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STRATEGY FOR THE IMPROVEMENT OF MANAGEMENT QUALITY IN WORLD HERITAGE BEECH FOREST COMPONENT PARTS

O.T3.1

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NATIONALPARK KALKALPEN

STAATLICH ANERKANNTER ERHOLUNGSORT Angermünde echt.natürlich

PAKLENICA Nacionalni park National Park

EUROPEAN WILDERNESS SOCIETY Let's get Wild!

ZAVOD za GOZDOVE SLOVENIJE Slovenia Forest Service

NLC NACIONALNO LESNIŠKO GOZDARSKO SREDIŠČE NATIONAL FOREST CENTRE

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Abbreviations

BR	Biosphere Reserve
BZ	Buffer zone
CP	component part
CQM	Code of Quality Management for World Heritage Beech Forest
IMS	Integrated Management System
JMC	Joint Management Committee
NGO	Non-governmental organisation
NP	National Park
OUV	Outstanding Universal Value
PA	protected area
WH	World Heritage
WH BF	World Heritage Beech Forest (Meaning the serial WH site “Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe”)
WHC	World Heritage Committee

1. Introduction

The overarching goal for the management of the component parts comprised in the "Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe" is protecting the integrity of the beech forest ecosystems and the OUV of the entire World Heritage (WH) property. Effective component part management needs to cover the individual WH component parts, their buffer zone and surrounding landscape matrix, incorporating the requirements of WH sites regarding capacity-building, communication and community empowerment.

This strategy is mainly based on the studies on the needs, potential and requirements for good management by relevant stakeholders (D.T3.2.1) in the following project target areas: Grumsin, DE; Kalkalpen NP, AT; Poloniny NP and Vihorlat, SK; Krokar and Snežnik, SI and the analysis of the specific requirements for improved management quality in the target areas by the WH status (D.T3.2.2). Its aim is to indicate steps to reach the improvement of the management quality and effectiveness in the target areas. The strategy therefore includes a vision, objectives and strategic actions with specified activities. A greater emphasis in terms of strategy development is laid on the results of the analysis of WH requirements for good management.

Additionally, further project results feed into the strategic actions of the strategy, as the overall management also includes the issues of stakeholder involvement, conflict management, visitor management, internal and external communication as well as sustainable land use in the buffer zones and the surrounding landscapes. Hence, the following results are reflected in the strategy: participatory situation analysis and strategy development workshops in Grumsin, DE, Krokar, Snežnik, SI and Paklenica NP, HR (D.T1.1.2, D.T1.2.1), participatory risk and vulnerability analysis in SI and SK (D.T2.1.1) and the study on existing strategies, measures and infrastructure for information management in buffer zones (D.T2.2.1).

The results from the two expert workshops, a set of online focus interviews with protected area managers, an online questionnaire and an interactive online pin board for project partners, associated partners and collaborators of the European Beech Forest Network, which also supported the development of the *Code of Quality Management for WH Beech Forests*, are also taken into consideration (D.T3.3.1; D.T3.3.2). The Code of Quality Management (guideline) will present a management support tool, helping component part management teams in fulfilling the requirements of UNESCO WH sites. It enables protected areas managers to conduct a self-assessment of their management quality. Furthermore, it provides best practice guidance and relevant tools, concepts and topic-specific strategies, etc. to give incentives for the formulation of recommendations and work plans for the further development of selected management aspects (if needed), which is why this strategy is closely linked to it.

By increasing the management quality and effectiveness of the component parts the strategy also aims at strengthening the overall serial transboundary WH property, as well as its impact on ecosystem-based sustainable development and further contributions to EU policy agendas (e.g. EU Biodiversity Strategy 2030, Green Deal). This includes the promotion of landscape scale conservation measures, ensuring sufficient connectivity between component parts (e.g. strict protection of remaining primary and old-growth forests as stepping stones), implementing an efficient monitoring system to safeguard the integrity the forests; increasing the public awareness of the value of these forests for people and the planet; and supporting research and further sustainable management practices [1].

2. Challenges and opportunities for WH beech forests

The UNESCO WH property “Primeval and Ancient beech forests of the Carpathians and other regions of Europe” is the largest transnational serial site in the WH list, comprising 94 components in 18 European countries. Therefore, it presents a very challenging and complex WH site in terms of joint management, which requires international cooperation as well as commitment on component part level. The complexity and size of the WH site might even increase in the case of a successful inscription of additional component parts in further countries.

With the inscription of these beech forests in the WH list the States Parties declare their responsibility to “preserve the last remnants of ancient and primeval European Beech forests, as examples of complete and comprehensive ecological patterns and processes of pure and mixed stands across a variety of environmental conditions in the still ongoing postglacial continental wide expansion process” [2].

This commitment results in the overall goal of protecting the beech forests in the component parts from any threats, which negatively impact the integrity of the forest ecosystems and therefore their Outstanding Universal Value (OUV) – the basic value for being inscribed in the WH list.

Within the ICUN WH outlook 2020, the conservation outlook for this site has been assessed as of "significant concern" [3]. In several component parts the beech forests are facing threats connected to logging operations in buffer zones of some component parts of significant concern and very high threat. Furthermore, climate change already poses a risk to some component parts and further impacts are expected in the future, which need to be monitored thoroughly.

The values of this serial transnational WH site are well protected through a high legal protection status in many of the component parts, regarding undisturbed and functional primeval or ancient beech forest ecosystems. However, concerning the Integrated Management System (IMS) of the WH site, effectiveness will need to be further evaluated in the future, as concerns were raised regarding its financial sustainability in the long term. Additionally, at the level of individual component parts and the PAs in which they are embedded, management effectiveness varies significantly, due to different levels of financial and human resources [4].

Alongside the mentioned challenges the WH status further incorporates a high responsibility for all involved actors (and their management quality) in terms of fulfilling the related objectives of the WH Convention that go beyond conservation and include the support of all aspects of sustainable development. Here, the WH site as flagship of the best examples of strictly protected beech forest ecosystems, presents a great opportunity with a high potential to catalyse an ecosystem-based regional sustainable development in the regional surroundings of the individual component parts.

2.1. Results from regional studies on needs, potential and requirements for WH component parts

The regional studies (D.T3.2.1) were conducted in the project target areas (AT, DE, SI and SK) and were principally derived from interviews with relevant stakeholders to assess their view on what is needed for good management in the context of sustainable regional development, tourism and education. The results show that in the involved component parts the situation is very heterogenic, which is also due to the diverse setting of these component parts in terms of component part size, protected area framework and time of inscription into the WH list. The main requirements for good management resulting from the regional studies are included in the strategy development – mainly in the strategic objectives and activities.

In Kalkalpen NP (AT) both a need to improve the WH-related external communication and a need for additional visitor offers has been identified. Those issues are tackled by the BEECH POWER project in terms of pilot implementation of related activities in visitor information and WH knowledge transfer.

In the case of Grumsin (DE) the study identified a number of activities, which have been implemented since the inscription of the component part in 2011. Since then many advances have been made, including opportunities to initiate further development. The results also provide an overview about identified needs that are mainly based in the area of communication and cooperation with stakeholders on different levels (regional and transnational) as well as in the area of education.

The example of Snežnik & Krokar (SI) shows that the procedures promised in the Nomination Dossier for both areas are under implementation. The component parts are state owned and, according to a forest decree, their protection is under the responsibility of the Ministry for Agriculture, Forestry and Food. Another decree authorizes the public company Slovenia State Forests for the actual management of the component parts. However, natural WH properties in Slovenia are usually under the responsibility of the Ministry for Environment and Spatial Planning. From the described situation there is a conflict of interest and responsibility in management, which is currently being worked on through the preparation of another decree, which covers the protection of the component parts as well as the management responsibility. In a next step the development of a management plan can be started. Incentives to increase the size of the current buffer zones are, nevertheless, under implementation. Both areas have potential for visitors and touristic development, resulting in the need to manage them to ensure protection of the OUV. Both national and local stakeholders, need to come to an agreement about how to manage the situation and how to divide the responsibilities.

For Poloniny NP and Vihorlat component part clusters (SK), the study on the management requirements in the Slovak component parts reveals that it is necessary to clearly declare the public interest in the component parts, related protected areas and the entire region. This should be achieved by ensuring the legal protection of the component parts, by improving the economic situation of the local population through supporting regional sustainable development as well as by significantly improving communication with and between stakeholders.

It is necessary to clarify the competences and responsibilities of individual state authorities and organizations in component part management, to elaborate management plans, to give all interested parties the opportunity to participate in the decision-making and management of the component parts and to support investment in the sustainable development of the region. The new boundaries of the property and buffer zones, including related management have been agreed between stakeholders and adopted in a government resolution. A supporting financial framework is also in place to fulfil the new forest management responsibilities in the core and buffer zones.

2.2. Implications from the analysis of the requirements for improved WH beech forest management quality

Results from the analysis of requirements for good management resulting from WH status show that in the first place the five principle strategic objectives (the five “Cs”) [5] of the WH Convention need to be considered (see Table 1) in the context of management quality but also regarding the development of strategies for improvement.

