

State Party of World Heritage Convention: China

**Minor Modification to Boundaries of Mount Wuyi,
World Cultural and Natural Heritage**



**Ministry of Housing and Urban-Rural Development of
the People's Republic of China
Beijing, January 2017**

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Report to the World Heritage Committee on the minor modification to the boundaries of property 911 - Mount Wuyi, China

National Commission of the People's Republic of China for UNESCO

Executive Summary

The recently completed World Heritage Outlook analysis undertaken by IUCN (2014)¹ concluded that Mount Wuyi enjoyed low concern in terms of its clear values, had effective management but faced high levels of threat. An important recommendation of the report urged the state party to **extend the site across the provincial boundary to include valuable and somewhat richer habitats on the Jiangxi province side of the mountain**. The current presentation constitutes a direct response to that request.

1. Mount Wuyi (Fujian) WH property

Mount Wuyi (Fujian) was inscribed on the World Heritage List in 1999, under criteria iii, vi, vii, and x. It was recognized as the most outstanding area for biodiversity conservation in south-east China and a refuge for a large number of ancient, relict species, many of them endemic to China. The serene beauty of the dramatic gorges of the Nine Bend River, with its numerous temples and monasteries, many now in ruins, provided the setting for the development and spread of neo-Confucianism, which has been influential in the cultures of East Asia since the 11th century. In the 1st century BC a large administrative capital was built at nearby Chengcun by the Han dynasty rulers. Its massive walls enclose an archaeological site of great significance, associated with the Gumin and the later Minyue culture, vanished 3000 years ago.

2. Rationale for Extension

2.1 Need to improve conservation of heritage property

In the original nomination only the Fujian portions of Mount Wuyi were nominated as a World Heritage property (1998). Despite its smaller size, the Jiangxi sections of the mountain are regarded as somewhat different, wilder and richer in fauna than the larger Fujian sections, such that several international consultants have recommended a boundary modification to include the main Jiangxi sections inside the property rather than map them only as buffer zone. This call for modification was repeated in the recent IUCN WH Outlook analysis of the property status "There is a great need for better coordination across the province divide and the site would be greatly strengthened if Jiangxi sections could be added." (World Heritage Outlook, IUCN, 2014.)

2.2 Need to improve habitat integrity

Given the relatively small size and fragmented nature of natural subtropical forests in the existing Mount Wuyi property, the extensive plantations of Moso bamboo and limited sample of different available catchment areas, the original WH site appears to have vulnerable habitat integrity and low

¹ http://www.worldheritageoutlook.iucn.org/search-sites/-/wdpaid/en/198295?p_p_auth=rVuYfC0y

resilience in the face of the new emerging threat of climate change. Integrity and resilience is enhanced by adding to the property to give better natural habitat connectivity, marginally greater area especially of precious broadleaf evergreen forest, and a wider range of habitat types, extending the site into the major Yangtze catchment to include a wider sweep of regional species and biotic communities. This is achieved by extending the property into Jiangxi Province to include the core and intermediate protection zones of the western sectors of the Wuyishan National Nature Reserve (NNR), Jiangxi Province.

2.3 Contributions of proposed extension to identified OUV

The proposed extension strengthens but does not significantly change the identified Outstanding Universal Value of the already inscribed Mount Wuyi World Heritage property (Fujian).

3. Requirements for protection and management

The entire modified property is wholly owned by the government of the People's Republic of China and enjoys strong legal protection. The proposed components include national-level nature reserves, a scenic site, and national level listed cultural relics, thus assuring the safeguarding of both the cultural and natural values of the property, under a number of national laws including: the Forestry Law (1998), the Environmental Protection Law (2015), Regulations on Nature Reserves (1994), Regulation of National Parks and Scenic Sites (2006), Cultural Relics Protection Law (2002), the Law on the Protection of Wildlife (2004), and Scenic Areas Ordinance (2006). The Fujian Mount Wuyi property was designated as a UNESCO (MAB) Biosphere Reserve in 1987.

Management plans coordinated by the administrative authorities of Fujian and Jiangxi provinces are developed for effective protection and management. Monitoring systems are in place with local participation to ensure regular monitoring and informative decision-making.

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List of Acronyms used

AIS	Alien Invasive Species
CITES	Convention on International Trade in Endangered Species
CR	Critically endangered
EHI	Ecosystem Health Index
EN	Endangered
EW	East West axis
GEF	Global Environmental Facility
GIS	Geographical Information System
IBA	Important Bird Area
ISO	The International Organization for Standardization
IUCN	International Union for the Conservation of Nature and Natural Resources
MAB	Man and Biosphere Programme (under UNESCO)
MEP	Ministry of Environmental Protection
MOHURD	Ministry of Housing and Urban-Rural Development of China
METT	Management Effectiveness Tracking Tool
NGO	Non-government Organization
NR	Nature Reserve
NNE	North north east
NNR	National Nature Reserve
NS	North South axis
NW	North West
OUV	Outstanding Universal Value
RDB	Red Data Book
SC	State Council
SE	South East
UNESCO	United Nations Educational Scientific and Cultural Organization
VU	Vulnerable
WH	World Heritage

MINOR MODIFICATION TO THE BOUNDARIES OF MOUNT WUYI WORLD CULTURAL AND NATURE HERITAGE

Boundary modification is made to serve better identification of Mount Wuyi World Heritage property and enhance protection of its Outstanding Universal Value. The total increase in area of the property is only 7.1% so the State Party considers this to be a minor modification. The following documentation is provided in accordance with Annex 11 of the current Operational Guidelines under Article 164.

Documentation as requested

1) Area of the property (in hectares):

Table 1.1: Coordinates of the centre points of the component parts of the modified property. Added part of the proposed modification shaded in light-blue

	ID N°	Name of Components	Region	Coordinates of Centre Points	Area of the property (ha.)	Area of the Buffer Zone (ha.)
Original inscribed Site	001	Mount Wuyi World Heritage property	Fujian Province	N27 43'35" E117 43'31"	99,975	34,050
Mount Wuyi (Jiangxi section)	002	Mount Wuyi (Jiangxi)	Yanshan County, Jiangxi Province	N27 51'55" E117 43'38"	7,069	6,721
Total Areas					107,044	40,170

Area of modified property (ha.) and buffer zone (ha.) :

Area of modified property: 107,044 ha

Buffer zone: 40,170 ha

Total (property plus buffer): 147,214 ha

Area added to property is 7,069 ha = 7.1% of total property (minor modification)

Most of the modified extension to the property was already included within the buffer zone described and mapped in the original nomination document (1998).

2) Description of the modification:

The modified site consists of the inscribed Mount Wuyi World Heritage property (1999), and the direct extension of Mount Wuyi to its north slopes, located in Jiangxi province.

The proposed modification adds an important SW section of Mount Wuyi lying in Jiangxi Province which was placed only within the buffer zone of the original nomination. The added area totals only 7.1% of the revised enlarged property and is thus regarded as a minor boundary modification in accordance with Article 163 of Operational Guidelines (not having significant impact on the extent of the property nor affecting its Outstanding Universal Value).

The boundaries of the modified property are in line with the delimitation of the national nature reserves concerned. Mount Wuyi (Jiangxi) borders directly onto the inscribed Mount Wuyi World Heritage property and the extended boundary accords with the core and intermediate zones (both equivalent to IUCN category I) of Wuyishan National Nature Reserve of Jiangxi province. The narrow NE extension of the Jiangxi Wuyishan NNR is considered unsuited to be added to the WH site as it is fragmented from the rest of the site by the construction of a major highway and railway line.

In line with Operational Guidelines, great care was taken in selecting optimal boundaries for the revision so as to incorporate all the attributes that convey the Outstanding Universal Value and to ensure the integrity of the revised property. The boundaries reflect the spatial requirements of key habitats, species, and processes that are relevant to the natural OUV of the site. The buffer zone provides an added layer to protect the property's heritage values from direct effect of human encroachments and impacts of resource use outside of the nominated area.

To ensure full legal protection status of the property, the boundaries are mostly the limit of the two main protection zones (the core and intermediate zones) of the NNR of Jiangxi Wuyishan. Farmland, villages and cooperative lands of the NNR experimental zone are not included in the revised property but are included in the buffer zone to ensure some control of activities around the site. A small section of the NNR experimental zone in the NW corner of the NNR is included within the site since this is totally natural habitat and adds to the resilience and biological content of the property.

