IUCN Conservation Outlook Assessment 2017 **(archived)**
Finalised on 10 November 2017

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

Hubei Shennongjia

SITE INFORMATION

Country:
China
Inscribed in: 2016
Criteria:
(ix) (x)

Site description:

Located in Hubei Province, in central-eastern China, the site consists of two components: Shennongding/Badong to the west and Laojunshan to the east. It protects the largest primary forests remaining in Central China and provides habitat for many rare animal species, such as the Chinese Giant Salamander, the Golden or Sichuan Snub-nosed Monkey, the Clouded Leopard, Common Leopard and the Asian Black Bear. Hubei Shennongjia is one of three centres of biodiversity in China. The site features prominently in the history of botanical research and was the object of international plant collecting expeditions in the 19th and 20th centuries. © UNESCO

SUMMARY

2017 Conservation Outlook

Good with some concerns

On the positive side of the equation the site already has widespread support within all levels of Government, some local people and other stakeholders.
It is generally recognised that the property will require long-term, active management and this will particularly be the case within the buffer zones to ensure that developments are of an appropriate scale and design, and are consistent with inherent World Heritage values. Increased attention and capacity will, therefore, be necessary to manage issues both within the core areas of the property and also within the buffer zones. This means that land uses need to be managed in ways that are sympathetic to the values of the property as well as providing opportunities to generate sustainable livelihood benefits to local communities.
A legitimate concern is the actual and potential increase of tourism, which is anticipated to increase significantly. Improvements to transport infrastructure have already taken place, including opening of the nearby Shennongjia Airport in 2014. This, and upgraded highway infrastructure, has the potential to dramatically increase visitation and will have significant impact. Tourism planning, management and monitoring need to anticipate increasing demand, consideration to limits, including carrying capacity for some sites, as well as policies to actively mitigate negative impacts.
Other threats relate to buffer zone developments and activities. Developments and encroaching land use such as for tea cultivation need ongoing monitoring. Attention should also be given to integrated conservation and community development initiatives in the buffer zones as a way to foster stronger community stewardship of the World Heritage property.

Current state and trend of VALUES

Low Concern
Trend: Stable

Both the terrain and climate of the property was less affected by glaciation than other comparable areas. Consequently, the property is a recognised safe haven for numerous rare, endangered and endemic species including many of the world‘s deciduous woody species.

The property also has an international reputation as a special place for the study of plant systematics and horticultural science.

As the management effectiveness, capacity and local stakeholder participation progressively increases there is significant potential for the integrity of the property to heighten.

Overall THREATS

Low Threat

A number of low threats exist, mainly related to natural resources use. Hunting, poaching and unauthorised logging and firewood collection are activities that would benefit from monitoring, as detailed data on the level of threat is lacking. Other threats relate to buffer zone developments and activities. Developments and encroaching land use such as for tea cultivation need ongoing monitoring. Attention should also be given to integrated conservation and community development initiatives in the buffer zones as a way to foster stronger community stewardship of the World Heritage property. Of more concern are threats posed by infrastructure, particularly National Road 209 which bisects the property. The management planning framework includes significant resource information but falls short in that it fails to provide a vision and cohesive suite of objectives, strategies and activities for broad-spectrum implementation across the property.

Overall PROTECTION and MANAGEMENT

Mostly Effective

Although many of the elements associated with management effectiveness are in place or progressively being developed, particularly in relation to field-based patrolling, monitoring and research, the socio economic elements of management would benefit from deeper consideration.

