related disasters.

Indigenous and Traditional Knowledge:

- 8.5. Fire holds sacred and significant importance for many Indigenous and traditional communities and has long been used in ceremonial crafts and practices, to safeguard communities and sustain diverse ecosystems. Indigenous and traditional knowledge and practices must be acknowledged, respected and included with adequate protocols when researching fire events and carrying out fire risk assessments.
- 8.6. Incorporating Indigenous and traditional knowledge and practices into fire risk assessments and strategies will enhance their appropriateness and improve the implementation of fire risk management and life safety plans. This might include:
- maintaining local traditions, such as domestic or ritual fires, candles, and intentional landscape burns;
 - maintaining the traditional functionality of spaces;
 - providing safe access and escape routes while minimising the need to limit the numbers of people at ceremonies;
 - using traditional construction materials and techniques;
 - employing traditional firefighting methods such as water, soil, and sand; and
 - managing ecological processes in concert with Indigenous and traditional practices such as cultural and prescribed burns.
- 8.7. Indigenous and traditional fire knowledge is essential for sustainable prevention and mitigation. Researchers and planners should actively engage with communities to integrate this knowledge into fire risk management plans.
- 8.8. Cultural burning and prescribed burns are Indigenous and traditional practices using low-intensity fires to care for landscapes. In many regions, industrialised agricultural practices and aggressive wildfire suppression in forested areas have increased the risk of devastating wildfires as well as negatively impacting biodiversity and forest health. The controlled and knowledgeable use of fire is therefore needed to restore balanced ecosystems and reduce the risk of uncontrolled fires. Reintroducing Indigenous and traditional knowledge and practices can help to achieve this in support of heritage, landscapes, and ecosystems.

Wildfires and Community Engagement

- 8.9. Cultural heritage sites are threatened by natural hazards and climate change. One of the greatest threats is wildfires.

- 8.10. Environmental change will exacerbate the three primary factors that affect wildfires: the availability of dry fuel to burn, the frequency of lightning strikes that ignite fires, and the dry, windy conditions that intensify flames. Urbanization and the expansion of human settlements and industry exacerbate the nature, spread, and impact of wildfire on cultural heritage. Additionally, human activities, including deficient maintenance, carelessness, and arson, are significant contributors to preventable forest and wildfires. As the risks and impacts of fires continue to escalate, there is a pressing need to implement effective fire education programs to reduce the number of human-caused wildfires and foster appropriate community responses.
- 8.11. To reduce wildfire risk, individuals and communities can take proactive measures that support both safety and the protection of cultural heritage. These actions include:
- consulting official fire management guidance;
 - creating fire buffers around and within communities using appropriate landscape elements within and outside heritage site boundaries;
 - regulating vegetation management on fuel-rich privately managed land;
 - designing, repairing, and adapting buildings, structures and landscapes with fire resilience in mind; and
 - sharing emergency leadership, strategies, and resources across communities, regions, and the entire country.
- 8.12. Communities should prepare a wildfire protection plan to refine a community's priorities for protecting life, property, and critical infrastructure. This is particularly important in the wildland-urban interface, and should include specific consideration for heritage sites and landscapes. The preparation of the plan encourages community members to engage in discussions regarding management options, including implications for the surrounding areas and regional authorities.

Principle 9 : During construction, rehabilitation, and restoration work, having a tailored Fire Risk Management Plan will help to address the increased vulnerability and fire risk.

- 9.1. Cultural heritage sites are highly vulnerable to fire during construction, rehabilitation, and restoration-related work. Historical records and recent incidents have shown that fire events occurring during these activities are a recurring threat.
- 9.2. During construction, rehabilitation, and restoration activities, there is often no fire risk management plan in place to address the numerous challenges these activities introduce. Additionally, these works introduce multiple ignition sources (such as hot works including cutting, welding, and roofing, and temporary wiring and high temperature lighting), and large quantities of combustible materials (such as packaging, scaffolding, insulation, and waste), that increase the risk of ignition, development, and spread of fire. Mitigation measures (including fire protection systems) are often not present, not operational, or in the midst of being replaced or upgraded. This often results in no, or limited, automatic detection, no automatic suppression systems, and limited compartmentation on floors and between floors to limit the spread of fire and smoke.