At field level, the boundaries will be aligned where possible with clear physical features - ridges, streams, forest edge or the road leading the NR headquarters.

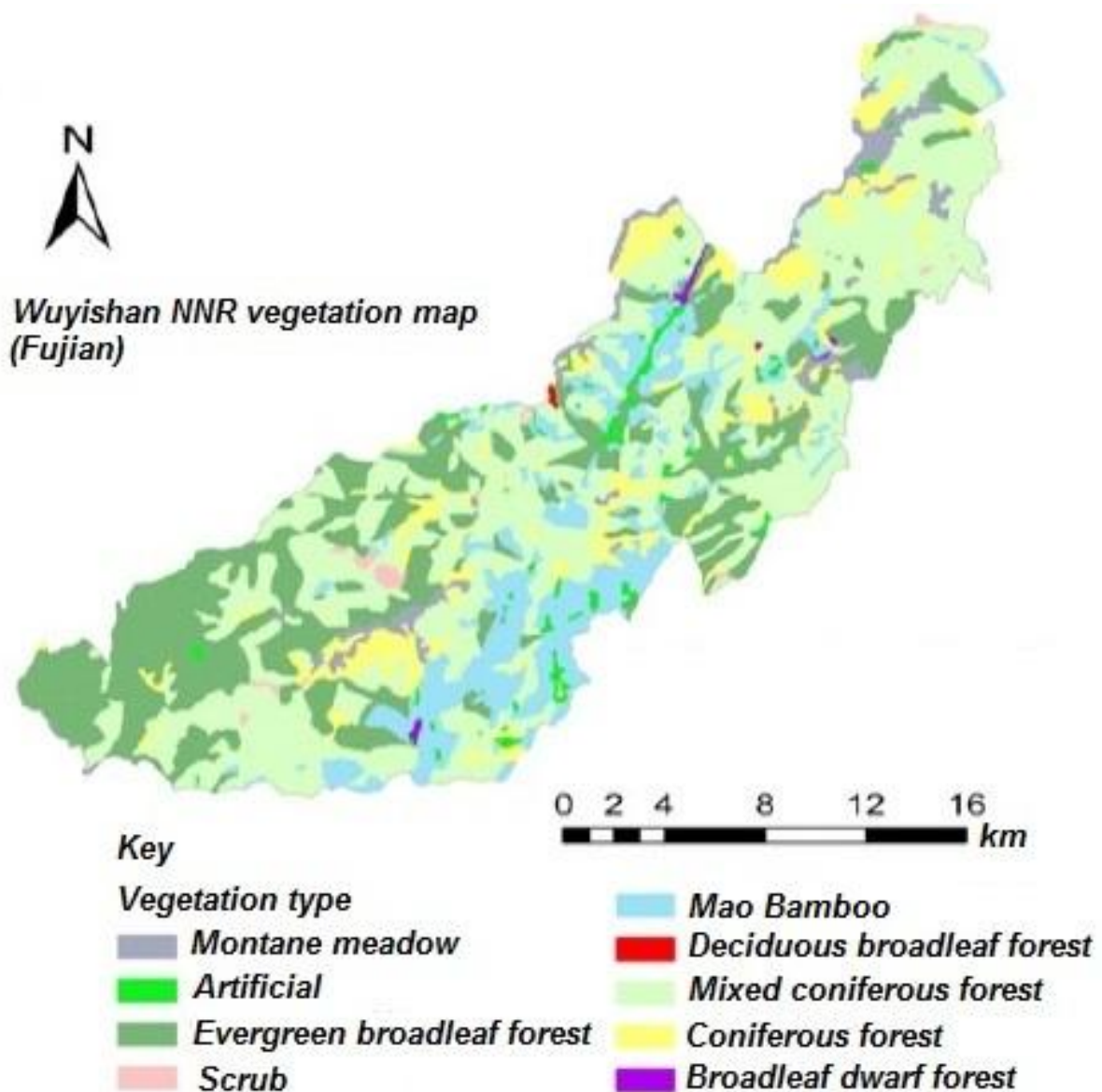
3) Justification for the modification:

3.1 The modification completes the natural site

The original nomination includes only the southern, albeit larger, side of the Mount Wuyi mountain ecosystem. The modification extends the boundary and enlarges the forest portion of the property by adding important sections of the adjoining Jiangxi Wuyishan National Nature Reserve. The northern sectors are somewhat different from the original property being steeper, colder, more natural, contain different variants of vegetation formations (including some deciduous broadleaf forest), with more tropical broadleaf forest, more rare wildlife and many additional species not found on the southern side of the mountain. As such the modified property is a more complete representation of the outstanding universal values of Mount Wuyi as representative of SE China's sub-tropical mountains.

3.2 The modification adds wilder natural habitat

As seen in Map 3.1, the Fujian Wuyishan national nature reserve includes wide swathes of artificially modified and managed Moso bamboo and other artificial habitats - crops, tea, tung oil, Chinese fir plantations etc. These habitats detract from the naturalness of the original property and create barriers to the flow of natural habitats both east to west and across altitude zones. The modified boundary includes the steeper and wilder forests on the northern and western slopes that harbour more wildlife, additional habitat and provide better connectivity of natural habitats with more than 90% natural habitat (see Annex 1 for vegetation map of the added sectors).



Map 3.1 Vegetation map of Fujian Wuyishan NNR all within original nomination

3.3 The modification adds the best habitats for some endemic and rare species

It is widely recognised among wildlife experts, birders and wildlife photographers that the Jiangxi side of the mountain is a better place to find many of the rare and special species of the mountain. The Jiangxi sections have documented more bird species and are famous for allowing access to the iconic

endemic Cabot's tragopan, rare laughing-thrushes, shy carnivores, endemic Black muntjac and very rare Golden Kaiserhind Butterfly (*Teinopalpus aureus*).

3.4 The modification adds many species of the Yangtze watershed

By adding the quite small Jiangxi Province section of Mount Wuyi, the modified property realises a richer and more representative range of SE China mountain biodiversity types, especially as the modification adds many species confined to the rich Yangtze catchment (fish, amphibia and plants) In total, 525 plant species and 123 vertebrates species are added to the property species lists.

Table 3.1 Accumulative richness in floral taxa of property

Component sites/taxa	Bryophytes			Ferns			Flowering Plants		
	Family	Genus	Species	Family	Genus	Species	Family	Genus	Species
Mount Wuyi (Fujian)	73	192	361	40	85	280	189	784	1806
Mount Wuyi (Jiangxi)	68	157	276	41	93	248	193	805	1933
Flora Wuyi total	74	210	441	43	106	347	201	891	2331

Table 3.2 Numbers of Jaccard index (Jaccard similarity coefficient): $C_j = j / (a + b - j)$. a and b are the number of two sample respectively, J is the mutual number of two sample

Taxa	Sites	Spp shared	Spp not shared	Jaccard similarity index
Fish	WH & North Wuyi	12	52	0.19
Amphibian	WH & North Wuyi	26	11	0.70
Reptile	WH & North Wuyi	55	23	0.71
Birds	WH & North Wuyi	192	141	0.58
Mammals	WH & North Wuyi	59	27	0.69
Total Vertebrates	WH & North Wuyi	344	254	0.58

Table 3.3 Accumulating faunal richness of extending WH site by subsite. Total recorded species and (unique records)

Sub-site	Taxa	Fish	Amphibia	Reptiles	Birds	Mammals	Vertebrates
Fujian Wuyi		40 (24)	35 (3)	74 (8)	256 (33)	70 (9)	475 (77)
Jiangxi Wuyi		36 (16)	28 (1)	59 (1)	269 (28)	75 (7)	467 (53)
Total Wuyi		64	37	78	333	86	598

3.5 The modification adds to resilience and connectivity of the site

The long-term survival of many species and habitats in the property remains threatened by several factors - acid rain, forest fire, human disturbance, alien species, and most particularly changing climate.

The resilience and adaptability of the landscape ecosystems and its species is enhanced by virtue of the fact that more natural habitat is included, larger populations are now included and there is a better

habitat diversity and connectivity providing more options for species to move or adjust their distributions.

3.6 The modification strengthens the natural OUV criteria vii and x (see section 4 below)

As stated above, the modification of Mount Wuyi adds significantly to the defined outstanding universal values both in quality and extent, adds greater security to sustain those values already recognized.