Table 1: Strategic objectives of the WH Convention and requirements for WH Beech Forests

Strategic objectives	Related requirements for WH beech forest component parts
Credibility	Maintain the credibility of the WH list by protecting each component part from any negative impact by adequate long-term protection and management to sustain or enhance the OUV of the property, including the integrity of the beech forest ecosystems.
Conservation	Conserve the beech forests ecosystems through effective and active measures, which is not only including their protection, care and maintenance, but further refers to their presentation and transmission beyond the boundaries of the property.
Capacity-building	Cooperate with any kind of stakeholders and relevant actors connected to the component part(s) on all levels by increasing knowledge (exchange), skills and behaviour to improve different management approaches as well as structures and processes to achieve a sustained, mutually beneficial standing of the beech forests in their spatial and thematic context.
Communication	Strengthen the appreciation and increase the awareness of the broad public for the beech forest heritage, its values and need to conserve it through education and information programmes.
Community	Enhance the role of communities in the implementation of the objectives of the WH convention in the context of WH beech forests and encourage the local population to participate in the conservation of 'their' beech forests heritage by empowering its role in the community life.

Apart from the main strategic objectives of the WH Convention, there are further requirements that need to be fulfilled by the management of WH component parts. Among those is the general requirement of a WH site as model region, to contribute to sustainable development, which not only refers to the direct surrounding of a component part (buffer zone) but also to the regional landscape matrix, including its cultural and socio-economic setting.

In addition to that it is important to acknowledge for all component part managers that their management contributes to the maintenance of the OUV of the serial transnational WH property as a whole. In this context component part management further comprises responsibilities and obligations for joint monitoring, periodic reporting, reactive monitoring and participation in meetings as well as for the provision of information to the coordination office (e.g. on certain developments and activities concerning the OUV of the property or the state of conservation of the component part).

Further requirements resulting from the WH status include the integration of ecosystem approach principles in their management to protect the ongoing evolutionary and natural dynamic processes (OUV) and the biological diversity of the beech forests.

Of high importance is climate change as one of the principle threats to the beech forests in the WH property. It should therefore be considered in management, monitoring and reporting.

When it comes to specific requirements for improved management quality the following table (Table 2) summarizes the identified thematic categories of management quality of WH sites and the resulting implications for WH beech forest component parts.

Table 2: Categories of specific requirements for WH management quality and implications for WH Beech Forest management

Categories of specific requirements for improved WH management quality	Implications for the management quality of WH beech forest component part

1. Priorisation of component part integrity	• Focus on ecological integrity and functioning of WH beech forests.
	  ○ Clearly define the OUV as central element of protection and management system.
	  ○ Manage buffer zones adequately (support natural dynamics, e.g. increasing dead wood volumes) and monitor threats.
	• Ensure sustainable land use and implement restrictions.
	  ○ Support sustainable land uses contributing to well-being of communities (see also category 10), while ensuring that any use does not impact OUV and apply adequate measures such as restrictions.
	  ○ Ensure that logging is strictly prohibited inside the property and prevent logging operations in the buffer zones if they could negatively impact the OUV.
	• Address climate change.
	  ○ Integrate climate change adaptation strategies in conservation target setting; Increase ecosystem resilience and reduce other pressures and threats.

2. Spatial setting and design	• Ensure delineation and size of property.
	  ○ Ensure the reflection of spatial requirements of beech forest habitats, connected species and ecological processes that provide the basis for the OUV.
	  ○ Include sufficient areas adjacent to the area of OUV in order to protect the property's values from direct effect of impacts from resource use outside the property.
	• Ensure adequate buffer zones.
	  ○ Clearly explain how the buffer zone protects the property.
	  ○ Place legal and/or customary restrictions on its use and development.
	  ○ Use the buffer zone as tool to enhance mutual benefits of local and other communities and the beech forests themselves.
	• Manage for component part connectivity.
	  ○ Reflect cultural, social or functional links over time that provide, where relevant, landscape, ecological, evolutionary or habitat connectivity.
	  ○ Improve the ecological connectivity between component parts across the property as well as for greater connectivity across the whole beech forest network.

3. Time frame	• Apply a long-term perspective for management planning. ○ Ensure effective protection of the property and well-being of present and future generations by a long-term perspective in all processes of decision-making (e.g. regarding climate change and other environmental changes).
4. Legal and regulatory framework	• Ensure an adequate protection context.

	○ Implement adequate legislative, regulatory, institutional and/or traditional protection of the property from social, economic and other pressures or changes on national, regional, municipal, and/or traditional level. • Engage for political support and supporting legislation. ○ Raise awareness about urgent topics affecting the WH property and mobilise political support and catalyse international debate and policy development for topics that apply for a wider region and/or that are beyond the scope of the component part. • Ensure strict protection regime of property. ○ Prevent commercial and illegal logging inside the property and reduce logging in buffer zones by legal provisions. • Act within existing legislative and regulatory frameworks on (inter-) national and regional level, including the WH Convention and according WHC decisions.
5. Strategic management planning	• Apply an integrated approach to planning and management beyond the property and its buffer zone, including the broader setting (e.g. topography, natural and built environment, infrastructure, land use patterns, spatial organisation, visual relationships, social and cultural practices, economic processes and other intangible dimensions of heritage such as perceptions and associations). ○ Incorporate traditional practices, existing urban or regional planning instruments, and other planning control mechanisms. ○ Elaborate management plans for each component part or specific sections on its management in existing protected area management plans. • Provide an impact assessment of proposed development, including environmental, social and economic impacts (e.g. from tourism). • Include vulnerability analysis and risk management. ○ Assess the vulnerability of the component part to social, economic, environmental and other pressures and changes. ○ Identify, assess and monitor risks and reduce underlying risk factors. ○ Develop and implement climate change adaptation strategies and proactively plan for other potential risks (e.g. increasing visitor numbers and tourism development). • Establish an adequate monitoring system. ○ Participate in the process of reactive and periodic monitoring. ○ Monitor natural parameters that describe the OUV inside the component part in a periodic, systematic, and uniform investigation; include monitoring of risks in the buffer zone. ○ Monitor the management (effectiveness) of the component part.
6. Research and knowledge management	• Participate in cooperative research and knowledge sharing. ○ Participate in cooperative and transnational research programmes and projects (incl. inventories, responses to climate change, research on natural forest ecosystems). ○ Participate in international cooperation and knowledge sharing in the context of: ▪ Mitigating impacts from natural disasters affecting WH properties and reducing vulnerabilities on lives, properties and livelihoods;

	▪ Advocating relevant climate change research, by influencing and supporting relevant partners; ▪ Catalysing the international debate and obtaining public and political support for policies to mitigate climate change; ▪ Communicating best practices in vulnerability assessments, adaptation strategies, mitigation opportunities, and pilot projects. o Contribute to the establishment, maintenance and updating of a knowledge sharing platform to inform the public and to exchange information between the component parts. o Engage in cooperation with other component parts, mutual learning and networking.
7. Institutional capacity	• Ensure adequate human resources. o Analyse human resource (regarding numbers, abilities, knowledge and skills) to identify shortcomings and needs for capacity building and staff development programmes. o Participate in adequate training programmes, exchange among specialists and joint capacity-building strategies. • Ensure financial sustainability. o Demand sustainable funding commitments to safeguard consistent site management at component level.
8. Governance	• Contribute to the Integrated Management System (IMS). o Represent the component part in the National Steering Group. o Appoint and support thematic experts (and their tasks) and engage the Integrated Management Panel in management by participating in the requested activities such as the periodic reporting. • Pursue a partnership approach in component part governance. o Closely collaborate with local communities, indigenous peoples, governmental, non-governmental and private organizations and owners. o Promote and encourage active participation of the communities and stakeholders. • Fully respect and engage all stakeholders. o Ensure that gender-rooted traditional practices in relation to access or participation in management mechanisms receive full consent among all involved groups through transparent consultation processes that fully respects gender equality.
9. Education and Communication	• Present the component part as part of a serial transnational World Heritage property. o Develop a comprehensive site presentation and interpretation programme for visitors (e.g. signage, trails, notices, publications/guides, museum, exhibition, visitor centre etc.) o Use the World Heritage emblem and official logo(s). • Support education and awareness raising activities on the value of Natural World Heritage and the need to preserve it (in global terms as well as site-specific).

	• Increase the understanding and appreciation of the role of Natural Heritage for the life and well-being of the local and wider community.
	• Communicate implications of climate change.
	  ○ Raise awareness about the impacts of climate change upon World Heritage and to communicate best practices in vulnerability assessments and adaptation.
	  ○ Highlight the threats from climate change to Natural Heritage and demonstrate management actions that to meet such threats both within the properties and in the wider context.

10. Community development and well-being	• Give the WH beech forests a function in the life of the community.
	  ○ Maintain ecosystem services and other benefits contributing to the quality of life and well-being of local communities.
	  ○ Support a variety of ongoing and proposed uses that are ecologically and culturally sustainable.
	• Actively participate in sustainable community development by taking into consideration the principles of inclusive social and economic development, pursuing a rights-based approach, fostering peace and security and safeguarding gender equality.

11. Tourism and visitor management	• Ensure sustainable planning and management of tourism as driver for preservation and conservation of WH beech forests and vehicle for sustainable regional development.
	  ○ Thoroughly assess potential impacts on the OUV prior to any development of tourism facilities.
	  ○ Develop a comprehensive tourism management plan or a sustainable tourism strategy, including a set of measures to address the tourism pressure on the beech forest ecosystem.
	• Consider providing visitor facilities, including interpretation and explanation tools (signage, trails, notices or publications, guides); museum/exhibition devoted to the property, visitor or interpretation centre; and/or potential use of digital technologies.

