

CODE OF QUALITY MANAGEMENT FOR WORLD HERITAGE BEECH FOREST - INDICATOR GUIDANCE

O.T3.2

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Code of Quality Management for WH Beech Forest

Measuring management effectiveness - principles, criteria and indicators

Component part complex = The component part with all its management levels reaching beyond official borders:

CP = Component part (sensu strictu); the area that is officially designated as (part of the serial) WH site

BZ = Buffer zone; the area surrounding the CP that is officially designated as buffer zone for the WH site

LM = Landscape matrix; the wider area surrounding the CP and BZ that has an influence on the CP and BZ (e.g. ecological processes, threats and human impact, stakeholders, scope of management activity, partners)

WH = World Heritage; this covers the whole serial WH BF site to which the component part belongs

EU = Europe; this includes the beech forest ecosystem in Europe, in which the component is embedded, as a whole

X Principles

X.Y Criteria

X.Y.Z Indicators

1 Ecological functionality - Management prioritises ecological functionality of the component part and the embedding ecosystems.

1.1 There are no negative impacts of human activities on the CP.

1.1.1 Degree of human-induced ecological stress in the CP

Scope: What proportion of the area of the CP is affected by human-induced ecological stress?

1	<1%
2	1-5%
3	5-10%
4	>10%

Intensity: How severe is the impact on the affected area?

1	low	There is no reduction of overall functionality.
2	moderate	There is a certain reduction of overall functionality expected within the next 10 years.
3	high	There is a recognisable reduction of overall functionality.



4	very high	There is a serious reduction of overall functionality.
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1.1.2 Human activity in the CP

Scope: On what proportion of the CP area does human activity take place?

1	<2%
2	2-5%
3	5-10%
4	>10%

Intensity: How intense is this human activity?

1	gentle	Occasional, sporadic access
2	moderate	Frequent access
3	serious	Occasional, low-level biomass extraction
4	severe	Frequent, high-level biomass extraction

1.1.3 Degree of human impact/activity in the BZ that affects or may affect the CP

Scope: On what proportion of the BZ area does human activity take place?

1	<10%
2	10-30%
3	30-60%
4	>60%

Intensity: How strong is the degradation effect of this human activity on the CP?

1	mild	degradation unlikely, short-term disturbance
2	moderate	certain degradation
3	serious	likely degradation
4	heavy	most-likely, long-term degradation

1.2 The component part is ecologically supported by functional ecosystems in which it is embedded.

1.2.1 Degree of human-induced ecological stress in the BZ

Scope: What proportion of the BZ area is directly or indirectly affected by human activity in the BZ or beyond?

1	<10%
2	10-25%
3	25-50%
4	>50%

Intensity: How severe is the impact on BZ functionality?



1	mild	no reduction of overall functionality
2	moderate	certain reduction of overall functionality within next 10 years
3	serious	recognisable reduction of overall functionality
4	heavy	severe reduction of overall functionality

1.2.2 Ecosystem management in the BZ

Scope: What proportion of the BZ is actively managed/used?

1	<10%
2	10-20%
3	20-30%
4	>30%

Intensity: How intense is the management/use?

1	mild	rare use, slight modification
2	moderate	extensive use, moderate intervention, noticeable modification
3	serious	intensive use, strong intervention, clear modification
4	heavy	very intensive use, very strong intervention, highly transformative

1.2.3 Forest condition in the BZ

Scope: What proportion of the BZ is forested?

1	>90%
2	80-90%
3	70-80%
4	<70%

Intensity: Of what condition is the forest in the BZ?

1	natural	Without use for more than 30 years, similar to forest in CP
2	slightly changed	Some changes from the past, very light current changes, light infrastructure
3	modified	Structural and biological changes, infrastructure, modified species composition
4	heavily altered	Complete change of species composition and forest structure, heavy infrastructure

1.2.4 Human activity/intervention in the landscape matrix

Scope: What proportion of the surrounding landscape matrix is actively managed/used by humans?

1	<25%
2	25-75%
3	75-90%
4	>90%

Intensity: How intense is human activity where it occurs in the LM?