- 9.3. Developing a tailored, detailed fire risk management plan for construction and related works on cultural heritage sites and updating this as the works progress, will help to reduce the substantial fire risks presented during this time. The plan should:
- address prevention, mitigation, preparedness, response and recovery measures, and be implemented, monitored and updated frequently to address changing conditions on site;
 - include measures for creating awareness of fire risks for all personnel on site (including site security); this should include capacity building, awareness raising, training and drills, fire watches, and constant monitoring of the site;
 - be developed in collaboration with emergency responders, taking into account changes in site access, impacts of scaffolding on responders' operations, access routes around the building and site, protected firefighting stairways, water supply access and capacity, as well as all other resourcing issues.

Principle 10 : Managing fire risks is most effective when integrated with all other disaster risk management plans.

- 10.1. The impact of fire on cultural heritage can be exacerbated by other concurrent or cascading hazards (such as earthquakes, lightning, the human impact of mining, flooding, aridification, and tourism). Recognising and addressing the interconnected nature of fire risk with other hazards is essential for effective risk reduction. Treating fire as an isolated hazard may result in incomplete, ineffective, fragmented or inadequate fire risk management strategies.
- 10.2. Integrated disaster planning ensures that fire prevention and mitigation measures complement rather than conflict with strategies for other hazards.
- 10.3. Developing an integrated fire risk management plan requires the active collaboration of a multidisciplinary team of experts, including fire service personnel and knowledge holders, fire engineers, archaeologists, anthropologists, conservators, conservation architects, landscape architects, cultural property protection specialists, Indigenous and traditional knowledge holders, emergency response personnel, community leaders, and other disaster response units. For example, wildfire response efforts may need to consider secondary risks such as erosion and flooding. Coordinated planning across multiple disciplines and stakeholders helps to ensure heritage sites are protected from both primary fire damage and potential secondary hazards, thereby strengthening resilience and supporting long-term conservation.
- 10.4. Integrating fire risk management into broader hazard management planning enables coordinated, timely, and effective responses, strengthening the resilience of heritage sites and helping to ensure protection of cultural heritage from credible hazards. This integrated, multi-disciplinary, holistic approach helps limit cascading damage from one hazard to the next and improves recovery. To help facilitate such integration, regular inter-agency drills and joint training exercises involving all relevant disaster risk

management stakeholders (e.g., fire service, heritage professionals, civil defense, local communities, tourism agencies) are highly recommended. These exercises should simulate multi-hazard scenarios to test the effectiveness of integrated plans. Additionally, information sharing platforms and communication protocols should be established to ensure seamless exchange of critical data, such as site plans, hazardous material locations, and valuable asset inventories, among all responding agencies during an emergency.

- 10.5. Integrated strategies may also require the adaptation and/or updating of urban and regional planning and design approaches, including landscape management, as well as building codes.

Principle 11 : The development and implementation of effective fire risk management plans rely on integrated advocacy programmes, legal and policy frameworks, and community support.

- 11.1. Through developing comprehensive legal and policy frameworks, the protection of cultural heritage from fire can shift from reactive responses, often triggered by devastating incidents, to proactive measures that raise awareness and address underlying challenges. This will help to limit the occurrence of fires and to minimise their impact should a fire start.
- 11.2. Building and fire codes should allow alternative performance-based, risk-informed approaches tailored to the specific needs of heritage sites, rather than relying solely on prescriptive and generic requirements derived from new construction. Traditional materials, methods, and inherent features may be permitted where evaluated through a context-informed, performance-based risk assessment. Where community-based governance structures hold custodial authority, regulatory frameworks should accommodate their decision-making roles alongside formal permitting processes. Regulatory requirements should specifically address cultural heritage sites during any construction, restoration, and rehabilitation work.
- 11.3. Laws and regulations, including environmental and cultural legislation, and climate adaptation regulations, should allow for traditional practices, including the use of prescribed fires and pre-burning, and provide detailed guidance on how these practices can be undertaken safely. Regulations intended to protect wildlands from fires should acknowledge cultural heritage sites and landscapes and their specific protection needs. Climate adaptation regulations should address fire risks in ways that are appropriate to cultural heritage contexts.
- 11.4. Institutional guidelines and policies play a critical role in managing fire risks to cultural heritage sites. International organisations should work together to improve policies, share experience amongst site managers, produce technical guidance, and create training programs to build capacity. At the national level, legislation and organisations should establish technical standards for heritage sites. These should include heritage certification systems for professional fire experts, tying funding to the development and

implementation of fire risk management plans that recognize heritage resources, and provide model fire risk management plans tailored to specific regional conditions. Professional organisations can also contribute by promoting ethical standards that emphasise the protection of heritage as a core responsibility, setting competency standards for fire safety in heritage work, and offering heritage certification programs and continuing professional education emphasising heritage issues in fire risk and response.