4) Contribution to the maintenance of the Outstanding Universal Value:

Mount Wuyi is inscribed on the World Heritage List under four criteria iii, vi, vii, and x. The modification strengthens and contributes to the two natural criteria vii and x.

4.1 Contribution to criterion vii - scenic beauty

Scenic values of Mount Wuyi WH property are well known and widely regarded. The original nomination document specifically lists the Nine bend stream, 27 peaks, 30 eccentric rocks and caves, 3 deep valleys and 11 spectacular views. The graceful scenery of Mount Wuyi (Jiangxi) component adds to this list and includes amazing views of overlapping mountain ranges. With the volcanic landforms and as the “ridge of east China”, Mount Huanggang embraces the stately mountain with plain and broad peaks. Shifengjian, which has the geographical indication of “National famous mountains”, Dushujian and Qixianshan, are cloudy and magnificent. The miles Tongmuguan, which is rewarded as “the first canyon of Wuyi”, and Dakengqiao Waterfall show the beautiful landscape of lush woods, clean springs and plunging waterfalls, and intensively represent the key characteristics of montane aesthetics of Mount Wuyi (Jiangxi).

4.2 Contribution to criterion x - biodiversity and conservation importance

As presented in section 3 above, the modification adds to criterion x is several important respects. It adds a considerable number of extra species many of which are endemic at national, regional or site level, many are protected and many are listed as globally threatened. Populations of other important species already included within the original WH property are enhanced, their habitat enlarged and the connectivity between different habitat types is much improved.

This connectivity is important. Many species require ecotones between major habitats, most species are altitudinal migrants that must range lower in winter months. The habitat diversity, connectivity and options for seasonal movement also add the site's resilience and capacity to adapt to climate change or other disasters.

5) Implications for legal protection:

5.1 Legal status

All parts of the original and modified World Heritage property belong to strict protection zones of national level protected areas, and are thus fully protected by national and provincial laws and regulations. Both core protection zone and intermediary protection zones under the national nature

reserve regulations are strictly protected (equivalent to IUCN category 1). However, designation as World Heritage adds considerably to the degree of actual protection afforded since additional national and provincial laws and regulations relating to World Heritage Sites become applicable and such sites enjoy higher levels of provincial attention, larger protection and operational budgets, generally enjoy higher levels of staffing and supervision by multiple departments.

Core areas of the WH property fall mostly within the 'experimental' management zones of their respective protected areas and enjoy moderate legal control therefrom. Developments are limited and strict EIA applied. Activities that are incompatible with protection status are prohibited (burning, hunting, pollution etc.). However, these lands enjoy better protection as 'core areas' of World Heritage Sites under the relevant WH regulations which also encourage greater community participation in site protection.

5.2 Ownership

According to the 9th article of the 'Constitution of People's Republic of China', natural resources such as mineral resources, waters, forests, mountains, grasslands, wasteland, shallows and so on are state-owned natural resources, equivalent to ownership by all of the people. The state guarantees the proper use of natural resources and the protection of precious flora and fauna. The entire Mount Wuyi property is owned by the People's Republic of China. The administrative rights of the natural resources, tourist facilities, public facilities and infrastructure in the modified property are owned by the state and managed by the local government. The right to use the forests land (including state-owned and villager-contracted lands) in property is state- or collective owned.

6) Implications for management arrangements:

6.1 Coordinated management

At operational level, the modified property is jointly managed by the People's Government of Jiangxi Province and Fujian Province through a coordination committee. The Jiangxi sections will be managed through a top-down management system with multi-sectors involved, including the Department of Housing and Urban-Rural Development of Jiangxi Province, Jiangxi Mount Wuyi National Nature Reserve management bureau, and Yanshan County Government.

The Jiangxi section of the modified Mount Wuyi WH property has compiled and revised its management plan, defined clear field boundaries, and established an appropriate monitoring system. This is clarified in the revised management plan for Mount Wuyi NNR (Jiangxi) and other protective and technical documents, defining clearly protection areas and establishing protective signs and boundary marks or fences. The plans define the general objectives of protection and management of the property, detailed protection and management measures, established accordingly monitoring system.

Ultimate responsibility for the coordinated management and reporting of the modified site rests with the State Party who will ensure the establishment of an overall coordination committee between the two provinces and the development of an overall umbrella management plan for the entire site.

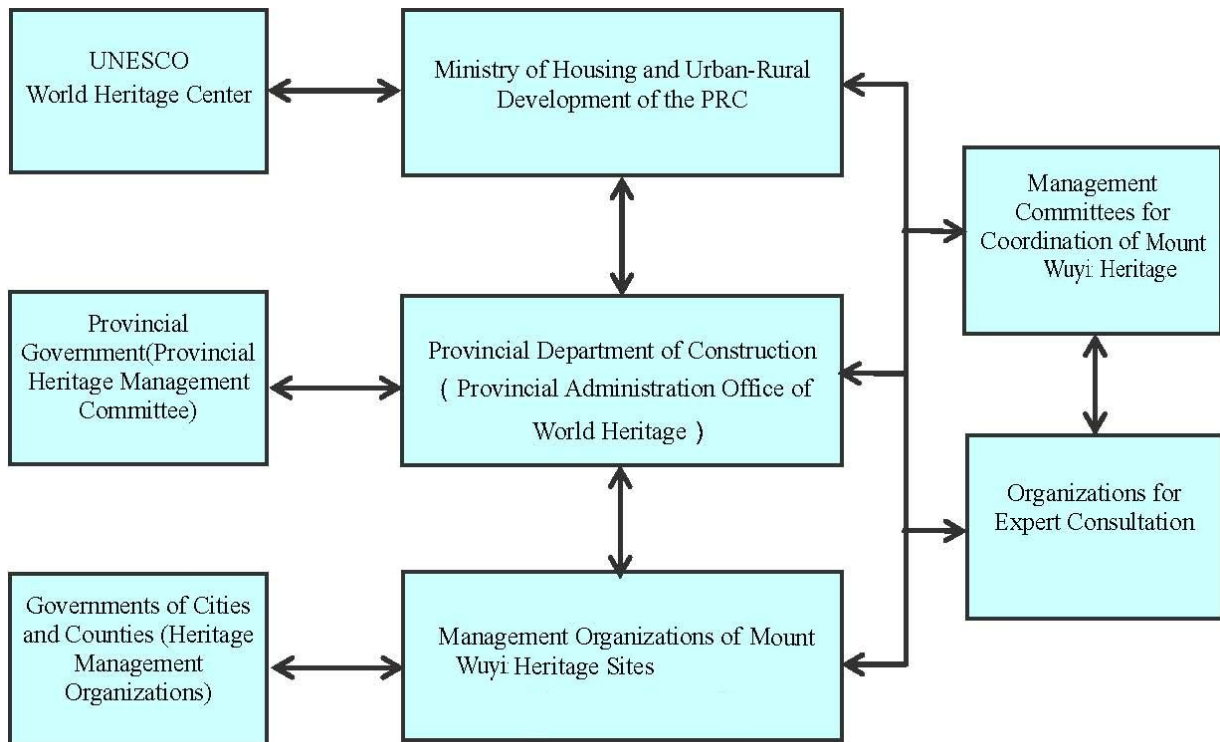


Figure 6.1 Illustration of revised Mount Wuyi World Natural Heritage administration departments

6.2 Responsibilities for implementation

The main responsibilities of management agencies at different levels of protection and management for the modified property are listed below:

(1) The Ministry of Housing and Urban-Rural Development of the People's Republic of China and the State Administration of Cultural Heritage are primarily responsible for the supervision of the overall management and monitoring of the mixed World Heritage property. They are also responsible for the approval of construction projects located in the national protected areas or national key cultural relics.

(2) The steering committee of Mount Wuyi World Natural and Cultural Heritage is responsible for the supervision the overall management of the revised property. Operational work in the Jiangxi extension is organized and implemented by the Housing and Urban Construction Department of Jiangxi Province. It is responsible for the preparation, review and approval of the management of protection planning of the proposed extension areas. It is in charge of capacity building and takes charge of the coordination and communication.

6.3 Security of Finance

Funding has been stable for the protection of the Jiangxi sections of the modified property. Levels of funding can be expected to increase as soon as this modification is approved by WH committee. Sources of funding are indicated in the table below.