3. Conclusion for the management of the target areas

3.1. General requirements for improving management quality

3.1.1. Meet the requirements of the WH Convention

As a matter of course component part management works within the framework of the WH Convention and must meet according requirements. Hence all objectives, strategies and decisions must comply with the WH Convention. This is especially challenging concerning the goal of achieving sustainable development. On the one hand, all land use and strategies for economic development, such as tourism, must not compromise the integrity of the WH property. On the other hand, conservation and management strategies must in turn also adequately account for the well-being of local communities.

3.1.2. Manage for sustainable development at a larger scale

Achieving sustainable development will require acting at a scale that is much larger than the property itself and, in the process, some dimensions of sustainable development may prove to be of greater relevance than others [6]. WH properties may act as model regions for sustainable development setting standards for best practice and catalysing wider change rather than falling victim of it [6]. For this it is important to apply an integrated management approach beyond the property including any buffer zone(s), as well as the broader landscape, cultural and socio-economic setting [7].

3.1.3. Act self-responsibly as part of the serial WH site

Component part management must acknowledge at all times to be a self-responsible part of the serial, transnational WH site and managers are expected to act accordingly. It must be clear, that the series as a whole and not necessarily the individual parts of it are of Outstanding Universal Value [7] to be maintained. All component parts are expected to at least participate in obligations for monitoring, periodic reporting and reactive monitoring coordinated by the overall coordination body of the serial WH site [7]. Component part authorities are expected to self-responsibly report exceptional circumstances or work undertaken which may have an impact on the OUV of property or the state of conservation to the coordination office of the WH site [7]. Moreover, component parts should actively contribute to the improvement of collaborative management of the serial site.

3.1.4. Apply the ecosystem approach

Component part managers should promote the integration of ecosystem approach principles into all stages of planning and management of WH sites [8]. They are intended to safeguard the ongoing evolutionary and natural dynamic processes to preserve the entire biological diversity of the beech forests [9].

3.1.5. Consider climate change in all aspects of management

Climate Change is one risk among a number of challenges facing World Heritage sites. This threat should be considered in the broader context of the conservation [10] of the component parts as well as of the serial WH site. Climate change must be considered in all aspects of managing, monitoring and reporting on the status of the properties [11]. There is the possibility to ask assistance/guidance from the WH Committee (WHC) to implement appropriate management responses to face the threats posed by climate change [10].

3.2. Specific conclusions for the management of the target areas

The main challenge to the management of this exceptional WH site is that it has to fulfil the highest requirements in terms of conservation of the component parts and also of their function regarding the strategic objectives of the WH Convention in very diverse settings. The project target areas show a great heterogeneity regarding their current management (and effectiveness). Some of the component parts are included in large National Parks (NPs), which have a long conservation history, well established protected area management systems and considerable resources (e.g. Kalkalpen NP and Paklenica NP). Several component parts are located within different, overlapping protected area systems, which can lead to contradictions and conflicts regarding different objectives that need to be solved. The example of the surrounding of the buffer zone of Grumsin, for instance, shows that in some cases opposite goals exist, e.g. for agricultural areas. The objective of the Biosphere Reserve (BR) has a focus on conserving the cultural

landscape and the best possible protection of the WH beech forests would rather target a management towards increasing the forested area in their close vicinity.

The component parts in Slovenia, although very well preserved by forest management decrees, are in the process of being integrated in official protected area systems. For the component part of Grumsin it took almost ten years to considerably increase the personal resources particularly responsible for the WH component part. In Slovakia, the component parts have the longest history as parts of the original nomination in 2007, and recently finalized a long process of re-zonation and stakeholder negotiations and still need to clarify the different responsibilities of the concerned public authorities and Ministries.

Nevertheless, existing legal frameworks are able to secure the conservation of the property and the nominated component parts, with only few concerns identified in the IUCN WH Outlook 2020 [3]. However, the management has further objectives besides the conservation of the beech forests, their integrity and OUV. These additional objectives include the coordination of activities, as e.g. mobilization of public resources, awareness raising campaigns, education activities, research, monitoring and reporting, knowledge exchange, etc.

Moreover, the quality and implementation efficiency of the IMS depends on the involvement of component part managers and relevant stakeholders [9]. However, the relationship with local stakeholders as well as effectiveness and degree of their involvement in management varies across the different components of the property. What is more, in some component parts there is almost no exchange on the regional and local level (e.g. experts and stakeholders) of the counties, municipalities and villages with other component parts of the serial WH property.

Integrated Management Panels are only established for several components and need to be fully operationalized. However, in many cases stakeholders are already involved in the management of larger NPs within which the components or buffer zone of the property are located [9].

All component parts of the WH site are facing current and potential risks. Accelerating climate change requires appropriate buffer zonation and management. For managing growing visitor numbers there is a need for improved regulation, demarcation, control and infrastructure (e.g. official entrance, parking lots, information centres, etc.). There is a need for tailor made solutions for each component part in order to meet the mentioned challenges.

There is a need for a management support tool for management teams of WH component parts that helps to fulfil the demanding and challenging requirements of WH sites and to increase their knowledge, as well as knowledge and information exchange and mutual learning with other management teams.

The further development of the management quality of the involved component parts can build on a variety of opportunities and best practices already implemented in a number of component parts and related protected areas.

Regarding the requirements for good management based on the WH relevant documents, the target areas are to a large extent fulfilling the main categories and related implications referring to the protection of the integrity of the forest ecosystems and the OUV of the WH site.

The key stakeholders have been identified and consulted in the target areas. The majority of the WH property area is publicly owned and managed by public entities. In privately owned areas strict protection of the areas is guaranteed by legal contracts. The maintenance of relationships with local people is envisioned through the implementation of Integrated Management Panels for stakeholder participation [9].

The target areas are either within the process of preparing the management plans for the component parts or recently finalized these - in the case of the Slovak component parts this procedure was flanked with the official re-zonation and re-nomination process.

Good practice in terms of making use of additional funding sources have been reported from Hainich NP (DE), where the management joined forces with a cultural WH site (Wartburg) in the region and participated

in an official federal state (Thuringia) competition. The application with the concept of a 'WH region' was successful and led to significant public funding for further cooperation and promotion of the region including both WH sites.

From other component parts, in this case from Kalkalpen NP, several best practice examples in effective management can be considered by other component parts: partnerships with local guesthouses are established to support tourism in the region. Additionally, regional added value is promoted by the NP in terms of promoting sustainable regional products. Furthermore, target group oriented communication is being applied.

The already mentioned example of Grumsin showed that it paid off to continuously demand additional human resources for the BR management explicitly for the WH component part, as recently three new rangers were hired, and an additional person for education and sustainable development.

Another good practice example is the establishment of local entities, e.g. associations that dedicate themselves to the support of their component part(s) (management). The "World Natural Heritage Beech Forest Grumsin" registered society initiated the development and application of the BEECH POWER project, thereby generating further positive effects on the management of the WH site on interregional level.

In this context the BEECH POWER project has the aim to support the further development of management effectiveness in different fields by implementing best practice examples and initiating respective pilot activities. Such measures are included in related objectives and strategic actions with reference to other tools and strategies developed in the project. Here, they comprise:

- Implementation of local working groups, Integrated Management Panels,
- Strengthening stakeholder involvement and conflict management,
- Risk and vulnerability analysis,
- WH knowledge transfer and further communication measures,
- Sustainable forest management guidelines (handbook),
- Fostering the exchange between communities from the surroundings of other component parts and
- Development and implementation of regional marketing strategies.

This strategy complements the development of the *Code of Quality Management for WH Beech Forests (handbook)* to provide a comprehensive tool for the WH property to assess the management quality of the component parts to identify shortcomings and develop strategies for its improvement.

4. Strategy for the improvement of management quality in the target areas

4.1. Vision

The management of the component parts in the target areas effectively contributes to the overall goal of protecting the integrity of the beech forest ecosystems and the OUV of the entire WH property. The quality of component part management further reflects the general objectives of a natural WH site regarding its function of a model region in terms of contributing to regional ecosystem-based sustainable development, support and involvement of stakeholders as well as awareness raising and education on old-growth forest conservation and related topics, beyond the borders of the property and buffer zones.

The WH site is a serial transboundary property consisting of multiple component parts it can be considered a net(work). For highest effectiveness this network needs strong knots (JMC, national steering groups, regionally anchored component parts), thick lines (functional communication and cooperation) and high density (stakeholder involvement).

4.2. Objectives and strategic actions

Strategy objectives are formulated in order to achieve the vision for the improved management quality of individual WH component parts and their surroundings and thereby strengthening the overall WH property network. The formulated strategy objectives incorporate the requirements of WH sites regarding capacity-building, communication and community empowerment.

The previous analysis of requirements for good management quality of WH beech forests that has been developed in the frame of the BEECH POWER project, indicates that the main focus of management is on the protection of the integrity of the beech forests within the component parts, followed by appropriate zonation and legal frameworks as main prerequisites. The regional studies that have been conducted in the project target areas reveal that the current management regimes have this focus, and to a great extent meet the related objectives. However, the regional studies also show that the main objectives for this strategy need to consider additional requirements for WH beech forest management quality. As indicated above, the sample of the project target areas analysed in the regional studies represents the high complexity and diversity of the component parts of the entire WH site, in terms of size of component parts and buffer zones, protected area system, available resources and experience, which is taken into consideration for the formulation of objectives.