1	mild	Extensive forest management
2	moderate	Extensive agriculture, intensive forest management
3	serious	Intensive agriculture, light infrastructure
4	heavy	Settlement, infrastructure, excavation

1.2.5 Forest condition in the LM

Scope: What proportion of the surrounding LM is forested?

1	>75%
2	50-75%
3	25-50%
4	<25%

Intensity: How intense is forest management in the LM?

1	unused
2	Hardly used
3	Extensive use
4	Intensive use

1.2.6 Permanent vegetation in non-forested areas

Scope: What proportion of the non-forest area of the LM is covered by permanent vegetation?

1	>50%
2	25-50%
3	5-25%
4	<5%

Intensity: What is the quality of that permanent vegetation?

1	near-natural	Near-natural vertical green structures with high biological and structural diversity, e.g. hedges, shrubbery, unmanaged grasslands
2	slightly changed	Occasionally maintained vegetation with some vertical green structures with low biological and structural diversity, e.g. orchards, short-rotation coppice
3	modified	Hardly or moderately maintained low vegetation with single vertical green structures, e.g. grasslands, pastures
4	heavily altered	Heavily maintained low vegetation without or hardly any vertical green structures, e.g., meadow, lawn

1.2.7 Forest condition in the next higher administrative spatial unit/state

Scope: What proportion of the area of the next higher administrative spatial unit is forested?

1	>50%
2	25-50%
3	5-25%
4	<5%



Intensity: Of this forested area, how much is covered by unused or hardly managed forest?

1	>30%
2	15-30%
3	5-15%
4	<5%

1.3 The component part is ecologically connected to other beech forests and other highly functional ecosystems

1.3.1 Degree of ecological permeability¹ of the LM

Scope: What proportion of the surrounding LM is ecological permeable?

1	>75%
2	50-75%
3	25-50%
4	<25%

* *Factors that decrease permeability: fragmentation of forests, urban areas, highways*

Factors that support permeability: connected forest areas, diverse habitats, traditional cultural landscape

Intensity: How well is the ecological permeability in the LM?

1	Very good	fully permeable, e.g. connected forest
2	good	with single surmountable obstacles
3	reasonable	connection by continuous ecological structures
4	low	existence of single stepping stones

1.3.2 Degree of ecological permeability of the area between the CP and nearby beech forests

Scope: What proportion of land between the CP and the three nearest beech forests is ecological permeable?

1	>75%
2	50-75%
3	25-50%
4	<25%

* *Factors that decrease permeability: fragmentation of forests, urban areas, highways*

Factors that support permeability: connected forest areas, diverse habitats, traditional cultural landscape

Intensity: How well is the ecological permeability in that area?

1	Very good	fully permeable, e.g. connected forest
2	good	with single surmountable obstacles
3	reasonable	connection by continuous ecological structures

¹ Ecological permeability: is a measure of landscape structure, incorporating the hardness of barriers, the connectedness of natural cover, and the arrangement of land uses (<https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/terrestrial/resilience/permeability/Pages/default.aspx>); it is related to ecological connectivity but not focussing on single species but on ecological processes



4	low	existence of single stepping stones
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2 Supporting regulatory and institutional framework - Management ensures an adequate legal, regulatory and institutional framework.

2.1 The management of the component part complex complies with existing legal and institutional provisions.

2.1.1 Compliance of CP management with the requirements of the BZ Guidance Document

Scope: On what proportion of the CP area does land use not currently meet the requirements of the Buffer Zone Guidance Document?

1	<1%
2	1-5%
3	5-10%
4	>10%

Intensity: How many requirements are currently violated in the CP?

1	0
2	1
3	2-3
4	>3

2.1.2 Compliance of BZ management with the requirements of the BZ Guidance Document

Scope: On what proportion of the BZ area does land use not currently meet the requirements of the Buffer Zone Guidance Document?

1	<1%
2	1-5%
3	5-10%
4	>10%

Intensity: How many requirements are currently violated in the BZ?

1	0
2	1
3	2-3
4	>3



2.1.3 Compliance with specific WH BF requirements (according to Reactive Missions, Periodic Reporting, WHC decisions etc.)