Table 6.1 Funding Sources and Levels of the Mount Wuyi (Jiangxi)

Year	Funding sources and amount (Unit: ten thousands yuan)				
	Ticket revenue	Financial revenue	Special subsidies	Total fixed asset investment	Total
2013	0	858	734	3521	5113
2014	0	875	753	3672	5300
2015	0	1075	953	3812	5840
2016	0	1300	1190	4015	6505

6.4 Visitor levels

Very few tourists and only with special permission are allowed to visit the Mount Wuyi NNR Jiangxi. New quotas will be set on completion of studies of tourism impacts and carrying capacity.

6.5 Staff Composition

Staff of Mount Wuyi NNR Jiangxi totals 25 of whom 16% reached post graduate levels, 64% graduate levels and 20% college level education. These are given additional specific in-service training.

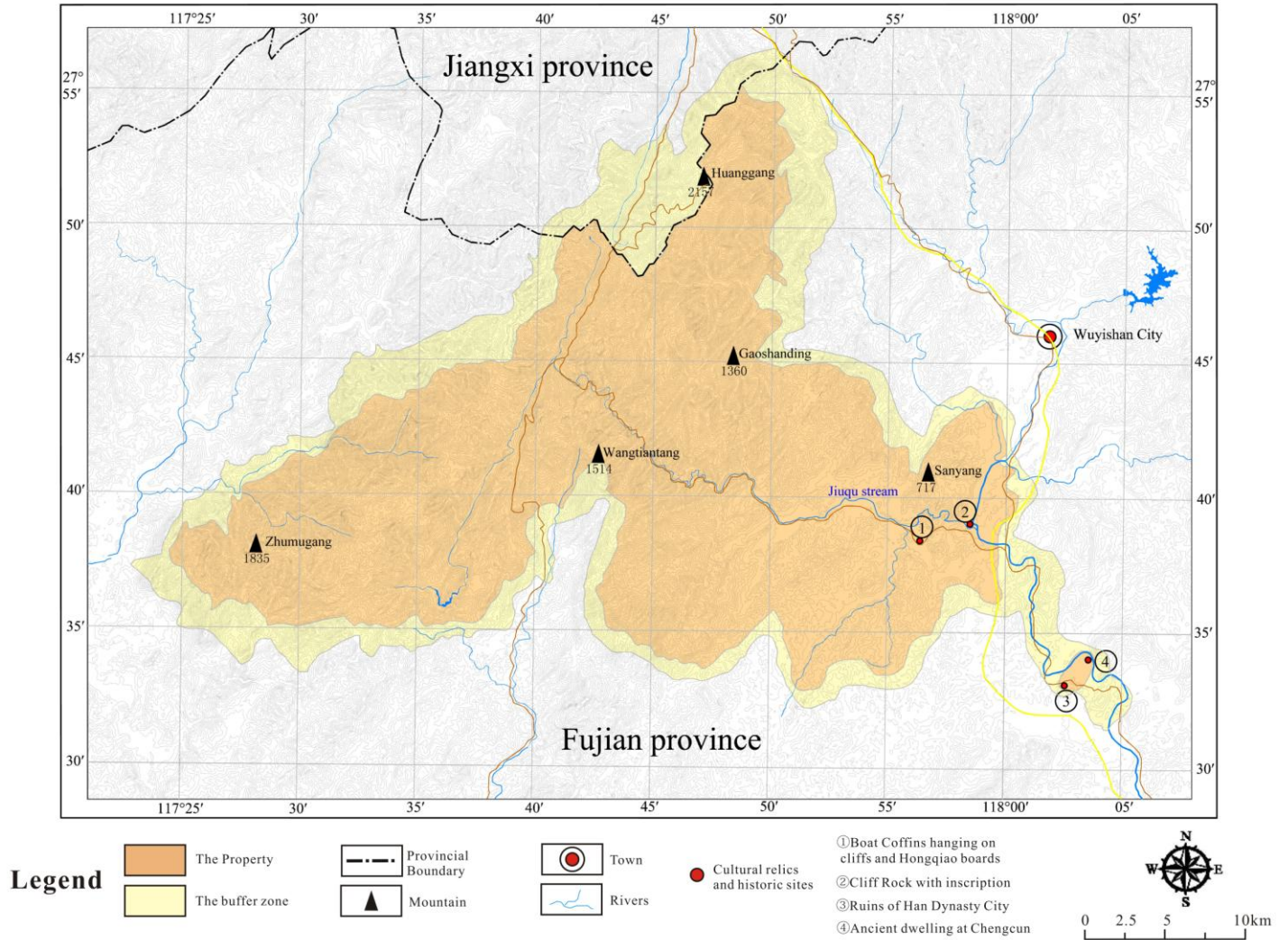
6.6 Monitoring

The Fujian Mount Wuyi WH site has established a very elaborate monitoring system including monitoring the general physical environment – air quality, water quality and vegetation cover, monitoring the level of visitor use and impacts and also monitoring the biodiversity under an advanced GIS based patrolling system developed under assistance from a GEF support project.

The Jiangxi side of the modified WH property will adopt a series of standard international monitoring tools being increasingly used by protected areas in China. These include the management effectiveness tracking tool (METT) developed by World Bank and WWF and also used in all GEF funded projects in China, Environmental Health Index (EHI), being used by GEF biodiversity projects and being modified for national use by State Forestry Administration; SMART monitoring software being now adopted for use in NE China and SW China nature reserves.

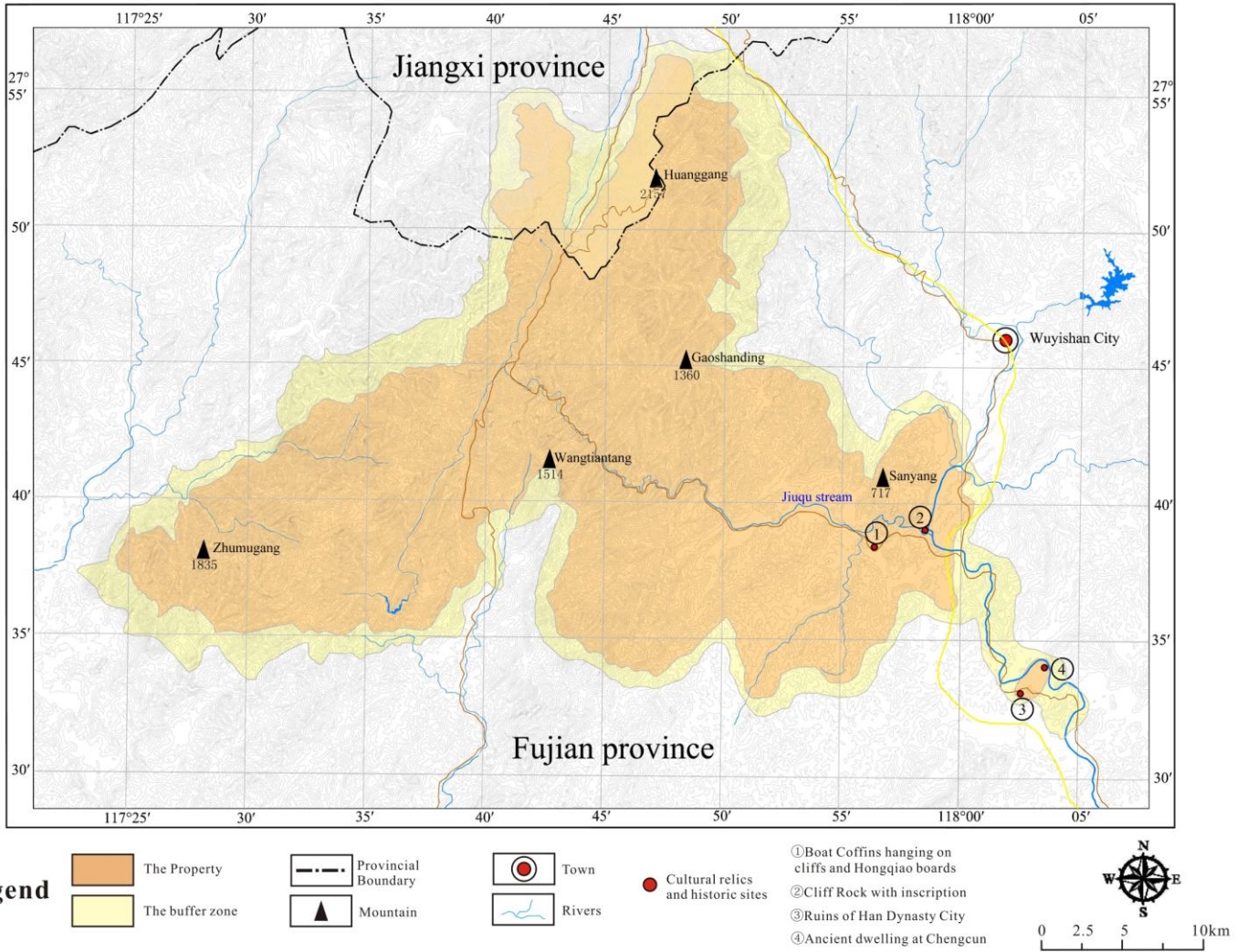
7) Maps:

Original Detailed Map of Mt. Wuyi World Heritage



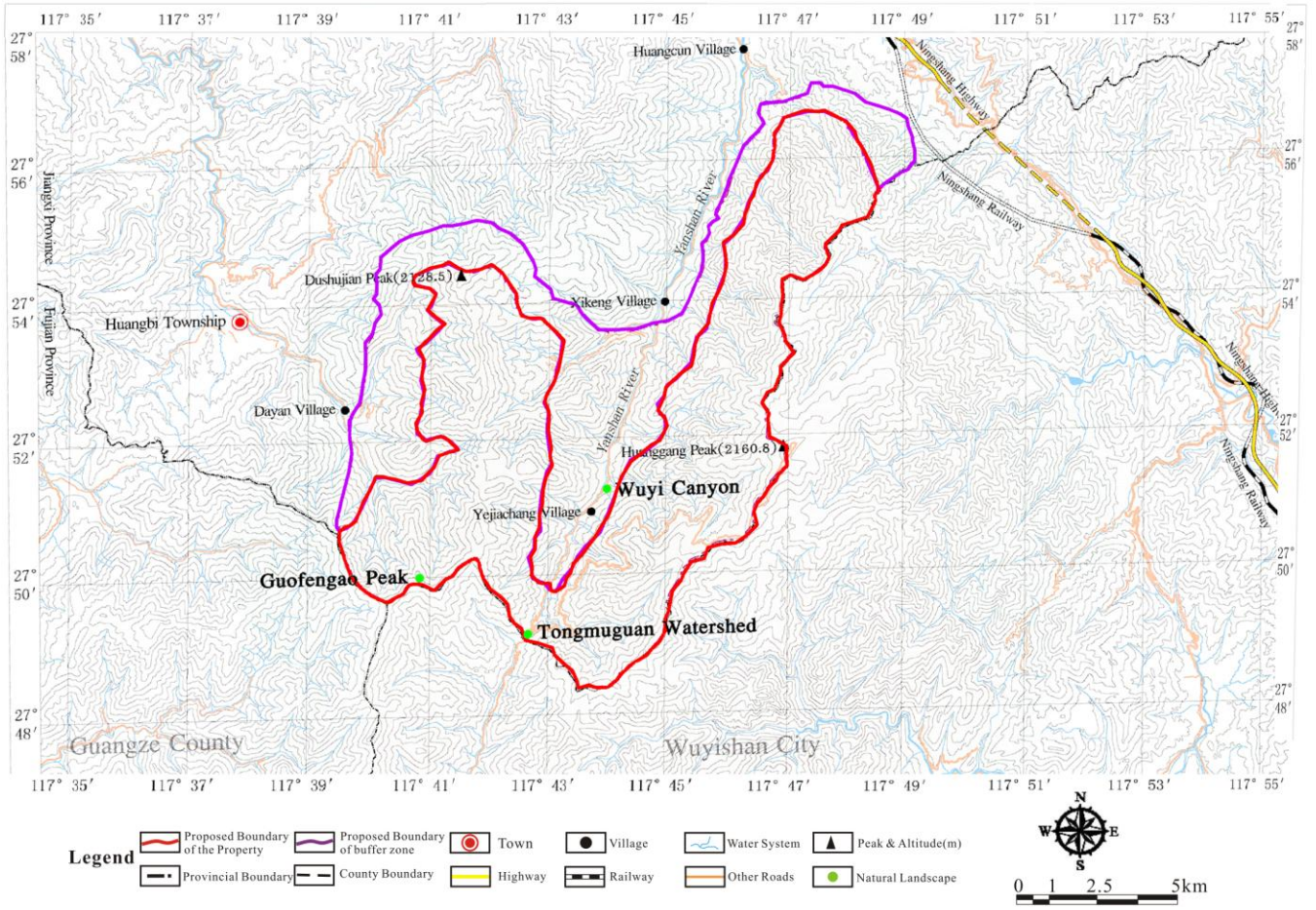
Map 7.1 Original Detailed Map of Mt. Wuyi World Heritage

Revised Boundary and Buffer Zone of Mt. Wuyi World Heritage



Map7.2 Revised Boundary and Buffer Zone of Mt. Wuyi World Heritage

Map Showing the Revised Boundaries of Mt. Wuyi World Heritage



Map 7.3 Map Showing the Revised Boundaries of Mt. Wuyi World Heritage

8) Additional information:

Annex 1. Natural features of Jiangxi Mount Wuyi sectors

1. Landform and climate

Mount Wuyi NNR (Jiangxi) shares the same basic geology and is sited in the same biogeographic unit as the original property in Fujian province. The highest peak Huangguan shan forms the border between the two provinces. With an altitude range from 200-2,158m Mount Wuyi is comprised of middle and lower mountains forming a large intact forested wilderness in southeast China. Landform is steeper on the northern (Jiangxi) side of the range with an average gradient of 40%.

The climate of Mount Wuyi NNR (Jiangxi) is moister than the Fujian side, so some species such as forest bamboos, ferns, and bryophytes are more abundant. The rivers within the Mount Wuyi (Jiangxi) component are typical mountain terrace rivers, with large slopes and rapidly flowing water. The main rivers are the Tongmushui, Wushishui, Chengyuanshui and Huangbishui, which are the main sources of the Yanshan River of the Xinjiang watershed of the Poyang Lake water system.

2. Vegetation zones and flora

Mount Wuyi is covered by one of the largest, most intact, humid subtropical forests in the world, on the edge between the Chinese subtropical and south Chinese tropical rain forests and is a refuge for a large number of relict plants: The site has a wide range of vegetation types graded by elevation. The most extensive is evergreen broad-leaved forest which grows up to 1,400m. Eleven broad vegetation patterns are described: temperate coniferous forest, warm coniferous forest, temperate broad-leaved and coniferous mixed forest, deciduous and broad-leaved forest, evergreen broad-leaved and deciduous mixed forest, evergreen broad-leaved forest, bamboo forest, and, above 1,700m, deciduous broad-leaved and evergreen broad-leaved elfin forests, brush-wood and meadow. The dominant family is the Fagaceae; co-dominants are Lauraceae, Theaceae, Magnoliaceae, Elaeocarpaceae and Hamamelidaceae. At higher altitudes there is a cloud-forest with Ericaceae and a number of coniferous families. Among prominent tree species are the evergreen chinquapins *Castanopsis eyeri*, *C. fargesii* and *C. fabri*, Hance tanbark oak *Lithocarpus hancei*, blue Japanese oak *Cyclobalanopsis glauca*, Taiwan pine *Pinus taiwanensis*, Chinese little-leaf box *Buxus sinica* var. *parvifolia*, common Chinese fir *Cunninghamia lanceolata*, Chinese cedar *Cryptomeria japonica* (*fortunei*), Masson pine *P. massoniana* and ginkgo *Ginkgo biloba*. Among rare relict species are Taiwan hemlock *Tsuga formosana*, Chinese hemlock *T. chinensis chekiangensis*, Chinese yew *Taxus sinensis*, Chinese tulip tree *Liriodendron sinensis*, Ford's manglietia *Manglietia fordiana*, Chinese bretschnidera *Bretschneidera sinensis*, Chinese cypress *Glyptostrobus pensilis*, Chinese torreyia *Torreya grandis* and introduced (from Hubei) dawn redwood *Metasequoia glyptostroboides* (Li & Zhao, 1989; Nomination, 1998, IUCN, 1999).