For this reason, the objectives include a number of strategic actions, which can be implemented chronologically, if applicable – meaning that not all strategic actions are relevant for all component parts.

4.3. Strategic actions and activities to improve management quality and effectiveness

Objective 1: Strategic, integrative, ecosystem-based adaptive management planning following the principles and criteria of the CQM is the basis for component part management to ensure the integrity of the component part and the protection of the OUV.

Strategic action 1.1: Introduce and consolidate management planning for the component part applying a strategic, adaptive and proactive ecosystem-based management approach

To ensure effective management each component part or component part cluster must have a management plan or at least a specific section in an incorporating protected area management plan. A broad range of good practice guidance for management planning of protected areas in general and natural WH sites in particular already exists and can be used to support this process, e.g.:

- Managing Natural World Heritage – World Heritage Resource Manual [12];
- Enhancing our Heritage Toolkit No. 23: Assessing management effectiveness of natural World Heritage sites [13];
- MARISCO - Adaptive Management of vulnerability and Risk at Conservation [14]
- Open Standards for the Practice of Conservation [15];
- Management plans for World Heritage Sites – Guideline for practice [16];
- Principles of climate change-robust conservation management [17].

The *Code of Quality Management for World Heritage Beech Forest* will also give guidance for management planning and support managers with the initial elaboration and continued adaptation of the management plan, especially with regard to setting management goals and developing a monitoring system.

The Conservation Standards [15] with their supporting 'MIRADI' software offer a detailed guide through all necessary steps of strategic conservation management planning. Likewise, the MARISCO method [14] and the planned supporting software guide management planning but with a more pronounced focus on vulnerability and risk management. Both pursue an ecosystem-based management approach prioritising ecosystem functionality and resilience. It is advisable to follow the *Principles of climate change-robust conservation management* [17] in component part management planning.

Component part managers are recommended to consult with the coordination office and other component part mangers to identify best practice examples for management plans, which should be shared among the WH component part managements to be used as guidelines by those who are still developing their management plans.

Specific activity 1.1.1: Define an adequate management scope

The management scope is the geographical delineation of the management area. It defines the spatial dimension in where management actions are implemented or for which (most) management goals are set. The management scope can include one single component part or a cluster of component parts depending on the geographical and administrative setting. It makes sense to consider a cluster if managed by the same entity. Although all component parts are designated WH sites and in most cases embedded in existing protected areas, this area is often based on socio-political factors or economic reasons and most likely to be insufficient to ensure ecological integrity of the component part. Human impacts occurring in the wider landscape may influence the component part and its integrity. Management must take into account the ecological processes beyond the borders of the component part as well as threats and opportunities arising in the wider landscape. Thus, the definition of the management scope should be guided by a landscape perspective that puts the site in a wider context [7][12][14]. It should therefore comprise sufficient areas immediately adjacent to the component parts and their buffer zones that affect or may affect CP integrity and CP management by human encroachments and impacts of resource use outside of the nominated areas and that is in turn affected by CP management [12][14]. This can include several more or less neighbouring landscape forms, ecosystems and land use types as well as diverse groups of stakeholders with their places

of residence and spaces of action. The definition of the management scope might be guided by geographical and/or ecological delineation such as watersheds or ecoregions. The following questions may guide this process (extracted from the MARISCO handbook [14]):

- Is the existing area coverage of the site large enough to allow for the effective functioning of the relevant ecosystems?
- Does the projected scope take into account wider landscape features or ecosystems that may influence the biodiversity of the existing site?
- Does the area coverage of the current scope ensure/ support the existence of a viable population of an important species?
- Does the scope include relevant stakeholders and/or communities close to the conservation site?

Additional to the direct area of management activity the management scope of WH BF component parts also includes other areas of responsibility beyond the official mandate of PA managers. Management should also take action and effect on the level of the serial WH site that the component part belongs to and for the European beech forest ecosystem in which it is embedded.

Besides taking a landscape approach, management should also apply a long-term perspective to all processes of decision-making for WH BF component parts [6][7]. Especially with regard to climate change and other environmental change, long-term perspectives are highly applicable.

Specific activity 1.1.2: Define management goals and targets

The overarching and uncompromising goal of WH BF component part management is the

> "Effective protection of the ecological integrity and the Outstanding Universal Value of the component parts of the serial WH site *Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe* for present and future generations".

The *Code of Quality Management for WH BF* component parts provides five main principles for component part management building on five values that should be generated or maintained by component part management. Each principle is underpinned by several criteria. The principles and criteria can guide goal and target setting for component part management. The criteria can be considered management objectives representing the range of values for which the component part is managed [18]. In order to maintain ecological integrity of the component parts, climate change as a global impacting factor should be addressed in conservation and management. Building resilience to climate change by reducing other pressures and threats, and developing and implementing climate adaptation strategies [19] should be integrated in conservation goal setting.

Specific activity 1.1.2: Analyse the situation, vulnerabilities and risks

For each component part of the WH site a comprehensive and coherent situation and vulnerability analysis and risk assessment should be conducted, concerning social, economic, environmental and other pressures and changes. It is essential to provide for the systematic assessment of environmental, social and economic impacts of all proposed interventions and developments [6][7]. Especially concerning the impact of tourism, the World Heritage Committee encourages the thorough assessment of its potential impacts on the OUV prior to any development of tourism facilities [5]. This exercise is targeting the identification of ecosystem stresses reducing the functionality of forest ecosystems within the component part and buffer zones, related threats that cause the stresses and underlying factors leading to these threats. It is recommended to apply the approach of *Adaptive Management of vulnerability and Risk at Conservation sites (MARISCO*)[14].

Specific activity 1.1.3: Develop effective strategies to maintain and enhance forest ecosystem functionality

To continuously reduce stresses, threats, and underlying risk factors, the approach allows for the development and implementation of adaptation strategies and proactive planning for potential risks (e.g. increasing visitor numbers, tourism development and, most prominently, climate change). These strategies should incorporate the improvement of the management and design of the buffer zone and target sustainable land use and a supportive ecological landscape structure in the surrounding landscape matrix. Climate change adaptation strategies need to be developed and implemented for properties at risk of climate change impacts [19]. Likewise, other risks and potential negative influences must be proactively planned for, for example the increasing visitor interest or tourism development in the component parts of the serial WH site [20]. In addition, strategies to achieve higher level goals, such as the protection of European beech forest, must be considered in planning.

Further details on specific strategies of different working fields are provided in the set of strategy papers and guidelines developed in the BEECH POWER project:

- BEECH POWER Participatory strategy development for WH BF sites in Germany, Slovenia and Croatia (D.T1.2.1)
- BEECH POWER Governance strategy I – Activating and involving regional stakeholders in participatory planning processes (O.T1.1)
- BEECH POWER Governance strategy II – Integrating natural heritage in regional and communal sustainable development (O.T1.1).
- BEECH POWER Marketing and communication concept for World Heritage Beech Forest Grumsin (D.T1.3.8)
- BEECH POWER Marketing concept – Component part Krokar (D.T1.3.8)
- BEECH POWER Marketing concept – Component part Snežnik (D.T1.3.8)
- BEECH POWER Strategy for conflict management in buffer zones of WH Beech Forests (O.T2.2)
- BEECH POWER Strategy for the active involvement of stakeholder in WH Beech Forest buffer zone management (O.T2.1)
- BEECH POWER Guideline for ecosystem-based forest management in landscape conservation buffer zones of WH Beech Forests (D.T2.3.3)
- BEECH POWER Strategies for ecosystem-based forestry practices in buffer zones of WH Beech Forest PAs (O.T2.5)
- BEECH POWER Strategies for visitor management and knowledge transfer in buffer zones of WH Beech Forests PAs (O.T2.3)

Specific activity 1.1.4: Conduct operational planning and implementation

In order to implement the planned strategies and activities they need to be translated into practical and concrete tasks. For this, required resources – time, money, human resources, infrastructure, and equipment – as well as the specific responsibilities within the managing entity must be defined [14][18]. Financial planning is very important – you need to define the expected costs and find ways to meet those costs [12]. There are practical guidelines and templates available for this step, e.g., Conservation Standards [15].

Specific activity 1.1.5: Establish an adequate monitoring and evaluation system.

Each component part (cluster) and/or respective PA must implement a monitoring system, not only to participate in the process of periodic monitoring[1], but also to include monitoring of (potential) risks in the component part itself, the buffer zone and the wider landscape matrix. Monitoring also needs to cover the management (effectiveness) of each component part.

A good monitoring system acts as an early-warning system, informing managers about significant changes in the system, potential strategy failures and the loss of functionality in the component part and buffer zone. Ideally, the system begins monitoring problems before they manifest or become significant, which requires early risk horizon-scanning [14].

One of the objectives of the current coordination office of the WH site is the implementation of a coherent and comprehensive monitoring system for the whole WH property. Component parts should therefore proactively communicate their monitoring activities to the coordination office and further participate in and contribute to information and knowledge exchange with the coordination office and other component part managements regarding the development of a joint monitoring system.