Scope: How many specific WH BF requirements (according to Reactive Missions, Periodic Reporting, WHC decisions etc.) does CP management not comply with?

1	0
2	1
3	2-3
4	>3

Intensity: How severe are the consequences of non-compliance?

1	no consequences	
2	mild consequences	e.g., mild consequences for the component part
3	moderate consequences	e.g., serious consequences for the component part
4	severe impact	e.g. consequences for whole serial WH site

2.2 The legal and institutional framework positively supports the strategic management of the component part complex.

2.2.1 Presence of legal framework conditions for the CP that may have negative impacts on CP management

Scope: How many legal framework conditions for the CP have or may have negative impacts on CP integrity and management?

1	0
2	1
3	2-3
4	>3

Intensity: How severe are those negative impacts for CP management and integrity?

1	mild	low impact (little area and/or hardly disturbing)
2	moderate	moderate impact (moderate area and/or disturbing)
3	serious	severe impact (large area and/or degrading)
4	heavy	very severe impact (very large area and/or destructive)

2.2.2 Presence of legal framework conditions for the BZ that may have negative impacts on the CP

Scope: How many legal framework conditions for the BZ have or may have negative impacts on CP integrity and management?

1	0
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2	1
3	2-3
4	>3

Intensity: How severe are those negative impacts for CP management and integrity?

1	mild	low impact (little area and/or hardly disturbing)
2	moderate	moderate impact (moderate area and/or disturbing)
3	serious	severe impact (large area and/or degrading)
4	heavy	very severe impact (very large area and/or destructive)

2.2.3 Presence of legal framework conditions in the LM that may have negative impacts on the CP or contradict CP management goals.

Scope: How many legal framework conditions for the surrounding LM have or may have negative impacts on CP integrity and management?

1	0
2	1
3	2-3
4	>3

Intensity: How severe are those negative impacts for CP management and integrity?

1	mild	low impact (little area and/or hardly disturbing)
2	moderate	moderate impact (moderate area and/or disturbing)
3	serious	severe impact (large area and/or degrading)
4	heavy	very severe impact (very large area and/or destructive)

2.2.4 Legal protection status of ecosystems in the LM

Scope: What proportion of the surrounding LM is legally protected?

1	>75%
2	50-75%
3	25-50%
4	<25%

Intensity: How strictly is the respective area protected?

1	Very strict	process protection, strict protection (e.g. National Park, IUCN I-III)
2	Rather strict	preservative protection (e.g. nature reserve, Natura 2000, IUCN IV-V)
3	Reasonable	sustainable land use, extensive (landscape park, nature park, Biosphere reserve, IUCN VI)
4	Rather weak	other protection, management restrictions only



2.2.5 Requirements of WH BF site-specific documents and provisions that contradict CP management goals

Scope: How many requirements of WH BF site-specific documents and provisions stand in conflict with or contradict strategic CP management goals to maintain CP integrity?

1	0
2	1
3	2-3
4	>3

Intensity: How severe are those inconsistencies for CP management and maintaining CP integrity?

1	mild	hardly any impact noticeable or expected
2	moderate	minor impediment of strategic CP management, minor discrepancy with CP management goals
3	serious	noticeable interference with strategic CP management goals
4	heavy	major contradiction with CP management goals, impedes strategic CP management

2.2.6 Protection status of beech forests

Scope: What proportion of the beech forests in the next higher relevant² administrative unit (e.g., district, province, federal state) are legally protected or have management restrictions?

1	>75%
2	50-75%
3	25-50%
4	<25%

Intensity: What kind of protection does the applicable forest have?

1	Very strict	process protection, strict protection (e.g. National Park, IUCN I-III)
2	Rather strict	preservative protection (e.g. nature reserve, Natura 2000, IUCN IV-V)
3	Reasonable	sustainable land use, extensive (landscape park, nature park, Biosphere reserve, IUCN VI)
4	Rather weak	other protection, management restrictions only, (e.g., certified wood production, recreational forest, protection forest)

² Relevant means that this level must include other beech forests.