The vegetation is profoundly affected by and also creates the zonation of soils. The zonal soil of Mount Wuyi (Jiangxi) component is mid-subtropical yellow soil. Different soil vertical patterns are formed like the difference between mountain climate and the vegetation. From the bottom to the top, there are six soil (sub) categories. They are hilly red soil (below 500 meters), hilly red-yellow soil (400 to 600 meters), hilly yellow soil (600 to 1,300 meters), hilly yellow-brown soil (1,300~1,900 meters), and mountainous meadow soil (above 1900 meters), and a small area of hilly boggy soil develops on the top.

Table 1 Main floral communities and characteristics of Mount Wuyi vegetation

Vegetation pattern	Main formation	Altitude (m)	Species under State's key protection	Species under province's key protection	Endemic species in Mount Wuyi	Total	Proportion in the number of analyzed species	
							Number of analyzed species	
Evergreen broadleaved forest	<i>Castanopsis, Schima superba</i> forest	300-1400	18	13	26	57	92	62
	<i>Lithocarpus glaber</i> (Thunb.) Nakai forest <i>Lithocarpus glaber</i> bog forest	1500-1900	4	8	5	17	92	18
	<i>Populus simonii</i> forest	1850-2000	2	5	3	10	92	11
	<i>Multinervis</i> elfin forest	1800-2000	6	7	2	15	92	16
	Moso Bamboo forest	300-1400	14	10	7	31	92	34
	<i>Oligostachyum oedogonatum</i> Bamboo forest	700-1600	0	1	0	1	92	1
Broadleaf deciduous forest	<i>Fagus lucida</i> forest and <i>Liquidambar acalycina</i> forest	1200-1600	7	5	2	14	92	15
Coniferous and broadleaved mixed forest	<i>Tsuga chinensis</i> forest and broadleaved tree forest	1400-1800	10	10	12	32	92	35
	<i>Pinus taiwanensis</i> forest – broadleaved forest	1100-1800	10	11	2	23	92	25
Wet coniferous forest	Mixed forest <i>Tsuga chinensis</i> forest	1600-1800	5	7	9	21	92	23
	<i>Pinus taiwanensis</i> forest	1100-1800	5	7	0	12	92	13
Scrub forest	<i>Clethera cavaleriei</i> , <i>Enkianthus quinquefloris</i>	1500-1000	0	7	5	12	92	13
	Indian Azalea	300-1000	0	2	0	2	92	2
Brush-wood	<i>Bretschneidera sinensis</i>	1500-1800	2	2	3	7	92	8
Middle mountain meadow	<i>Calymmodon moliniopsis</i> <i>Deyeuxia arundinacea</i>	1600-2150	0	3	8	11	92	12

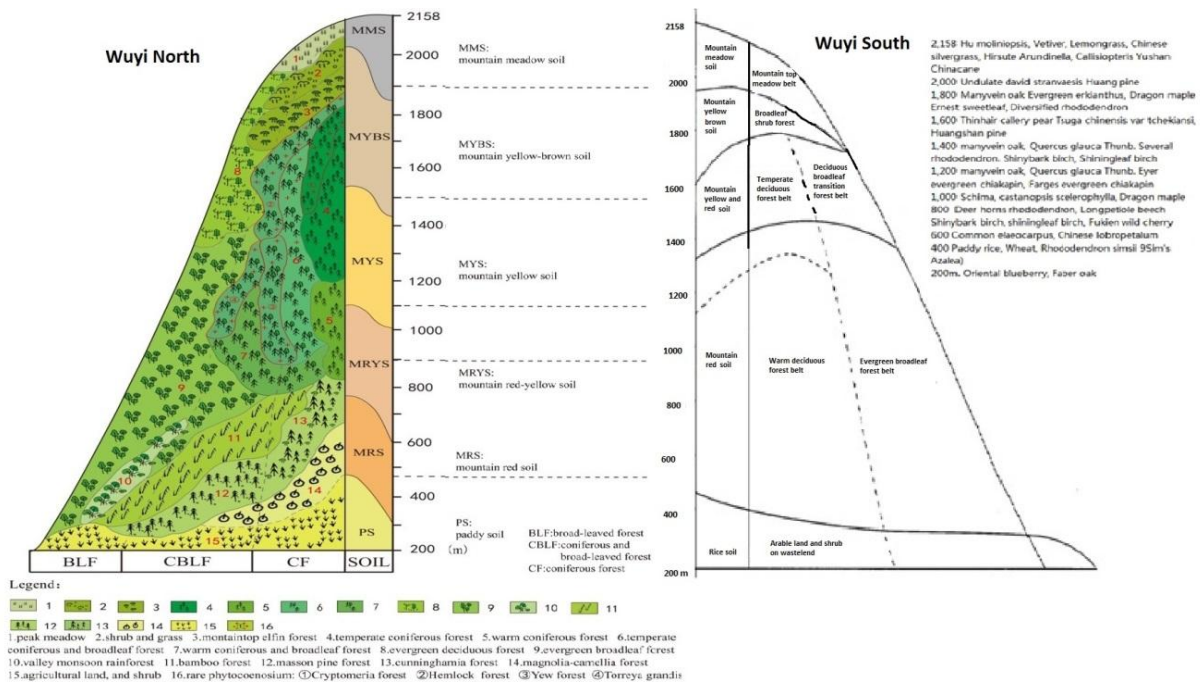


Fig.1 Relationships between altitude, soil type and vegetation on north and south sides of Mt Wuyi

Whilst the Fujian side of Wuyi protects only the south facing slopes of the range, the Jiangxi reserve protects examples of the northern slopes and extends further east and north to include some secondary branches of the main range. Adding this reserve to the Fujian reserve is important as the northern slopes differ in being steeper, less disturbed by moso bamboo farming and visitors and therefore wilder and more natural with a complete stratification for the many seasonal migrants that move up and down the mountains at different times of the year.