Strategic action 1.2: Evaluate and adapt management planning

Specific activity 1.2.1: Evaluate management effectiveness and goal achievement

Based on the monitoring system the effectiveness of management, i.e. the achievement of management goals, should be evaluated frequently. The *Code of Quality Management for WH BF* provides an assessment tool to evaluate intended management results that can support this activity. Besides looking at management activities, also the effectiveness of regulations and the official delineation of borders must be evaluated regularly.

Specific activity 1.2.2: Adapt management planning (goals, strategies, activities)

According to the results of the evaluation of management effectiveness management planning needs to be constantly adapted. Also, if there are new knowledge or new framework conditions arising for the component part, an according adaptation of management planning becomes necessary. That includes adjusting general goals, specific targets, strategies and concrete activities but also personnel, tools or resources applied. It also may include the adjustment of set borders such as for the buffer zone, if their effectiveness is not given or decreases under changing circumstances.

Objective 2: Management ensures an adequate, coherent and consistent legal and regulatory framework to assure the protection of the component part from social, economic and other pressures or changes negatively affecting the OUV for the long term.

Strategic action 2.1: Identify and monitor (potential) impacts, opportunities, risks and shortcomings of the existing legislative framework for component part management

In order to fulfil the requirements with regard to the legal framework for component part protection those responsible for component part management have to be and stay on existing legislation and regulations on different levels. The initial and regular exploration as well as a continuous monitoring of relevant

[1] monitoring of natural parameters that describe the OUV inside the component part in a periodic, systematic, and uniform investigation

developments of the legislative framework is an important task in component part management. This includes the identification of chances and opportunities provided by the existing legal framework as well as (potential) deficiencies and gaps in or with existing legislation and regulations that directly or indirectly compromise the protection of component part integrity. In addition, a possible or potential contradiction between existing legislation and regulations, e.g. nature conservation and forestry [13] should be revealed since it also might compromise component part management

Specific activity 2.1.1 Examine relevant national legislation

Identify and monitor (potential) impacts, opportunities, risks and shortcomings of the existing national legislation for component part management. This covers primarily the directly related regulations and policies with focus on forests, conservation and land use, but also those with less direct relation such as for land development, spatial planning, mobility and transport or infrastructural development. The analysis could also include the question on the role of natural WH sites within national policies and strategies and to what extent the legal potential is already being used or could be used further.

Specific activity 2.1.2 Examine relevant international legal requirements

Component part managers must be aware on any international legal requirements and protection regimes that (can) have an influence on the component part. This can include Biosphere Reserves within the UNESCO MAB Programme or directives of the European Union such as the Birds and Habitats Directives and the associated Natura 2000 network. Those frameworks might be supportive of component part management or pose conflicts to it.

Specific activity 2.1.3 Examine regional and local regulations and agreements

Identify and monitor (potential) impacts, opportunities, risks and shortcomings of existing legislation on the local and regional level for component part management. This can include legislation and regulations with direct relevance for the component part and its buffer zone, for example provisions for forest management, conservation, or the official delineation of the component part and its buffer zone. Equally, regulations with regard to regional development and land use in the surroundings of the component part should be covered here.

Strategic action 2.2: Account for opportunities of the legal framework and supportive legal requirements in component part management

Specific activity 2.2.1: Adapt management to supportive legal requirements

Good management of Natural WH requires acting within existing national and regional legislation. For component part management that means that all goals, strategies and activities should comply with the existing legislative and policy frameworks [20]. In most cases legal provisions may directly support the OUV and according strategic goals of component part management or might at least bare opportunities for effective component part management. In case of requirements that stand in conflict with the strategic goals of the component part it is advisable to (re-)enter in *specific activity 2.1.1* and/or continue with *strategic action 2.3*.

Specific activity 2.2.2: Adapt component part management according to (general and) site-specific WH requirements and directives

WH-related requirements arise on two levels. Firstly, there are general WH requirements set by the WH Convention and Committee. That means that management of individual component parts must comply with

all WH policies and the operational guidelines. Although it is useful to be aware of those requirements, they rather apply to the entire serial WH site and its coordinated management. However, most requirement are reflected in more site-specific requirements and directives such as WHC decisions ore JMC agreements. This is the second level and more relevant to individual component parts. Hence, component part management must account for decisions and demands of the WH committee, which are often related to State of Conservation and other reporting. Those decisions may relate to specific component parts or component clusters as well as the whole serial WH site. Further component parts should recognise and follow agreements and guidelines decided by the JMC as the main organ of decision-making and management for the serial WH BF site. This includes the Joint Declaration of Intent, the Integrated Management System as well as the Guidance Document on buffer zone management and buffer zone zonation [21]. Some state parties have specific guidelines or even legal provisions for (natural) WH site management at national level, which should be followed for greater consistency – provided there are no conflicts and contradictions with other relevant provisions.

Strategic action 2.3: Advocate for adaptation of the legislative framework in order to reduce or eliminate risks and conflicts and address deficits

All component parts need an appropriate protection context [20] meaning an adequate long-term legislative, regulatory, institutional and/or traditional protection of the property from social, economic and other pressures or changes that might negatively impact the Outstanding Universal Value, including the integrity of the property [7]. It also means adequate protection at the national, regional, municipal, and/or traditional level for the property [7] are in place, sustained and implemented. Legislations, policies and strategies affecting World Heritage properties should not only ensure the protection of the Outstanding Universal Value, but should at the same time support the wider conservation of natural and cultural heritage, and promote and encourage the active participation of the communities and stakeholders concerned with the property. These are seen as necessary conditions for its sustainable protection, conservation, management and presentation [7]. In order to comply with this requirement component part management must ensure the legal and regulatory framework is adequate for the conservation and management of the component part and advocate adaptations if necessary.

Specific activity 2.3.1: Advocate for adequate protection of the WH property and BZ

In order to protect the OUV adequate protection of the component part and its buffer zone is necessary. For the property itself a strict non-intervention protection regime must be installed and enforced [9]. For the BZ adequate protection and regulations of land and resource use as well as development need to be implemented in order to guarantee its buffering function [7]. Preventing commercial and illegal logging in the property and reducing logging regimes in buffer zones by legal provisions are the most serious topics to be tackled by component part management [20][22][23], although logging is and remains strictly prohibited within the property [24]. If necessary adequate protection and regulations are not in place yet or unsecure, component part management must ensure that these requirements are elaborated, installed and implemented. This may include the establishment and/or further development of a legal protected area system. It might also include initiating and supporting the adaptation of the official delineation and size of the CP and BZ [12] if their effectiveness is not guaranteed or if circumstances change or the embedding protected area [18].

Specific activity 2.3.2: Advocate for a supporting legal framework for the surrounding landscape matrix

Advocate for an adequate framework of legal protection and regulations for sustainable use of land and resources in the surrounding landscape matrix serving the goal of CP integrity and protecting the OUV. The specific requirements on land use and conservation in the surrounding matrix result from the initial and

iterative analysis of the situation, vulnerabilities and risks as well as subsequent strategy development (*strategic action 1.1*).

Specific activity 2.3.3: Advocate for the protection of beech forests and old-growth forests in Europe

The WH status can be very useful as a means to raise awareness about urgent topics affecting Heritage sites, such as climate change, and to mobilise political support and catalyse policy development. WH sites are requested to catalyse the international debate and to obtain support for policies to mitigate climate change and to ensure that the results about climate change affecting World Heritage properties reach the public at large, in order to mobilise political support for activities against climate change [25]. Therefore, emphasise the importance of beech forest ecosystems and old-growth forests to political actors and decision-makers. Advocate for an adequate legal framework for the protection of and connectivity with other beech forests and old-growth forests in Europe. You may contribute to "lobbying" for more forest reserves and protection of old-growth forests individually on a regional/national level but also in a European context as part of the serial WH site. This includes also old-growth forests that are not designated World Heritage.

Specific activity 2.3.4: Advocate for adaptations in serial WH BF requirements and regulations

Even though regulations and requirements for the serial WH site are usually derived from policies associated to the World Heritage Convention or elaborated from within the site and agreed on JMC level, they might appear inappropriate or insufficient for individual component parts. In this rare case, component part managers can stimulate a reconsideration and/or adaptation of those regulations and requirements, first on the level of the site's coordination office and the JMC.

Objective 3: A comprehensive knowledge management system facilitates the (collaborative) generation, documentation, sharing and transferring of knowledge of all sources, including local knowledge, monitoring, information and academic research to inform and support decision-making and management planning of WH BF component parts.

Strategic action 3.1: Apply diverse knowledge from different sources, topics and formats to inform and guide component part management (planning) and decision-making

Specific activity 3.1.1: Identify knowledge needs, gaps, non-knowledge and knowledge deficiencies.

Management has to be grounded on appropriate information and knowledge in order to achieve the desired results. The management of a WH site component part encompasses many thematic areas that need to be underpinned with appropriate knowledge. It is therefore important to constantly increase and diversify the knowledge base with regard to all principles of the CQM. Working with existing knowledge in management planning, decision-making and monitoring might already reveal knowledge gaps and deficiencies or identify non-knowledge. In addition to this, it might be helpful to systematically search for and document knowledge gaps and uncertainties that hinder effective management, i.e. missing knowledge that would enable profound assessments or decision-making. This encompasses knowledge and non-knowledge of different topics, but also different sources, formats and levels of detail of knowledge within on specific topic.