3 Supporting knowledge base - Management generates, maintains and develops a supporting knowledge base. (ensures a supporting knowledge base?)

3.1 Management has (access to) sufficient knowledge, expertise and skills to make profound management decisions.

3.1.1 Deficit of knowledge on beech forest ecology and development

Scope: What is the extent of the knowledge deficit with regard to beech forest ecology and development?

1	Low	No deficit, full knowledge present and accessible
2	Moderate	Few aspects lacking
3	Serious	Several aspects lacking
4	Heavy	Whole topic is deficient

Intensity: How much does this deficit impede profound management decisions and actions?

1	Not	No impact
2	Lightly	Acceptable uncertainty, decision-making hardly affected
3	Moderately	Major uncertainty, with certain restrictions on decision-making
4	Heavily	Inability to decide and act

3.1.2 Deficit of knowledge on BZ management requirements for WH beech forests.

Scope: What is the extent of the knowledge deficit with regard to BZ management requirements for WH beech forests?

1	Low	No deficit, full knowledge present and accessible
2	Moderate	Few aspects lacking
3	Serious	Several aspects lacking
4	Heavy	Whole topic is deficient

Intensity: How much does this deficit impede profound management decisions and actions?

1	Not	No impact
2	Lightly	Acceptable uncertainty, decision-making hardly affected
3	Moderately	Major uncertainty, with certain restrictions on decision-making
4	Heavily	Inability to decide and act

3.1.3 Deficit of knowledge and skills with regard to the impacts of the surrounding landscape on CP management

Scope: What is the extent of the knowledge deficit with regard to the impacts of the surrounding landscape on CP management?

1	Low	No deficit, full knowledge present and accessible
2	Moderate	Few aspects lacking



3	Serious	Several aspects lacking
4	Heavy	Whole topic is deficient

Intensity: How much does this deficit impede profound management decisions and actions?

1	Not	No impact
2	Lightly	Acceptable uncertainty, decision-making hardly affected
3	Moderately	Major uncertainty, with certain restrictions on decision-making
4	Heavily	Inability to decide and act

3.1.4 Deficit of knowledge and skills with regard to approaches and requirements for sustainable regional development

Scope: What is the extent of the knowledge and skills deficit with regard to approaches and requirements for sustainable regional development?

1	Low	No deficit, full knowledge present and accessible
2	Moderate	Few aspects lacking
3	Serious	Several aspects lacking
4	Heavy	Whole topic is deficient

Intensity: How much does this deficit impede profound management decisions and actions?

1	Not	No impact
2	Lightly	Acceptable uncertainty, decision-making hardly affected
3	Moderately	Major uncertainty, with certain restrictions on decision-making
4	Heavily	Inability to decide and act

3.2 Management uses different sources and formats of knowledge to support management decisions

3.2.1 Existence and use of knowledge partnerships³ with local/regional stakeholders and actors

Scope: With how many local or regional stakeholders and actors has the CP entered a knowledge partnership?

1	>3
2	2-3
3	1
4	0

Intensity: How intense are the current knowledge partnerships with local or regional partners?

1	Lively	Frequent and intense exchange
2	Regular	Frequent consultation, occasional exchange
3	Occasional	Occasional consultation or exchange

³ Knowledge partnership: cooperation with one or more actors (e.g. research institute, NGO, university, government agency) focusing on the generation, sharing, exchange, communication and documentation of knowledge of a certain topic



4	Inactive	No active consultation of exchange
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3.2.2 Existence and use of knowledge partnerships with national and international partners

Scope: With how many national and international actors has the CP entered a knowledge partnership?

1	>3
2	2-3
3	1
4	0

Intensity: How intense are the current knowledge partnerships with national and/or international partners?

1	Lively	Frequent and intense exchange
2	Regular	Frequent consultation, occasional exchange
3	Occasional	Occasional consultation or exchange
4	Inactive	No active consultation of exchange

3.3 Management contributes to collaborative generation, management and dissemination of knowledge on European beech forests and their management.

3.3.1 Degree to which the component part is integrated in and contributes to multilateral knowledge management activities on forest ecology, restoration and management

Scope: In how many topics is the component part integrated in and contributes to multilateral knowledge management activities on forest ecology, restoration and management?