FULL ASSESSMENT

Description of values

Values

World Heritage values

► Biodiversity, Ecosystems and Habitats

Criteria:(ix)(x)

The ecosystems and habitats of Hubei Shennongjia, positioned on the eastern edge of the second step of China‘s ladder-like distribution of terrestrial topography, contain an extensive range of flora and fauna. The property, located in the mountainous region between the Yangtze and Han Rivers, is within a zone of climatic transition where the warm and cold air masses from north and south meet and are controlled by the Subtropical Gyre. This zone provides the climatic progression from subtropical to the warm temperate zone. Amongst the mountains of similar latitudes across the world, this distinctive geographical environment makes Hubei Shennongjia stand out in terms of biodiversity, ecosystems and biological evolution. The property demonstrates examples of typical mountain altitudinal biological zones in the Oriental Deciduous Forest Biogeographical Province, and is a source of global temperate flora with some of the highest concentrations of global temperate genera. It is also an outstanding example of biological evolution within the Oriental Deciduous Forest Biogeographical Province. Hubei Shennongjia contains exceptional biodiversity and is a key habitat for numerous relic, rare, endangered, endemic, and type species. The number of deciduous woody species in the property is amongst some of the highest in the world. The property is a remarkable example of ongoing ecological processes for the evolution of subtropical mixed broadleaved evergreen and deciduous forest in the Northern Hemisphere. Examples of typical mountain altitudinal biological zones in the Oriental Deciduous Forest Biogeographical

Province, and the associated research opportunities into ecological processes of mountain ecosystems at different elevation gradients under global climate change scenarios, are other attributes of the property
(Ministry of Housing and Urban-Rural Development of the People's Republic of China, 2015; IUCN, 2016).

Assessment information

Threats

Current Threats

Low Threat

A number of low threats exist, mainly related to natural resources use. Hunting, poaching and unauthorised logging and firewood collection are activities that would benefit from monitoring, as detailed data on the level of threat is lacking. Grazing is present in the buffer zone at significant levels. Of more concern are threats posed by infrastructure, particularly National Road 209 which bisects the property. The management plan fails to recognise the significance and potential impacts of this major road on the migration routes and movement of prey species and wild animals (IUCN, 2016).

▶ **Roads/ Railroads**

High Threat
Inside site, widespread(15-50%)
Outside site

The management plan fails to recognise the significance and potential impacts of this major road on the migration routes and movement of prey species and wild animals (IUCN, 2016).

▶ **Livestock Farming / Grazing**

Data Deficient
Outside site

Uncontrolled grazing can impact on human welfare with a strong association

to livelihood, economic expansion and / or subsistence. Within the context of this property, Buffer zones are particularly important as they separate core areas and provide connectivity corridors.
(Worboys et al., 2013; IUCN, 2015)

► Hunting (commercial/subsistence), Poaching, Logging/ Wood Harvesting

Low Threat
Inside site, extent of threat not known
Outside site

Hunting, poaching and unauthorised logging and firewood collection are activities that would benefit from monitoring. When this issue was raised during the field evaluation mission, discussions with some stakeholders suggested that this threat was a common problem and was something that needed to be deliberated on (IUCN, 2016).

► Mining/ Quarrying

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

During the WH Field Mission quarrying sites were observed. These were generally, but probably not exclusively, associated with the construction and maintenance of infrastructure and roads.
(IUCN, 2016).

► Utility / Service Lines

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

High tension transmission pylons and lines, and communication / telephone towers are evident in many parts of the property. These are a visual intrusion on a high-quality natural landscape.
(IUCN, 2016).

► Fire/ Fire Suppression

Very Low Threat

Inside site, extent of threat not known
Outside site

The property contains both fire-dependent ecosystems and there are other zones where fire will cause the destruction or loss of native species and habitats. Many facts associated with fire- dependent and fire-sensitive ecosystems can be better understood by applying the relatively contemporary science of fire ecology. Observations during field trips and further questioning suggest that fire is an uncommon occurrence and that very few fires have been recorded within the core areas.
(State Forestry Bureau, and Administration Bureau of Shennongjia National Nature Reserve, n.d.; IUCN, 2016)

Potential Threats

Low Threat

This is a potentially relevant threat but there is little data in terms of actual use and trends. It is assumed that subsistence levels of harvesting for domestic use are well-established and are within sustainable limits.
An area of primary concern is the illegal trade of NTFP. A gradual progression carried out through collaborative community-based building has significant potential to progressively address this potential threat.

▶ Other Biological Resource Use

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

This is a potentially relevant threat but there is little data in terms of actual use and trends. It is assumed that subsistence levels of harvesting for domestic use are well-established and are within sustainable limits.
An area of primary concern is the illegal trade of NTFP.
(IUCN, 2015).