Specific activity 3.1.2: Obtain, collect and apply necessary existing and available knowledge of different sources, topics and formats in management (planning) and decision-making

Identified knowledge needs and gaps must be addressed in order to facilitate effective component part management. In many cases, the required knowledge is already existent and needs to be discovered, collected and made available for effective management. Knowledge can exist in different forms and formats, can have different origins and histories, might come from different sources, sectors and disciplines and might be accepted differently. Knowledge may be gained from various existing and potential partners. It may be necessary to search for new sources of knowledge and/or to tap into known but unused ones. In order to fill revealed knowledge gaps, to facilitate planning and decision-making as well as monitoring component part managers might have to also contribute to generating new knowledge. On the one hand they could enter into new research activities and data generation with regard to the specific component part. They may also contribute to the (collaborative and coordinated) generation of new knowledge relevant for effective WH site and component part management by initiating and participating in joint research activities, implementation projects or other forms of knowledge creation. It is important to collect and document relevant knowledge in an appropriate way to facilitate, underpin and evaluate management planning and decision-making and make it comprehensive and accessible for all parties involved. For effective management, it is not only important to collect and generate knowledge, but also to recognise and make use of it in management planning and decision-making, e.g. to integrate it in situation analysis, risk assessment or strategy development. It is especially important to not only rely on one type of knowledge, such as scientific knowledge, but to also consider other types, formats and sources of knowledge such as traditional or local knowledge that might come in different formats like stories or songs [12].

Strategic action 3.2: Contribute to and participate in collaborative research, knowledge exchange and collective learning

Specific activity 3.2.1: Disseminate and share relevant knowledge to relevant partners

Knowledge on beech forests, their management and related topics that has been collected or generated by one component part may not only be relevant for management planning and decision-making of the specific area but also for other WH BF component part managers or other area managers with similar management goals (e.g. protected areas, old-growth forest managers). Also local and regional actors and stakeholders should be part of an active knowledge exchange and cooperation. It is recommended to share knowledge in a targeted way with partners, actors and other stakeholders of component part management and make it available for other interested and relevant parties (e.g. by publication or contribution to knowledge exchange platforms). For the protection of European beech forest in general it is also highly recommended to disseminate research and monitoring results and other kinds of knowledge with a wider audience e.g., national and international recipients, and other sectors (e.g. regional planning, agricultural sector).

Specific activity 3.2.2: Participate in knowledge exchange and coordinated cooperative knowledge management processes within the serial WH site

Participate in cooperative knowledge management in order to fulfil the obligations with regard to monitoring and reporting linked with the WH status and to contribute to proper coordination and governance of the serial WH site they are part of. Connect to other component parts by setting up communication channels and by contributing relevant experiences, knowledge, products, publications, concepts, best practice examples, maps or research results to the WH BF knowledge exchange platform[2]. Participate in collaborative training and capacity building through the exchange of specialists. Make use of the strong history of cooperation between State Parties participating in the serial WH site, to learn from component parts that

[2] Contact the Coordination Office of the serial World Heritage Beech Forest site for access

have been inscribed longer to avoid the same conservation issues elsewhere and to build upon the European Beech Forest Network as a useful initiative to network all beech forest in Europe [20]. To take knowledge exchange a step beyond the serial WH site, identify other WH sites (including cultural sites) in the region of the respective component part and set up partnership and cooperation formats.

Specific activity 3.2.3: Engage in collaborative research activities and projects

In the Joint Declaration of Intent for the serial WH site the state parties agreed to participate in cooperative and transnational research programmes and projects (incl. inventories, responses to climate change, research on natural forest ecosystems). This can be considered one core activity between component parts of the serial WH BF site but should not be restricted to this. You may thus contribute to this by initiating and participating in cooperative research activities, implementation projects or other forms of collective learning within the serial WH site. You may also initiate and contribute to research activities such as projects, joint publications or permanent cooperation with other research partners on local, regional, national or international level such as universities or national research institutes. It is recommended to identify relevant institutions in the region and set up cooperation on specific topics. In addition, the active cooperation with student's theses in the context of field research should be considered. Especially with regard to natural disasters and climate change, several WH policies and WHC decisions demand to strengthen international cooperation and knowledge sharing amongst WH sites but also with other partners that have responsibility, resources and expertise related to climate change [11].

Objective 4: Institutional capacities and resources are adequate and continuously developed for effective component part management.

Strategic action 4.1: Ensure adequate human resources (staff, skills, knowledge) regarding strategic, adaptive and proactive management planning and continuously develop them as needed for effective WH site management.

Specific activity 4.1.1: Analyse human resources needs, availability and deficiencies to plan and implement strategic component part management

The component parts should analyse their available human resources regarding quantity (How many people are working there? How many working hours are available for which topic?) and quality, i.e. abilities, competences, knowledge and skills [18]. Find out if available human resources are adequate to implement strategic management of the component part [13]. Examine if available human resources carry sufficient capacity to effectively deal with the various topics of WH component part management, such as

- integrated strategic conservation management
- adaptive management
- dealing with climate change and other risk management
- understanding WH Convention and concepts
- management and reporting of the serial WH BF site
- research & monitoring
- stakeholder involvement and community engagement
- sustainable regional development
- site interpretation and presentation
- communication, education & outreach
- assessing management effectiveness
- tourism & visitor management

- law enforcement
- administration and financial management including fund-raising
- international cooperation.

Current and potential deficiencies and needs for capacity building, training and staff development programmes should be identified within this exercise.

Specific activity 4.1.2: (Re)Allocate human resources for WH component part management

Make sure that human resource needs arising from strategic WH component part management are adequately met. One important step is to define clear responsibilities for WH management, for example by dedicating single staff or a whole department of the administrating management unit especially to WH component part management. Further, adequate human resources should be make available for all relevant aspects of strategic component part management. For example, a sufficient amount of and well-trained staff should be allocated to each of the principles and criteria of the *Code of Quality Management*. In order to meet identified needs, management might require different allocation and distribution of existing human resources (e.g., reallocate staff time to inadequately addressed topics [18], assign staff to more suitable working fields). It is also important to allocate an adequate number of staff to ensure feasible workload per person.

Specific activity 4.1.3: Develop capacities of human resources

Based on the results of the analysis of available human resources (4.1.1) specific development needs should be addressed at this point. Ensure adequate staffing and necessary expertise to sufficiently address management objectives and priorities for effective WH BF component part management. Further, the development of skills and knowledge of existing staff with regard to various topics embedded in component part management need to be addressed by adequate staff development programmes, trainings and other joint capacity-building measures.

This may include different formats such as webinars, conferences, language courses or exchange among specialists, for example between WH component parts. Besides capacity-building with regard to specific topics like climate change, regional sustainable development, monitoring or education also administrative and management expertise must be ensured among the staff. In particular, staff should be enabled to care for fund-raising and financial management. In this context, training in writing project applications should be provided to key staff members of the component part management teams alongside with the assessment of appropriate funding schemes that can be targeted for different purposes on regional, national and international level.

Strategic action 4.2: Ensure sufficient quantity and quality as well as adequate management of financial and material (equipment, infrastructure, facilities) resources to meet strategic management needs.

Effective management also depends on adequate material and financial resources. The WH Committee requests committed funding arrangements to safeguard consistent site management at component level [22]. Component part managers should therefore make their own efforts to manage and demand this.

Specific activity 4.2.1: Analyse the need, availability and use of financial and material resources

In order to adequately manage financial and material resources such as equipment, infrastructure or other facilities it is necessary to review their availability and make an objective evaluation of their adequacy and adequate use [13][18]. Is sufficient funding available for all activities and necessary staff? Are available resources such as equipment, facilities and infrastructure sufficient to meet management needs? Is the

current budget sufficient to management property effectively? Review the quantity of resources, e.g., budgets, equipment, infrastructure and quality of resources, e.g. budget distribution, condition of infrastructure, and find out where staff time and resources are being directed. Compare the level of resources available for management to estimated requirements [18]. From this analysis you can derive concrete resource needs that have not been covered and find ways to meet them.

Specific activity 4.2.2: (Re)Allocate financial and material resources

Financial and material resources must be (re-)allocated to match management objectives and priorities of the serial WH BF site as well as the specific component part and to address deficiencies effectively [12]. Resource requirements have to be identified with regard to the specific management goals and activities. Resources must be allocated or reallocated accordingly. It is important to allocate a sufficient amount of resources and staff for each of the principles of the *Code of Quality Management*. Further, appropriate cost reductions must be identified [12] to make resources available. Management might require different levels of specific inputs (e.g., more funding of staff, less for equipment) or different allocation and distribution of existing resources (i.e. reallocate resources to inadequately addressed topics)[18].

Specific activity 4.2.3: Demand and advocate for sustainable funding at federal and national level

Demand and advocate for sustainable funding arrangements and commitments dedicated especially for WH site management at federal and national level to safeguard consistent management of the component part.

Specific activity 4.2.4: Advocate for long-term support of the financial stability of the WH property

Advocate via the national level on the level of the JMC for long-term support of the financial stability of the WH property, for example by the creation of a WH beech forest foundation. This could be funded by the involved States Parties and should have the aim to fund different kinds of projects to strengthen overall management and the protection of the OUV and should help to implement the objectives of the UNESCO WH site in the regions surrounding the component parts.