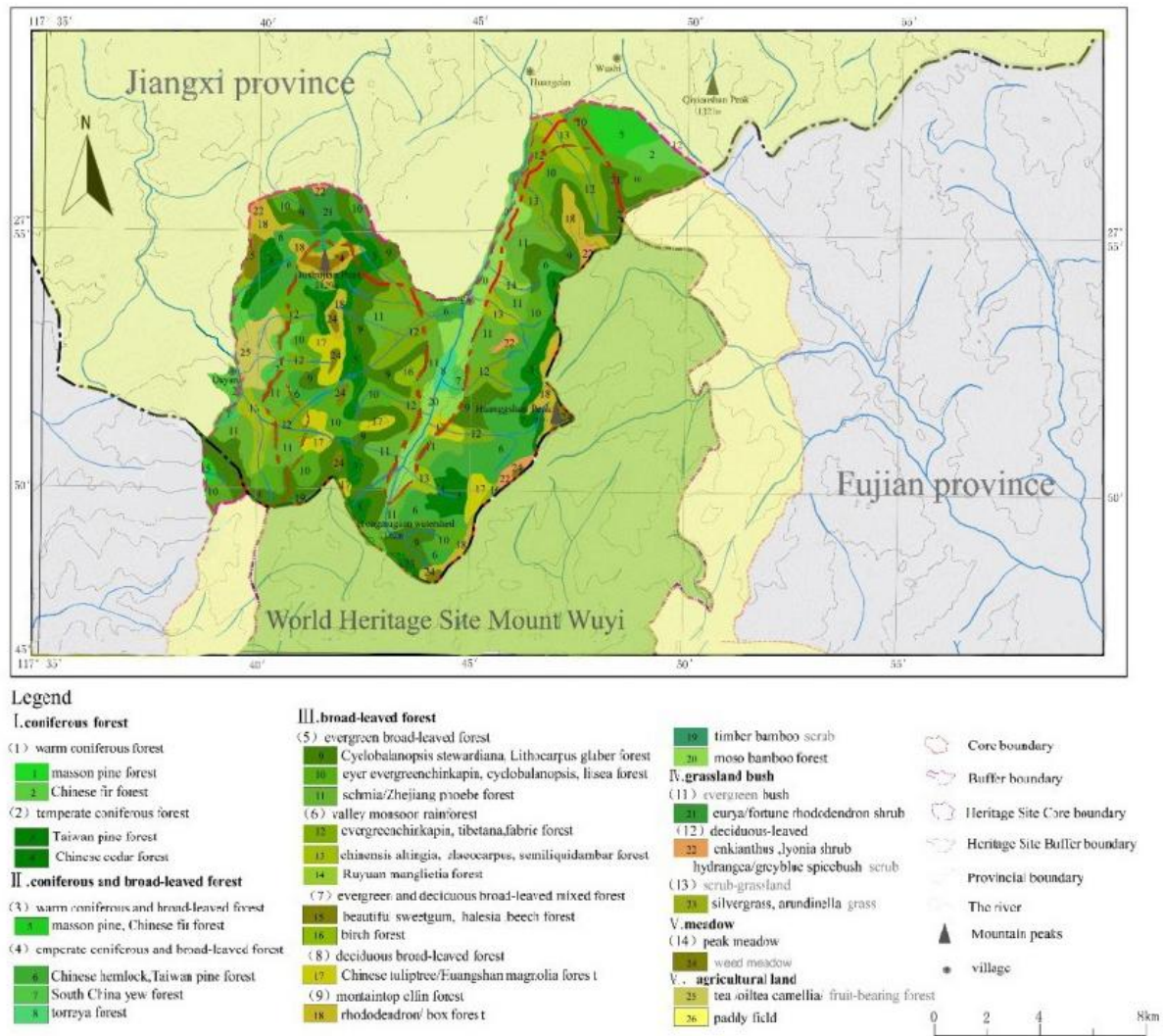


Figure 2 Natural vegetation types of Mount Wuyi (Jiangxi) of the modified property

3. Fauna

The fauna of Mount Wuyi is internationally known for its high diversity and large numbers of rare and endemic species. In all, some 5,000 species have been recorded from the area. Vertebrates number 475 of which 143 species are nationally protected and 46 listed under CITES (IUCN, 1999). These include 23 families and 71 species of mammal; 47 families and 256 species of bird; 13 families and 73 species of reptile; 10 families and 35 species of amphibian; and 12 families and 40 species of fish. In addition some 4,635 species of insects have been described, although the total insect fauna is probably far larger. Among the vertebrates are some 49 species endemic to China, one, the Chinese bamboo snake, *Pseudoxenodon karlschmidti* is endemic to Fujian, one species endemic to the locality: chongan moustache toad *Leptobrachium liui*. Other notable species in the area include clouded leopard *Neofelis nebulosa* (VU), leopard *Panthera pardus*, black muntjac *Muntiacus crinifrons* (VU), Chinese serow *Capricornis milneedwardsii*, Cabot's tragopan *Tragopan caboti* (VU), Elliot's pheasant *Syrnaticus ellioti*; the Giant salamander *Andrias davidianus* (CR), and the golden kaiserhind swallowtail *Teinopalpus aureus*. The area is also important for migratory birds, and over 100 species are protected by Sino-Japanese and Sino-Australian agreements. (IUCN, 1999; Nomination, 1998). The area is globally listed as an Important Bird Area (IBA).

The Mount Wuyi Jiangxi portion extends the total size of the forest included within the World Heritage Site adding to its ecological viability both in terms of population sizes of endangered and endemic species included as well as community viability and adaptability in the face of changing climate. Several endangered species including the spectacular endemic Cabot's tragopan *Tragopan caboti* and shy animals such as endemic Black muntjac *Muntiacus crinifrons* are less disturbed within the Jiangxi forests. The northern facies are part of the Yangtze river catchment and the rivers of the reserve drain through the famous Poyang Lake basin. As such they serve as a species recruitment channel for species from the very large catchment area, quite different from the forests of the Fujian reserve which drain into the South China Sea via much smaller river catchments.

4. Outstanding overall species richness

- **Flora**

The Mount Wuyi WH property boasts long lists of plants including many endemic species, rare and protected species, relict plants and huge ancient trees. The Mount Wuyi (Jiangxi) section is also florally very rich and has recorded 302 families, 1055 genera and 2457 species of higher wild plants in total. Among them, there are 68 families, 157 genera and 276 species of bryophyte; 41 families, 93 genera and 248 species of fern; and 193 families, 805 genera and 1,933 species of spermatophyte (5 families, 10 genera and 14 species of gymnosperm and 188 families, 795 genera and 1,919 species of angiosperm).

Table 2 Statistics of higher plants by families, genera and species in Mount Wuyi (Jiangxi) component of the modified property

Taxon		Family	Genus	Species
Bryophyte		68	157	276
Ferns		41	93	248
Spermatophytes	Gymnosperm	5	10	14
	Angiosperm	188	795	1919
	subtotal	193	805	1933
Total		302	1055	2457

- **Rare, endemic and protected species**

There are 123 rare and endangered species under protection in Mount Wuyi (Jiangxi) component. Among them, 24 species are recorded in the IUCN Species Red List (2012), 46 species are recorded in the convention on international trade in endangered species of flora and fauna CITES (2011) , 75 species are recorded in the Chinese Species Red List (2013), and 94 orchid species are recorded in the National Key protective Wild Plants Lists (First Batch) (1999) (Table 4.2).

Table 3 Each type of rare and endangered plants under protection in Mount Wuyi (Jiangxi) component of the modified property

Category	IUCN Species Red List (2012)	CITES (2011)	Chinese Species Red List (2013)	National Key protective Wild Plants Lists (First Batch) (1999)
Fern	0	1	0	2
Gymnosperm	7	0	6	2
Angiosperm	17	45	69	94
Total	24	46	75	98

- **Endemic plants**

There are 23 endemic genera to China of vascular plants in Mount Wuyi (Jiangxi) component, such as *Bretschneidera*, *Sargentodoxa*, *Chimonanthus*, *Semiliquidambar*, *Eomecon*, and 503 species endemic to China, such as *Tsuga chinensis*, *Juniperus formosana*, *Cephalotaxus sinensis*, and *Torreya grandis* original gymnosperm as well as *Magnolia amoena*, *Manglietia yuyuanensis*, *Dichocarpum dalzielii*, *Hamamelis mollis*, *Liquidambar acalycina* representative angiosperm, of which 21 species are endemic to the Mount Wuyi (Jiangxi) region, such as *Pseudosasa wuyiensis*, *Yushania mounchwuyiensis*, *Sinosenecio wuyiensis*, *Berberis wuyiensis*, and *Thalictrum mounchwuyicum*.

Table4 The percentage of Chinese endemic plants in Mount Wuyi (Jiangxi) component of the property

Category	Plant species of the Jiangxi section	Number of species endemic to China	Percentage of the total (%)
Fern	248		
Gymnosperm	14	5	35.7
Angiosperm	1919	498	26.4
Total	2181	503	23.5

- **Relicts and fossils**

There are 137 species of each type of ancient and relict plant in Mount Wuyi (Jiangxi) component of the property belonging to 66 families and 99 genera. These include *Cryptomeria fortunei*, *Liriodendron chinense*, *Euptelea pleiosperma*, *Cercidiphyllum japonicum*, *Tapiscia sinensis*.

- **Important type collection area.**

Guadun in the Mount Wuyi WH property was a famous collecting locality and more than one hundred type specimens originate from that locality but other type specimens were also collected in the Jiangxi sections of Wuyi (see table 4.4)

Table5 Plant type specimens collected inside Mount Wuyi (Jiangxi)

Type locality	Scientific name	(year)
Yanshan	<i>Arundinaria yanshanensis</i>	1993
Yanshan, Huanggangshan	<i>Berberis wuyiensis</i>	1986
Huanggangshan	<i>Yushania hirticaulis</i>	1981
Yanshan, Wuyi mountain	<i>Padus Mount Wuyiensis</i>	1982
Yanshan	<i>Rubus rosaefolius</i> var. <i>Mount Wuyiensis</i>	1986
Yanshan	<i>Sorbus amabilis</i> var. <i>Mount Wuyiensis</i>	1983
Wuyi mountain	<i>Rubus jiangxiensis</i>	1991
Yanshan, Wuyi mountain	<i>Rubus rosaefolius</i> var. <i>inermis</i>	1986
Yanshan, Wuyi mountain	<i>Rubus yanshanensis</i>	1991
Yanshan	<i>Ampelopsis brevipedunculata</i> var. <i>kulingensis</i> f. <i>puberula</i>	1920

Annex 2.Revised Statement of OUV

1.Brief synthesis:

Proposed as a mixed site, Mount of Wuyi covers 106,465 ha and the buffer zone is 42,241 ha. It consists of the inscribed Mount Wuyi World Heritage property (1999), and the direct extension of Mount Wuyi to its north slopes, located in Jiangxi province (namely Mount Wuyi, Jiangxi).