Protection and management

Assessing Protection and Management

► Relationships with local people

Some Concern

In general terms the different levels of management and administration, including field staff, demonstrated a commitment to community well-being and livelihoods. This commitment needs to move beyond ideas and become firmly entrenched into Joint / Collaborative Management approaches.
(IUCN, 2016)

► Legal framework

Mostly Effective

The property is all state-owned land with the two components of the property, Shennongding/Badong and the smaller Laojunshan area to the east, both protected within the Shennongjia National Nature Reserve. The extension to the nominated area in the south is protected within the Yanduhe Provincial Nature Reserve. A range of national, provincial and county-level laws and regulations affords protection to Hubei Shennongjia and the area is coincident with several other protective designations at national and international level (National Forest Park, global and national level Biosphere Reserves and Geoparks). Public access and use of the area is legally prohibited. Uses are subject to permit and restricted to scientific research, monitoring and management. Nevertheless, as is common in many of China's Nature Reserves, some resident populations exist within the site and zoning systems permit some degree of access for appreciation and education as well as more sophisticated infrastructure in the zones known as "Exhibition Districts".
(IUCN, 2016; Ministry of Housing and Urban-Rural Development of the People's Republic of China, 2015)

► Enforcement

Some Concern

As noted above patrolling and enforcement systems are reasonably effectively co-ordinated. The field mission had some difficulties reconciling how the results of monitoring carried out during routine patrolling were translated into protected area management actions.
(State Forestry Bureau, and Administration Bureau of Shennongjia National

Nature Reserve, n.d.; Ministry of Housing and Urban-Rural Development of the People's Republic of China, 2015; IUCN, 2016).

► Integration into regional and national planning systems

Mostly Effective

PA Management includes management of a protected area and its surrounds with the objective of conserving natural ecosystems and their wildlife, as well as of ensuring the livelihood security of local communities, through legal and institutional mechanisms which ensure an equal partnership between these communities and governmental agencies. This definition provides a reasonable fit with the present situation. (Kothari et al. 1996).

► Management system

Some Concern

The complex biodiversity/ecosystem, geographic, administrative, social economic, political and cultural realities of the property suggest that an integrated and cohesive management and administrative structure would enhance management effectiveness, and provide increased protection for the property and its biodiversity conservation values (IUCN, 2015).

► Management effectiveness

Mostly Effective

The nominated property has been partially demarcated and some boundaries were marked. A multi-level management system is established: 1. State, 2. Provincial, 3. Shennongjia Forestry District, and 4. Prefecture. Administrative bureaux for the nature reserves and administrative commissions of parks have been established to undertake management activities on behalf of the government
(Ministry of Housing and Urban-Rural Development of the People's Republic of China, 2015).

► Implementation of Committee decisions and recommendations

Data Deficient

At the time of the inscription of the property, the Committee requested the

State Party to:
(i) continue to enhance ecological connectivity between the core habitat areas of the property through a range of measures such as wildlife crossings, corridors and habitat mosaics which facilitate wildlife movements and to ensure that management prescriptions are tailored to the specific needs of key wildlife;
(ii) upgrade the legal protection to nature reserve standard of wildlife corridor and habitat stepping stone areas which are crucial to the property's ecological integrity and consider nominating these as future extensions to the property;
(iii) review the management planning system for the property to fully encompass the areas added to the property during the evaluation process, as well as the functioning of the buffer zones, and ensure an integrated and adaptive approach for the entire property;
(iv) update the 2006-2015 Tourism Master Plan to ensure long-term and effective management of the anticipated increases in tourism demand, in particular to specify ecological and social carrying capacities and identify appropriate tourism infrastructure development;
(v) invest further in increased management capacity directed to the property's buffer zone, with a particular emphasis on integrating cultural, social economic and co-management opportunities into the property's management regime;
(vi) undertake further research and inventory of key faunal populations including for example a population census of both the flagship species Golden Snub-nosed Monkey and the Giant Salamander;
(vii) undertake a review of the property's zoning system to prescribe management policies and actions tailored to the habitat and spatial needs of key species;
(UNESCO, 2016). Given that the inscription was very recent, no information is available yet on the progress achieved.