Specific activity 4.2.5: Diversify the funding portfolio

Make sure that funding for component management comes from different sources apart from national/government funding to ensure a certain self-sufficiency. This may include fund-raising campaigns, site-based revenues from site presentation (e.g. entry fees), tourism, education activities or merchandise, local taxes, site-based funds, NGO or other third-party funds but also bilateral and multilateral aid, European funds or WH funding options and assistance [12]. Make sure that a substantial component of the revenue from economic benefits of tourism are returned to component part management activities [12]. Analyse and assess opportunities for public and private funding, such as calls for projects, competitions in your region, country, but also on international level. You may apply for (project-based) funding for a regional manager of the WH region (component part and surrounding region) to integrate different sectors and to support the development of additional project funding ideas together with the stakeholders. It is also helpful to establish partnerships and consortia concerning funding where appropriate.

Objective 5: A process of governance, local decision making and planning is contingent on a fully open, transparent, public and participatory partnership approach and effectively contributes to the overall coordination and governance of the serial WH site.

Strategic action 5.1: Contribute to the overall coordination and governance of the serial WH site following the Integrated Management System (IMS) and other specifications for the serial WH site.

Specific activity 5.1.1: Participate in organisational groups specified by the IMS

If not yet implemented, each component part should strive for being represented in the respective National Steering Group and ensure representation in the JMC. Furthermore, thematic experts (and their tasks) should be identified, appointed for and invited to actively participate in thematic working groups.

Specific activity 5.1.2: Keep active exchange with the bodies of the IMS and the coordination office

Keep regular contact and contribute to the active exchange with the bodies of the IMS and the WH site's coordination office.

Specific activity 5.1.3: Set up and maintain an Integrated Management Panel

Set up and maintain an Integrated Management Panel for stakeholder participation as specified in the IMS.

Specific activity 5.1.4: Participate in joint development of common WH BF management standards

Participate in and contribute to the joint development of common standards for governance and management of WH site component parts.

Strategic action 5.2: Follow the approach of good governance[3] in component part management effectively involving the whole range of stakeholders

Promote and encourage active participation and involvement of local stakeholders and closely collaborate with the regional population, local communities, municipalities and key stakeholders in the decision and implementation of management tasks and the development of the region where the component part is located. Pursue a partnership approach and fully respect and engage all stakeholders.

It is recommended to consult further guidelines such as:

- BEECH POWER Governance strategy I – Activating and involving regional stakeholders in participatory planning processes (O.T1.1)
- BEECH POWER Strategy for the active involvement of stakeholder in WH beech forest buffer zone management (O.T2.1)
- BEECH POWER Strategy for conflict management in buffer zones of WH Beech Forests (O.T2.2)

Strategic action 5.3: Engage in the governance processes of the surrounding region and embedding systems as a key actor

Specific activity 5.3.1 Engage in regional governance processes

Get involved in regional governance processes of the surroundings and embedding systems such as the surrounding region or nearby communities as a major actor and advocate for European beech forests in

[3] As defined in BEECH POWER Governance strategy I – Activating and involving regional stakeholders in participatory planning processes (O.T1.1).

general and the WH component part in particular. Actively participate in and contribute to regional development committees and decision-making processes.

Specific activity 5.3.2: Align approaches

Align your approach to regional sustainable development with relevant partners and actors. Identify other WH sites (including cultural sites) in the region of the respective component part and set up partnership and cooperation of different formats.

Objective 6: A coherent programme of education and outreach contributes significantly to the understanding, awareness and appreciation for beech forests and the serial WH site as well as the role of the individual component part therein.

Education is a broad field including all levels from early learners up to adult education and even research (e.g. at universities) as well as many other different forms. The serial WH site also has an educational mission set by UNESCO, which component part administrations should contribute to by communicating the values of World Heritage and European Beech Forests. There should be a priority on increasing old growth forest research and education throughout the whole of Europe.

Strategic action 6.1: Develop and engage in a broad program of delivery in environmental education on European beech forests, their values and contribution to human well-being across all levels of society

Specific activity 6.1.1: Actively develop and implement education activities for local recipients on the value of European beech forests and the need to preserve them

Component parts are encouraged to organise awareness-raising and education activities especially for the local communities in order to increase understanding and appreciation of the need and approaches to preserve European beech forests [7] and mobilise their active participation in component part management. Identify schools (e.g. UNESCO project schools) and kindergartens as well as further educational institutes in the regional surrounding of the component part to set up cooperation formats to include UNESCO WH topics (e.g. in school teaching) and to implement further WH beech forests-related educational programmes and projects. Develop material and concepts for education of the local population and stakeholders, as e.g. guided tours to the beech forests in the component parts. Connect also to wilderness educational instruments, e.g. offer guided tours, overnight stays in the forest. Make use of existing material with a focus on beech forests, e.g. *The World Heritage in Young Hands Kit*[4]. Train multipliers, especially schoolteachers and rangers to enable them to implement programs and courses with relation to WH beech forests and connected topics. For further ideas how to integrate the topic of WH beech forests in local education activities consult:

- BEECH POWER Governance strategy II – Integrating natural heritage in regional and communal sustainable development (O.T1.1).

Specific activity 6.1.2: Provide and support education on European beech forests beyond the local level

Provide and support education for a wide range of recipients at all levels also beyond the region around the component part, e.g., for forest managers, university students, protected area managers, tourism agencies.

[4] https://whc.unesco.org/en/educationkit/

This might include knowledge transfer of different formats like thematic workshops, lectures, field activities, excursions, conferences etc. Seek cooperation with other formal or informal education institutions [12] like universities, national forest services, forest academies etc. Integrate the component part in academic education as research and monitoring site, for excursions or teaching. Point out the importance of beech forest ecosystems and old-growth forests towards any institution directly or indirectly dealing with them including ministries within the same or of other European countries, regional authorities, policy-makers and non-governmental organisation.

Specific activity 6.1.3: Communicate implications of climate change

WH sites can be a means to raise awareness about the impacts of climate change upon World Heritage and to communicate best practices in vulnerability assessments, adaptation strategies, mitigation opportunities, and pilot projects [11]. Component part managers are advised to use the network of the serial WH site to highlight the threats posed by climate change to natural heritage and to demonstrate management actions that need to be taken to meet such threats both within the properties and in the wider context. The results about climate change affecting World Heritage properties must reach the public at large [25].

Especially with regard to natural disasters and climate change, several WH policies and WHC decisions demand to strengthen international cooperation and knowledge sharing amongst WH sites but also with other partners that have responsibility, resources and expertise related to climate change [11] aiming at

- mitigating impacts of major natural disasters affecting World Heritage properties and reducing vulnerabilities on lives, properties and livelihoods [26],
- advocating relevant climate change research, by influencing and supporting partners that are mandated to carry out such research [11],
- catalysing the international debate and obtaining public and political support for policies to mitigate climate change [10][11],
- communicating best practices in vulnerability assessments, adaptation strategies, mitigation opportunities, and pilot projects [11].

Strategic action 6.2: Develop and implement a programme of awareness-raising for the component part, its values, management requirements and contributions to local well-being amongst local and regional stakeholders

Specific activity 6.1.1: Inform the public on component part management decisions, activities and opportunities to participate

For regular information of local stakeholders and the general public on component part management decisions, activities and participation formats it is necessary to initiate and invigorate effective communication structures on local and regional level. Contact lists of all relevant stakeholders, institutions, responsible authorities on regional, national and international level could be elaborated and a communication manager may be appointed to maintain these. Relevant information should be conveyed via different formats appropriate to targeted recipient groups including public events, e-mail-lists, newsletters, social media or local press. Component parts and responsible PAs should provide publicly available information about the management (staff) regarding tasks and responsibilities, e.g. via their website. Since management does not only happen on local level but (being a serial WH site) also on a transnational level, the component part should make sure that also information of this kind (e.g. the coordination office newsletter) is transferred to local target groups in appropriate time frames and formats providing translation into the local language, if necessary.

Specific activity 6.2.2: Incorporate the topic into local education

For details how to integrate the topic of WH component part values and contributions in local education activities consult:

- BEECH POWER Governance strategy II – Integrating natural heritage in regional and communal sustainable development (O.T1.1).

Make use of specific education tools such as UNESCO's WH Education Kit[5]; UNESCO Associated Schools programme[6]; WH Volunteers Initiative[7] [12].

Also consider citizen science learning programs as part of local knowledge development, learning by doing, awareness raising and interpretation.

Specific activity 6.2.3: Emphasise contributions of the WH component part to the well-being of the local and wider community

Increase the understanding and appreciation of the role of the protected WH beech forests for the life and well-being of the local and wider community by the implementation of targeted information events and public relations work in the region (e.g. using thematic events: WH Day, day of the forest, etc.). Communicate and inform about the important ecosystem services and further contribution these forests provide for the local population and sustainable regional development.

Objective 7: Presentation, marketing and visitor management of the component part account for its management as part of the serial transnational WH site, are coherent and adequate to the sensitivity of the site

Strategic action 7.1: Implement a coherent visitor information and management system

In order to guide and control visitors taking account of the sensitivity of the site, a coherent visitor and management systems must be planned, implemented and constantly adapted to changing circumstances and needs. It must comply with existing regulations and requirements for WH Beech Forest such as the Buffer zone guidance document [21] and with the principles of the CQM.