1	>5
2	3-5
3	2-3
4	<2

Intensity: Which role does the component part play within these activities?

1	Major	Lead partner and/or initiator
2	Important	Active collaborator
3	Relevant	Active supporter
4	Minor	Passive supporter

3.3.2 Degree to which knowledge on beech forest ecology, protection, restoration and management is actively distributed and shared with others

Scope: How many addressees does the disseminated knowledge reach?

1	Many	Several large groups of recipients
2	Several	Large group or several small groups of recipients
3	Few	Small group of recipients



4	Very few	Individual recipients
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Intensity: How far does the impact force of the disseminated knowledge reach?

1	International	Recipients of other countries
2	National	Recipients of the same country
3	Regional	Recipients in the wider vicinity of the CP, those who live in the region affected by the CP
4	Local	Recipients in the near vicinity of the CP, those who are directly affected by management

4 Stakeholder support - Management creates a high level of understanding, appreciation & support of the WH BF component part by stakeholders and other actors

4.1 Stakeholders understand, accept and respect management goals and corresponding regulations of the component part complex.

4.1.1 Degree of illegal human activity and violation of rules in the CP and BZ (in the last 3 years)

Scope: How often do rule violations and illegal activities occur in the CP and BZ?

1	rarely	very seldom, 1-2 every few months at maximum
2	occasionally	1-2 within a few weeks
3	often	several within a few weeks
4	permanent	very frequent

Intensity: How strong is the violation of rules?

1	Mild	Entering per foot, walking through, no extraction, no stay
2	Moderate	Mushroom picking, low-level camping/biwak
3	Serious	e.g., camping with fireplace, extraction of plants, small wood or animals, littering
4	Heavy	e.g., wood or soil extraction, motorised entering, building & construction, poaching, waste disposal

4.1.2 Degree of conflict with or among stakeholders regarding strategic goals of CP management (within the last 3 years)

Scope: How many different stakeholder groups were involved in conflicts that emerged within the last 3 years?

1	None or hardly any
2	Few
3	Several
4	Most

Intensity: How severe have these conflicts been?

1	Mild	There is hardly any impact on CP management.
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2	Moderate	CP management has to deal with the conflicts.
3	Serious	CP management is hampered by the conflicts.
4	Heavy	CP management is severely hindered by the conflicts

4.2 All stakeholders are educated and sensitised about the value and management of (WH) European Beech Forest.

4.2.1 Educational and communication outreach focussing on the serial WH site in the last 3 years

Scope: How many stakeholder groups has the CP management targeted by education and communication outreach focussing on the serial WH site in the last 3 years?

1	All
2	Most
3	Some
4	None / hardly any

Intensity: How well has the topic of the serial WH site been presented in educational and communication outreach in the last 3 years?

1	Very well	Overarching major topic
2	Reasonably	Important individual topic
3	Insufficiently	Important subtopic
4	Weakly	Minor subtopic

4.2.2 Educational outreach with regard to the value and management of European beech forests in the last 3 years

Scope: How many different formats to educate about the value and management of European beech forests has the CP offered in the last 3 years?

1	>3
2	2-3
3	1
4	0

Intensity: How far did these offers extend to reach recipients?

1	Far	Local and beyond
2	Fairly far	Mostly local, but occasionally beyond
3	Not far	Occasionally local
4	Not at all	None



4.3 Stakeholders and local actors support and are involved in the management of the component part complex.

4.3.1 Performance of stakeholder engagement/involvement in CP management in the last 3 years?

Scope: For how many stakeholder groups have appropriate formats for permanent participation been offered in the last 3 years?

1	All
2	Most
3	Some
4	None / hardly any

Intensity: How strongly are stakeholders intended to be engaged?

1	Strongly	empowerment, decision power
2	Reasonably	dialogue, contribution, consultation
3	Moderately	hearing, placation
4	Minimum	information

4.3.2 Commitment of relevant stakeholder groups and local actors in participation processes

Scope: What proportion of relevant stakeholder groups is committed in participation processes?