► Boundaries

Some Concern

The boundaries of the area are defined and for the most part encompass the necessary attributes of Outstanding Universal Value. Boundaries have taken account of natural features such as watershed margins and ridges. A key concern regarding the boundaries is the loss of ecological connectivity across

the 10km corridor that separates the two component parts of the property and is the location of the arterial road (Highway 209). The road is fenced on both sides and this impedes some animal movements. Future development in this area could result in increasing pressure to upgrade this road thus further fragmenting the site
(IUCN, 2016; Ministry of Housing and Urban-Rural Development of the People's Republic of China, 2015).

► Sustainable finance

Data Deficient

Funding is provided through Government appropriations, which appears to be stable. There is a commitment from the Central Government to invest in conservation and tourism futures for the region. A detailed 3-year investment strategy will increase annual resourcing by 20%. A substantial CNY 45 million (USD 6.9m) p.a. has been pledged for the property to support a range of management needs including significant investment in community development and, in the Badong County, addition to the nominated area. Staffing levels will be increased by 75% by 2018 from the current 93 staff to 163.

► Staff training and development

Mostly Effective

At a field/operational level, management is divided into three levels: Administration Bureau, Conservation Station, and Conservation Point. The staffing structure and capacity are considered satisfactory and the property reports a total of 215 full-time personnel, 93 of which are administrative and professional technical staff, 80% of whom have tertiary qualifications. Staff expertise covers a range including: physical geography, geology, environmental protection engineering, administration, botany, zoology, planning, national park and garden management, GIS, tourism management, forestry, water conservation and hydrological engineering, and finance and accounting.
(Ministry of Housing and Urban-Rural Development of the People's Republic of China, 2015; IUCN, 2016).

▶ Sustainable use

Data Deficient

There is an apparent dearth of applied research on the most effective ways to achieve biodiversity and ecosystem services outcomes within the social, economic, cultural and political context of the property. Consequently, limited analyses have been undertaken to assess biodiversity and ecosystem services. This is possibly a gap, which indicates that the spatial overlap between biodiversity targets and ecosystem services needs attention by both ecologists and social scientists (IUCN, 2016).

▶ Education and interpretation programs

Mostly Effective

Most policies and regulations for the site are set by central government and these are implemented at provincial and local levels through a complex bureaucracy. These are inherent limitations to engage non-government stakeholders in the property’s management. Some positive efforts to involve village-level government are undertaken but the complexities and difficulties involved in encouraging local engagement are possibly underestimated. The site is reasonably well served with education centres – Exhibition Center –Bee Garden - Landscape Hall, Geology Exhibition Hall, Biology Exhibition Hall, Scientific Research Exhibition Hall, Folkways Exhibition Hall.
(Ministry of Housing and Urban-Rural Development of the People‘s Republic of China, 2015; IUCN, 2016).

▶ Tourism and visitation management

Some Concern

Improved engagement between tourism interests and site management is an aspect that would benefit from more attention. The management of tourism and the impacts of large numbers of tourists on natural resources is a protected area management function that would benefit from interagency coordination (IUCN, 2015; IUCN, 2016).

▶ Monitoring

Mostly Effective

Patrolling and enforcement systems are reasonably well coordinated.
There are possible difficulties reconciling how monitoring results carried out during routine patrolling are translated into site directed management actions.
The monitoring manual that is being applied demonstrates a useful PA management tool (IUCN, 2015).

► Research

Some Concern

The nomination was based on excellent surveys and research information and presented persuasive and well researched argument based on biodiversity, ecological systems and species with strong emphasis on botanical attributes and values.
Socio economic attributes including tourism and visitor use, ecosystem services valuation would benefit from in-depth applied research.