- 11.5. Financial and funding mechanisms can support fire risk management through grants, tax incentives, targeted donor or philanthropic contributions, and insurance incentives such as premium discounts or policies tied to risk reduction plans. These mechanisms encourage proactive fire prevention, particularly during renovations or improvements to heritage sites.
- 11.6. Advocacy and awareness efforts should include public education on fire risks to cultural heritage, targeted campaigns for stakeholders and decision-makers, and stronger engagement with fire and heritage professionals and emergency responders. Media organisations should be engaged to strengthen public understanding of fire risk issues, management, prevention and risk reduction strategies, and the need for policy, funding and regulatory improvements.

Principle 12 : The cycle of risk assessment, response planning, plan implementation, monitoring, and plan updating should be continuous to maintain effectiveness.

- 12.1. Fire risk management is a broad and evolving field, so it is essential to sustain a continuous cycle of risk assessment, response planning, implementation, and adaptation. The influence of factors such as environmental change, social dynamics, cultural context, and institutional developments complicate the planning process. Therefore, the monitoring, review, updating and dissemination of fire risk management plans are just as critical as the maintenance of fire safety equipment and the readiness of personnel and organisations.
- 12.2. A fire risk management plan, including complementary plans, should be monitored regularly to ensure that stakeholder organisations use them to guide decision-making, the care of the heritage place, and to assess the impacts of emerging trends and proposed interventions.
- 12.3. Monitoring provides evidence that feeds back into ongoing risk assessment and response planning and should be an integral component of a fire risk management strategy. Monitoring enables stakeholders to measure changes in condition, vulnerabilities and threats, to track evolving threats, and to evaluate the effectiveness of management actions.
- 12.4. Monitoring of a fire risk management plan should include:
 - clearly defined indicators linked to risk assessment and response objectives;

- procedures for analysing and feeding results back into planning and decision-making; and
 - appropriately qualified staff and/ or specialists responsible for reviewing and revising strategies.
- 12.5. A partnership approach to monitoring fire risk management plans, underpinned by inclusive, transparent, and accountable decision-making, should be encouraged. Partners may include individuals and organisations, particularly local communities, Indigenous peoples, custodial families, clan or lineage groups, religious or ceremonial authorities, fire experts, governmental, non-governmental and private organisations and owners, who have an interest in and responsibility for the conservation and management of a heritage place.
- 12.6. Training of staff and specialists at all levels should include procedures for monitoring, evaluating and updating fire risk management plans to reinforce the cyclical nature of risk assessment and response.
- 12.7. Fire risk management plans should be reviewed periodically, both internally and by qualified fire experts, and whenever conditions or circumstances change on site, including understanding of a site or the issues facing it.
- These reviews should directly inform revisions to risk assessments, response measures, and implementation priorities.
 - Updating plans to reflect these changes is essential to maintaining their relevance and effectiveness.
 - The outcomes of the periodic review and updating of fire risk management plans, should be incorporated into documentation for all nominations, periodic reports, and state of conservation reports for all inscribed or tentative World Heritage Sites.
- 12.8. People and circumstances evolve, as do our relationships with heritage places and our understanding of the challenges they face, including fire threats and mitigation strategies. The implementation, use and effectiveness of these Guidelines should therefore be subject to continuous monitoring, evaluation, and enhancement.

Acknowledgement

These Guidelines have been drafted through a collaborative effort of the ICOMOS International Scientific Committees for Cultural Landscapes, Religion and Ritual, Risk Preparedness, and Wood, by a working group composed of the following members:

- Douglas Evans (IIWC) (Coordinator),
- Elizabeth Brabec (ISCCL)
- Dinu Bumbaru (PRERICO)
- Maritza Giacomazzi Dantas (EPWG)
- Christopher Marrion (ICORP)
- Suzana Radivojevic (IIWC).