1	All
2	Most
3	Some
4	None / hardly any

Intensity: How intense is their commitment?

1	Strong	regular, reliable, constructive
2	Reasonable	frequent, active
3	Moderate	occasional but constructive or passive
4	Weak	occasional but mostly opposing

4.3.3 Local projects and initiatives supporting CP management and goals

Scope: How many supporting projects or initiatives have there been in the surrounding of the CP in the last 3 years?

1	Many
2	Few
3	Single
4	None



Intensity: How beneficial have those projects been for CP management?

1	Very beneficial	highly supportive, actors take over management tasks, continuous active involvement in management
2	Reasonably beneficial	continuous complementary and/or supporting activities
3	fairly beneficial	temporary complementary or supporting activities
4	Somewhat beneficial	occasional supporting activities

5 Regional sustainable development for community well-being - Management fosters community well-being in a framework of ecosystem-based regional sustainable development.

5.1 Ecosystem services that are essential for the well-being of local people are sufficiently provided and accessible to all.

5.1.1 Perceived constraints to human well-being and the access to essential ecosystem services

Scope: What proportion of the local population feel constrained in their well-being and/or their access to essential ecosystem services?

1	<25%
2	25-50%
3	50-75%
4	>75%

Intensity: How constrained do affected people feel?

1	hardly	hardly affected
2	fairly	somewhat restricted
3	much	seriously stressed
4	very much	existentially threatened

5.2 Human well-being of the local population is enhanced by additional contributions resulting from the WH status and management of the component part complex.

5.2.1 Additional benefit for the well-being of the local population resulting from the WH status and component part management

Scope: What proportion of the local population see an additional benefit for their well-being by the WH status?

1	>75%
2	50-75%



3	25-50%
4	<25%

Intensity: How great is the additional benefit that is being perceived by local people?

1	Very beneficial	enriching
2	Reasonably beneficial	supplementary
3	fairly beneficial	supporting
4	Somewhat beneficial	not perceived, at least not disturbing

5.2.2 Use of World Heritage status for regional sustainable development

Scope: In what proportion of the projects aimed at regional development is the WH status taken up / used as an opportunity?

1	Most
2	Some
3	Few
4	Hardly any

Intensity: What role does the WH status play in those projects who take the WH status up?

1	Major	decisive role
2	Important	reinforcing role
3	Relevant	supportive role
4	Minor	Rather irrelevant role

5.3 Additional benefits and added value generated by the WH status are equitably shared amongst stakeholders without compromising anyone's well-being.

5.3.1 Perceived inequity in benefit sharing by the local population

Scope: What proportion of the local population feel inequitably treated in sharing the benefits of the WH status?

1	<25%
2	25-50%
3	50-75%
4	>75%

Intensity: How strongly do people feel affected by inequity?

1	Hardly	Affected people feel included but not benefitting
2	Somewhat	Affected people feel disadvantaged
3	Much	Affected people feel excluded, neglected



4	Very much	Affected people feel severely impaired
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5.3.2 Extent to which added values/generated benefits compromise human well-being (locally and elsewhere)

Scope: What proportion of generated or envisaged benefits (may) compromise(s) human well-being?

1	<10%
2	10-30
3	30-75%
4	>75%

Intensity: How intensely do those questionable benefits compromise human well-being?

1	Hardly	Only individuals on a local or regional level are affected.
2	Fairly much	There is a compromising impact on single local or regional stakeholder groups.
3	Seriously	Their compromising effect affects the whole region.
4	Heavily	They have a general/global impact.

5.4 Regional actors are capable of (regional) sustainable development and actively contribute to it.

5.4.1 Cooperation with and between local actors for regional sustainable development

Scope: What proportion of the regional actors are cooperating with each other and the CP management with regard to regional sustainable development?

1	All
2	Most
3	Some
4	Hardly any

Intensity: How intense is the contribution by those regional actors?

1	Strong	All actors are collaborating.
2	Reasonable	Those actors have a somewhat supplementary role in the cooperation.
3	Fair	The respective actors are supporting the cooperating project.
4	Weak	Those actors play a rather passive role.