In history, the property is closely associated with the Gumin and later the Minyue culture, originated from the aboriginal culture in this remote corner of China. A large administrative Han Dynasty city built in the 1st Century BC by the ancient King of Yue is an archaeological site of great significance to study the development of Minyue nationality. The “Boat coffins”, “Hongqiao boards” and ancient pottery kilns scattered in the property are also precious evidence to investigate this mysterious culture, vanished 3,000 years ago.

Mount Wuyi contains outstanding, beautiful and the biologically richest natural areas in Southeast China, representing Chinese humid subtropical forests and South Chinese rainforest. As such they are of immense importance for biodiversity conservation. The property is distinguished as a unique refuge for a large number of ancient relict species, and relict communities, many of them endemic to China. This value as a biological refuge is fittingly mirrored in the values for culture as it is also an exceptional retreat area of religion and philosophers. The property is considered as the birthplace and cradle of Neo-Confucianism. There are a number of relevant academies, tombs and culture relics of Neo-Confucianism.

The serene beauty of the dramatic gorges of the Nine Bend River, with its numerous temples and monasteries, many now in ruins, provided the setting for the development and spread of Zhu Xi Neo-Confucianism, which became a dominant doctrine in China and had far-reaching impact on the cultures of East Asia since the 11th century.

2.Justification for Criteria:

Mount Wuyi was inscribed on the World Heritage List in 1999 (CONF 209 VIII.B). By decision 36 COM 8E on the retrospective Statements of Outstanding Universal Value, Mount Wuyi was inscribed under criteria (iii), (vi), (vii), (x). The proposed extension of Mount Wuyi applies to the same criteria with minor change to the statements

Criterion (iii): Mount Wuyi is a landscape of great beauty fused harmoniously with a series of cultural relics and exceptional archaeological sites. The boat coffins and Han Dynasty city established both in the 1st century BCE reflect the Minyue ethnical culture, which gradually vanished 3000 years ago. A number of academies and temples demonstrate the significance of the area as the birthplace and cradle of Neo-Confucianism since 11th century CE.

Criterion (vi): Mount Wuyi was the cradle of Neo-Confucianism, evidenced by a number of temples and academies associated with Zhu Xi and Wang Yangming, who were the central figures of Neo-Confucianism development. The outstanding natural landscape of the property nurtured the Neo-Confucianism as a dominant doctrine from 10th to 19th centuries that played a significant role in the countries of Eastern and South-eastern Asia for many centuries and influenced philosophy and government over much of the world.

Criterion (vii): The riverine landscape of Wuyi's Nine-Bend Stream (lower gorge) is of exceptional scenic quality in its juxtaposition of smooth rock cliffs with clear, deep water. The mountain and natural beauty have inspired Chinese poets, artists and philosophers through the centuries.

Criterion (x): Mount Wuyi is among the most outstanding subtropical forests in the world. It constitutes the largest, most representative example of largely intact forest representing the diversity of the Chinese Subtropical Forest and the South Chinese Rainforest. The property has acted as a unique species refuge since Tertiary times for a large number of ancient, relict plant species, and plant communities, many of them endemic to China and contains exceptional numbers of reptile, amphibian and insect species.

3.Statement of Integrity:

The modified property has a high level of ecological and landscape integrity, as well as a long history of conservation since the Tang Dynasty. The proposed extension of Mount Wuyi (Jiangxi) adds on the north slopes of the inscribed World Heritage property to complete the biological region of Mount Wuyi. The property is well protected from poaching, encroachment, pollution or other disturbing developments. Programmes are in place to protect the site from fire and alien species and to limit impacts of visitors on natural sites by maintaining strict limits within estimated carrying capacity.

4.Statement of authenticity:

All cultural sites and artifacts identified in the modified property are inventoried and properly protected at different levels of administration. The authenticity of cultural remains along the Nine-Bend River has to a considerable extent been lost in design, materials and function as a result of numerous changes of use and reconstructions. By contrast, the archaeological sites and artifacts, such as the Han Dynasty city, boat coffins, tombs and other cultural relics possess a high level of authenticity. The academies associated with Neo-Confucianism proposed in the extension areas are located in the region of heavy rain, and therefore the timber-brick structure have went through constant restoration and even reconstruction, which were supported by various historic records or materials. The attributes included in the nomination in terms of its current state of conservation of architectural layouts, construction patterns and landscape settings are all authentic. Where conservation interventions required in the future, the application of Chinese Principle ensures respects to authenticity issues.

5.Requirements for protection and management:

The modified property is wholly owned by the government of the People's Republic of China and enjoys strong legal protection. The proposed components include national-level nature reserves, national park and scenic site, and national level listed cultural relics, thus assuring the safeguarding of both the cultural and natural values of the property under a number of national laws including: the Forestry Law (1998), the Environmental Protection Law (2015), Regulations on Nature Reserves (1994), Regulation of National Parks and Scenic Sites (2006), Cultural Relics Protection Law (2002), the Law on the Protection of Wildlife (2004), and Scenic Areas Ordinance (2006). The Fujian Mount Wuyi property was designated as a UNESCO (MAB) Biosphere Reserve in 1987.

Management plans coordinated by the administrative authorities from Fujian and Jiangxi provinces are developed for effective protection and management. Monitoring systems are in place with local participation to ensure periodic monitoring and informative decision-making.

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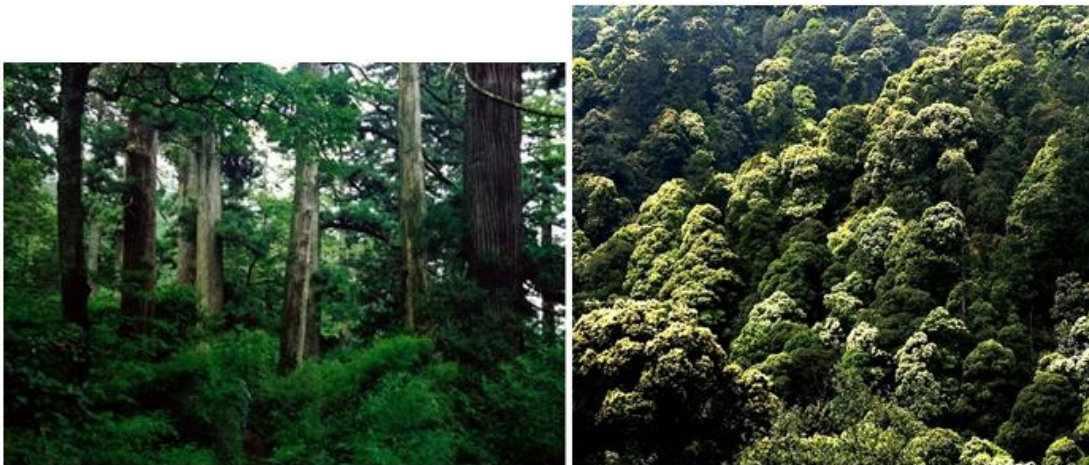
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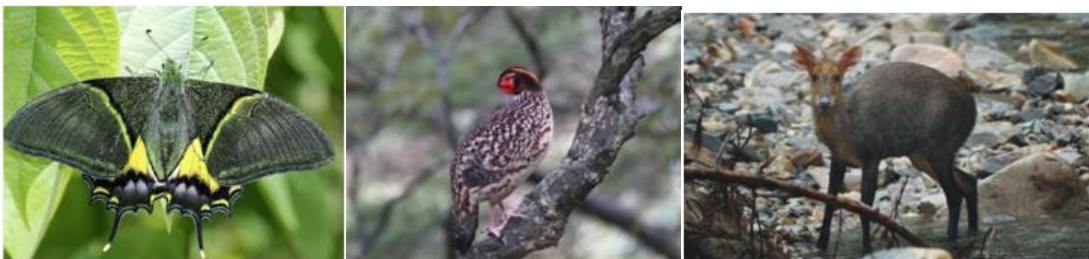
Annex 4. Photographs



Dramatic scenery



Pristine forest habitats



Iconic wildlife – Kaiserhind butterfly, Cabot's tragopan and Black muntjac