The separation of the two core areas of the property and the management of the buffer zone and the management implications of the 10 km (+ -) gap and the road bisecting the sites are possibly priority research topics.
Other research considerations could include: conservation corridors and connectivity, climate change, deforestation, habitat loss, and species dispersal areas.
(IUCN, 2016; Ministry of Housing and Urban-Rural Development of the People‘s Republic of China, 2015)

Overall assessment of protection and management

Mostly Effective

Although many of the elements associated with management effectiveness are in place or progressively being developed, particularly in relation to field-based patrolling, monitoring and research, the socio economic elements of management would benefit from deeper consideration.

► Assessment of the effectiveness of protection and management in

addressing threats outside the site

Some Concern

The complexity associated with the effective management of buffer zones would benefit from specific protected area policies and community-based action plans. Consideration could be directed to developing working relationships and co-management approaches with the 8,000 +- residents that are living in the BZ. The main occupations for communities within the buffer zone include bee-keeping, tourism and tea-planting / processing and retailing. As well significant construction is taking place within the buffer zone, including buildings for communities that are / or have already been relocated from core areas.
An assessment of the scale and location of existing infrastructure and adequate planning for future provisions would be a useful consideration.

► Best practice examples

not known

State and trend of values

Assessing the current state and trend of values

World Heritage values

► Biodiversity, Ecosystems and Habitats

Low Concern
Trend:Stable

There are no recent reports or any indications that there are adverse impacts to the sites biodiversity, ecosystems and habitats - particularly within the two portions which make up the property. The state of ecosystems and biodiversity condition within these areas is considered good.

Some locations within buffer zones are significantly modified and include several villages and towns.
Agricultural and tourism development is also prominent and unsympathetic to wider landscape values. Some encroachment into forest areas for

gathering wood and tea cultivation has been reported.

The road corridor (National Road 209) is the most significant threat to the ecological functionality of the property as it splits the system into two. The extent of wildlife movement between different components is unknown, however as the road is fenced on both sides and the lower reaches of the valley have been subject to disturbance this will compromise the principles of ecological connectivity. Commitments by the State Party to develop and implement a connectivity strategy will go some way towards addressing this concern.
(IUCN, 2015; Worboys et al., 2013)

Summary of the Values

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

Low Concern

Trend: Stable

Both the terrain and climate of the property was less affected by glaciation than other comparable areas. Consequently, the property is a recognised safe haven for numerous rare, endangered and endemic species including many of the world‘s deciduous woody species.

The property also has an international reputation as a special place for the study of plant systematics and horticultural science.

As the management effectiveness, capacity and local stakeholder participation progressively increases there is significant potential for the integrity of the property to heighten.

Additional information

Benefits

Understanding Benefits

► Tourism-related income, Provision of jobs

Recent research indicates conclusively that attributing socio-economic impacts to a World Heritage Site is both complex and difficult. Research also notes that it is rarely the designation itself which achieves the impacts, and is often the actions and investments of local stakeholders. Another significant consideration is that benefit are not automatic or generic but are site specific and need to relate to the programmes and investments made by the site management agency including efforts to harness community support.
An overwhelming message is that World Heritage Site status offers very few easy socio-economic impacts – and that potential impacts need to be earned.

Relevant Reference include:
16 WORLD HERITAGE STATUS - Is there opportunity for economic gain? Research and analysis of the socio-economic impact potential of UNESCO World Heritage Site status Rebanks Consulting Ltd and Trends Business Research Ltd.
19 IUCN Evaluation Report – May 2016 IUCN Recommendation to World Heritage Committee: To inscribe the property under natural criteria.

► Cultural identity and sense of belonging, History and tradition, Sacred natural sites or landscapes

The property has:
(i) a long history of human occupation and utilisation. Archaeologists have excavated stone implements made and used about 1.2 million years ago. In Hongping an ancient cave, known locally as Xiniudong, was a site of human activity about 100,000 years ago. Evidence indicates that the property, with its excellent ecological environment and rich biological resources, provided an ideal living environment for early human use and occupation.
(ii) features a rich human history of ancient legends as well as mysterious folk customs. There are many myths related to the area as well as numerous examples of a noteworthy intangible cultural heritage.
(iii) is located on part of the route of the Ancient Salt Road which, in this area, was known as the "Southern Silk Road".