For details on specific activities of visitor management in WH BF buffer zones and surrounding regions consult:

- BEECH POWER Strategies for visitor management and knowledge transfer in buffer zones of WH Beech Forests PAs (O.T2.3)

Strategic action 7.2: Present and market the component part and its management as part of the serial transnational WH site

Specific activity 7.2.1:Present the component part as UNESCO World Heritage

In all presentation and communication, it is important that properties present themselves as World Heritage and that visitors experience them as such. The use of the World Heritage emblem can be useful to further

[5] https://whc.unesco.org/en/educationkit/

[6] https://www.unesco.de/en/education/unesco-associated-schools

[7] https://whc.unesco.org/en/whvolunteers/

the aims and optimize knowledge of the World Heritage Convention. It can enhance the marketing value of products associated to the WH site. However, its abuse, e.g. for inappropriate unauthorized commercial or other purposes, must be prevented [7].

Specific activity 7.2.2: Present the component part as part of a serial World Heritage property

Make sure that in all information, presentation and interpretation facilities and activities the component part is presented as one part of a transnational, serial World Heritage Site. The use of the WH emblem and the official logo(s), e.g. the beech leaf, needs to be promoted and used. You may emphasise the significant role of the component part within this series, but above all acknowledge the affiliation and allegiance to the serial WH site in communication. You could also refer to other component parts and their specific values in your communication activities and materials. It is recommended to use templates provided by the coordination office as well as best practice examples from other component parts.

Objective 8: Component part management supports and contributes to community development and capacity-building as well as to the well-being of the local population within a framework of regional sustainable development.

The WH Convention requires the adoption of a general policy, which aims to give the cultural and natural heritage a function in the life of the community [27]. World Heritage properties may sustain biological and cultural diversity and provide ecosystem services and other benefits, which may contribute to the quality of life and well-being of communities concerned [7]. Management should therefore recognise the close links and interdependence of biological diversity and local cultures within the socio-ecological system of WH property as well as fundamental role of component parts for the resilience of communities [6] strengthening the ability to resist, absorb and recover from effects of natural hazards and climate change [6]. For this, component part management may support a variety of ongoing and proposed uses that are ecologically and culturally sustainable [7]. Supporting community development can contribute to the creation of regional ownership of and shared responsibility for the WH site [6]. Since state parties have agreed to participate in sustainable development in the adjacent areas of the component parts in the Joint Declaration of Intent this obligation must be adequately reflected in site-level management.

Strategic action 8.1: Ensure that the component part has a positive impact on the well-being of the local population and the sustainable development of communities

Specific activity 8.1.1: Explore and monitor the function of the component part for regional sustainable development

Analyse the role the component part plays or could play for the well-being of the local population and regional sustainable development, for example with regard to ecosystem services of different kinds or secondary benefits. Find out about human well-being in the region and (in) how (far) local stakeholders use and access the ecosystem services they need for their well-being. Also, assemble evidence of the socio-ecological and socio-economic benefits generated by these sites [12]. Identify needs and shortcomings of local human well-being and regional sustainable development as well as (potential) conflicts with component part management.

Specific activity 8.1.2: Develop and offer instruments to compensate, redress or re-establish lost revenues for local land users and communities due to component part management and regulation

Counteract the (potential) initial deterioration of community well-being due to protection and land use restrictions through appropriate measures and instruments. Provide compensation or redress for income losses and lost opportunities for local land users and communities. Support re-establishment of income and revenue and initiate the joint creation of alternatives and identification of new opportunities [7]. Those who profit from the WH site should be held accountable to make a fair contribution for implementing protective regulations [12].

Specific activity 8.1.3: Engage in regional sustainable development targeting community well-being

Component part management must contribute to safeguarding human well-being, especially of local communities. The component part not only provides basic ecosystems services for local communities and surrounding regions but may also contribute to human well-being in other ways. It is therefore useful to define, strengthen and promote the role of the component part for sustainable community and regional development and to initiate and actively participate in concrete activities supporting this process. Component part management can target the creation and promotion of additional benefits arising from the WH status. It might prove useful to promote the UNESCO WH Beech Forests brand as an image carrier in the region and opportunity for sustainable regional development. An important issue is to support communities and projects in the creation and maintenance of local jobs in favour of component part protection. Actively support ongoing and proposed (land) uses that are ecologically and culturally sustainable (e.g. organic farming). Initiate and engage in collaborative management systems together with with local communities, land-users and other relevant stakeholders for the sustainable use of land and resources around the component part [7][17]. Further guidance on how to integrate natural heritage in regional and communal sustainable development is provided in:

- BEECH POWER Governance Strategy II - Integrating natural heritage in regional and communal sustainable development (O.T1.1).

Specific activity 8.1.4: Safeguard equitable sharing of benefits that arise from the component part and its WH status

Component part management must not compromise and should rather enhance human well-being and contribute to community development. Therefore, ensure that no one is disadvantaged or harmed by the generation and sharing of benefits from the component part and its WH status. Consider all stakeholder groups equally in benefit sharing, also non-local groups. If inequity is discovered, advocate for changes in the mode of benefit sharing, support the creation of additional benefits for disadvantaged stakeholders or reduce access to benefits of those who take advantage of the situation. Monitor if created values and benefits, or specific activities connected to that, compromise human well-being – locally or elsewhere. If they do, advocate for their reduction, adaptation or abolishment.

Specific activity 8.1.5: Advise and guide the development of sustainable tourism in the region

The WH Committee generally encourages to ensure sustainable planning and management of tourism and to contribute to the implementation of the *WH Centre's World Heritage and Sustainable Tourism Programme* [28] since tourism can be a driver for preservation and conservation of cultural and natural heritage and a vehicle for sustainable development [29]. States parties of the serial WH site have agreed to participate in sustainable tourism in the Joint Declaration of Intent being aware that tourism can be socially, culturally and economically disruptive, and have a devastating effect on fragile environments and local communities if not managed well. Those responsible for component part management and (regional) tourism stakeholders share the responsibility for the conservation of the WH component parts and for sustainable development

through appropriate tourism management [29]. Initiate and engage in the development of such comprehensive tourism management plan or a sustainable tourism strategy, including a set of measures to address the tourism pressure on the component part [5]. Encourage soft tourism, e.g. “leave no trace” tourism only.

Make sure that prior to any development of tourism facilities (resort development, ski facilities, golf resorts, etc.) its potential impact on the OUV is thoroughly assessed [5]. If appropriate to the carrying capacity of the site, positively promote the UNESCO brand and the respective component part itself for tourism development on a national and international level. Support the marketing of touristic offers related to the WH component part through tourism associations and create WH partner networks (guesthouses, artists, small and medium enterprises producing regional sustainable products, etc.). In this context consider the pilot marketing strategies, which were implemented in the BEECH POWER project as examples. Initiate cooperation between regional tourism organisations and tourism service providers. Enter cooperative management agreements with local groups and tourism agencies [22]. Engage in the development of tourism offers with local businesses. Involve local communities in meaningful and beneficial tourism ventures [12]. Help concerned stakeholders to develop and submit projects to increase tourism in the region. Further guidance on sustainable tourism management is provided in

- BEECH POWER Strategies for visitor management and knowledge transfer in buffer zones of WH Beech Forests beech forest PAs (O.T2.3).

Strategic action 8.2: Pursue a partnership approach for regional sustainable development

Specific activity 8.2.1: Promote and support community capacity-building to enable sustainable regional development

Support communities in developing capacities that enable them to participate in and advance sustainable regional development. This can be realised in different forms and approaches. For example, the targeted exchange of knowledge on specific topics like land use or ecosystem functionality might be an important step. Supporting funding applications or offering training for community administration staff are further possibilities. Capacity-building can target specific topics like tourism development or ecosystem-based adaptation to climate change and/or concrete addressees like the community administration, civil associations or specific stakeholders.

Specific activity 8.2.2: Improve cooperation and conflict resolution between and with specific stakeholder groups

Contribute to the improvement of the cooperation with and conflict resolution between specific stakeholder groups, for example through offering platforms/room for discussion or installing specific conflict resolution groups, to solve local conflicts between different stakeholders. Increase the acceptance and regional anchoring of the component part and its management by providing incentives and specific offers for the local population (e.g. free guided tours, reduced entrance fees, free information material, etc.). Management strategies should account for conflict prevention, promote conflict resolution and contribute to post-conflict recovery [6]. Further guidance on conflict management can give the *Strategy for conflict management in buffer zones of WH Beech Forests* produced in the BEECH POWER project. Component part management should acknowledge the reality of cultural diversity within and around the WH property and promote respect for this diversity [6].

Specific activity 8.2.3: Initiate and maintain active cooperation with and between regional actors for regional sustainable development

Active cooperation with and between regional actors for regional sustainable development can take different formats. This may include funded projects, permanent cooperation, and supportive activities like presenting the WH topic in regional visitor centres and information points or thematic events. You may be creative finding suitable ways of cooperating with and amongst a wide range of regional actors and stakeholders.

Specific activity 8.2.4: Align regional sustainable development approach with other WH component parts and offer support

Approaches to regional sustainable development should be aligned with neighbouring or other component parts with regard to regional sustainable development and offer support within your scope of possibility and capacity. For this, find adequate partners, jointly identify common themes and aspects of regional sustainable development as well as chances of such a cooperation. On this basis elaborate and jointly implement a common approach. Keep the exchange active and adapt the procedure if necessary.

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