► **Soil stabilisation, Flood prevention, Water provision (importance for water quantity and quality)**

The ecosystem service provided by the sites water resources are part of a fundamental ecological relationship that present challenges to communities within the property as well as downstream. The rivers, streams, wetlands and riparian zones that make up a significant proportion of the sites OUV are integral to World Heritage Criteria (IX).
Despite this fresh water resources, including wetlands, continue to be degraded. It is, therefore, important that management planning policies and subsequent objectives and decisions take account of these interconnections and interdependencies.
The full value of water and wetlands needs to be recognized and integrated into decision-making in order to meet the properties social, economic and environmental aspirations.

Fresh water regimes within the property are probably reasonably stable. Significant land use change, urban development and agricultural intensification within the buffer zones has significant negative implications in terms of maintaining high-quality ecosystem services

► **Collection of wild plants and mushrooms, Livestock grazing areas**

The collection of wild food, including mushrooms, is seen by subsistence communities as a means of expanding their access to food. This form of collection also has social, economic and ecological considerations.
The grazing of the livestock, particularly within the buffer zones, needs to be carefully managed and, where necessary, management controls put in place.

level of impact and trend information cannot be quantified.

► **Knowledge**

Mount Shennongjia 3,105 m a.s.l, the highest peak in central China, which includes the watershed separating the Han and Yangtse Rivers, is considered to be one of three centres holding the highest biodiversity in China (Ying 2001). The mountain is also the ecotone between the plains and foothill regions of eastern China to the mountainous region of central China, and the transition zone from the central sub-tropics to the north sub-tropics. Taking

the above into account, because it integrates several distinct vertical vegetation zones and the vegetation species habitats, the property is primarily in its natural condition and is a textbook location to test, measure and monitor the hypotheses and theories related to altitudinal patterns of plant species diversity and climate change. As part of the nomination process, a detailed investigation was undertaken. This highlights the distinctive ecological and conservation values that these two large and globally important watersheds contribute to biodiversity conservation values (IUCN, 2016).

Summary of benefits

The property currently provides significant benefits directly from the ecosystem services that originate from within the boundaries of the World Heritage site. At this stage it is not possible or appropriate to quantify benefits. A difficulty associated with the identification of World Heritage benefits is that benefits can quickly become overexploited once they have been clearly identified.

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	N/A		No information

Compilation of potential site needs

№	Site need title	Brief description of potential site needs	Support needed for following years

1	Formulation of a comprehensive Integrated Conservation Management Plan (ICMP).	The Open Standards for the Practice of Conservation, including use of Miradi Software is suggested as a useful adaptive management planning approach A Chinese language pack is available that can be added to this software. [https://www.miradi.org	From: 2018 To: 2019
2	Technical assistance to undertake a Management Effectiveness Tracking Tool (METT) process.	The Management Effectiveness Tracking Tool (METT) is a widely used globally applicable generic system developed to assess protected area management effectiveness. It is used to report progress towards the Convention on Biological Diversity. METT was designed to track and monitor progress towards protected area management effectiveness. The methodology is a rapid assessment based on a scorecard questionnaire. The scorecard includes all six elements of management identified in the IUCN-WCPA. Framework (context, planning, inputs, process, outputs and outcomes), but has an emphasis on context, planning, inputs and processes. The METT is basic and relatively simple to use, and provides a mechanism for monitoring progress towards more effective management over time. It is used to enable park managers and donors to identify needs, constraints and priority actions to improve the effectiveness of protected area management. Protected areas receiving funding from the World Bank or from the Global Environment Facility are asked to complete the METT as part of the assessment of project activities. Similarly protected areas which are also designated under international conventions such as the World Heritage Convention and Ramsar Convention are also being asked to undertake convention specific reporting.	From: 2018 To: 2019
3	Buffer Zone Planning and Management	Direct attention to buffer zone management, with an emphasis on integrating cultural, social economic and co-management opportunities into Integrated Conservation Management Planning	From: 2018 To: 2019

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