

ASIA / PACIFIC

FANJINGSHAN

CHINA



Guizhou Snub-nosed Monkeys (*Rhinopithecus brelichi*) – photo from the nomination dossier

WORLD HERITAGE NOMINATION – IUCN TECHNICAL EVALUATION

FANJINGSHAN (CHINA) – ID N° 1559

IUCN RECOMMENDATION TO WORLD HERITAGE COMMITTEE: To refer the property under natural criteria.

Key paragraphs of Operational Guidelines:

Paragraph 77: Nominated property has potential to meet World Heritage criteria.

Paragraph 78: Nominated property meets integrity, but does not meet protection and management requirements.

1. DOCUMENTATION

a) Date nomination received by IUCN: March 2017

b) Additional information officially requested from and provided by the State Party: Following the IUCN World Heritage Panel a progress report was sent to the State Party on 20 December 2017. This letter advised on the status of the evaluation process and sought responses/clarifications on a range of issues including in relation to the consultation process with local communities on the nomination file and the relocation plan, and further information on requests related to species conservation in the nominated property. The letter also requested a copy of several documents, with adequate translation: detailed relocation plan; “plan to reduce permanent human population”; and Master Plan of the Eco-tourism Development of the Guizhou Fanjingshan National Nature Reserve. A formal response from the State Party to the issues raised in the progress report was received on 26 February 2018.

c) Additional literature consulted: Various sources, including: Bleisch W, Long Y, Richardson M. 2008. *Rhinopithecus brelichi*. The IUCN Red List of Threatened Species 2008. Downloaded on 16 November 2017. Kirkpatrick RC. 1998. *Ecology and behavior in snub-nosed and douc langurs*. In: Jablonski N, editor. *The Natural History of the Doucs and Snub-Nosed Monkeys*. Singapore: World Scientific Press. p 155-190. Kirkpatrick RC, Grueter CC. 2010. *Snub-nosed monkeys: multilevel societies across varied environments*. *Evolutionary Anthropology* 19:98-113. Kolleck J, Yang MY, Zinner D, Roos C. 2013. *Genetic diversity in endangered Guizhou snub-nosed monkeys (Rhinopithecus brelichi): contrasting results from microsatellite and mitochondrial DNA data*. *PLOS ONE* 8:e73647. Ministry of Housing and Urban-Rural Development, People’s Republic of China, 2016. *Fanjingshan. Convention Concerning the Protection of the World Cultural and Natural Heritage. Nomination document*. Ministry of Housing and Urban-Rural Development, People’s Republic of China, 2016. *Fanjingshan Management Plan*. Pan H J, Shi F L, Chang Z F, et al. 2011. *Mitochondrial DNA variation analysis suggests extreme low genetic diversity in Guizhou snubnosed monkeys (Rhinopithecus brelichi)*. *Chinese Science Bulletin* 56:2541–2544. Pan Y, Wei G, Cunningham AA, Li S, Chen S, Milner-Gulland EJ, Turvey ST. 2016. *Using local ecological knowledge to assess the status of the Critically Endangered Chinese*

giant salamander Andrias davidianus in Guizhou Province, China. *Oryx* 50:257-264. Tapley B, Okada S, Redbond J, Turvey ST, Chen S, Lü J. et al. (2015). *Failure to detect the Chinese giant salamander (Andrias davidianus) in Fanjingshan National Nature Reserve, Guizhou Province, China*. *Salamandra* 51, 206-208. Xiang Z, Nie S, Lei X, Chang Z, Wei F, Li M. 2009. *Current status and conservation of the gray snub-nosed monkey Rhinopithecus brelichi (Colobinae) in Guizhou, China*. *Biological Conservation* 142:469-476.

d) Consultations: 15 desk reviews received. The mission met with a wide range of stakeholders, representatives and staff of concerned national and local authorities, including high-level representatives of the Ministry of Housing and Urban-Rural Development, local governments, as well as of the Administration of Guizhou Fanjingshan National Nature Reserve and local communities.

e) Field Visit: Cyril Grueter and Remco van Merm, 10-16 October 2017

f) Date of IUCN approval of this report: April 2018

2. SUMMARY OF NATURAL VALUES

The nominated property, Fanjingshan, is located within the Wuling Mountain Range, near Tongren City in North-East Guizhou province, South-West China. It is located in the transitional zone between the Yunnan-Guizhou Plateau and the Western Hunan Hills. Covering a total area of 40,275 ha, the nominated property overlaps, but does not fully coincide with Fanjingshan National Nature Reserve, Yinjiang Yangxi Provincial Nature Reserve (Chayuan area) and a small area of National Non-Commercial Forest. Fanjingshan National Nature Reserve is also a UNESCO Biosphere Reserve. The supplementary information provided by the State Party confirms that the nominated property fully includes the core zone of the Biosphere Reserve, as well as parts of the buffer zone to the Biosphere Reserve. The nominated property is fully surrounded by a proposed World Heritage site buffer zone of 37,239 ha, which is not included in the nominated property.

The nominated property is located in two ecoregions, namely the Jian Nan subtropical evergreen forests ecoregion (64%) and the Guizhou Plateau broadleaf

and mixed forests ecoregion (36%). It includes the highest peak in the Wuling Mountain Range, Mt Fenghuangshan, with an elevation of 2,570 m above sea level (masl). With the lowest point at 500 masl, this gives the nominated property an altitudinal range of more than 2,000 m. The resulting vertical stratification of vegetation is common in mountain systems across the globe. In Fanjingshan, the three major altitudinal vegetation zones are evergreen broadleaf forest (<1,300 masl), mixed evergreen and deciduous broadleaf forest (1,300 – 2,200 masl) and mixed deciduous broadleaf and conifer and scrub forest (>2,200 masl). Fanjingshan National Nature Reserve is noted in literature as one of the best-preserved subtropical ecosystems in China. The climate is monsoonal, with mean annual temperatures varying from 5 to 17 °C. With annual precipitation varying from 1,100 to 2,600 mm and a mean annual relative humidity of more than 80%, Fanjingshan has the highest rainfall in Guizhou Province and is one of the wettest regions of China. The nominated property is an important source of water for the surrounding landscape and beyond, with some 20 rivers and streams finding their source here and feeding the Wujiang and Yuanjiang river systems, both of which ultimately drain into the Yangtze River. Many of these features, including the diversity of high quality forests, mountain scenery, wetlands, waterfalls, and meteorological phenomena are put forward in the nomination dossier as justifying the aesthetic importance of Fanjingshan.

The nomination dossier puts much emphasis on Fanjingshan being an island of metamorphic rock in a sea of karst, and notes that it is considered to be the first place in Southwest China to emerge from the sea. It is still home to many ancient and relict plant and animal species which originated in the Tertiary period, between 65 million and 2 million years ago, and it is stated that 75% of its flora “behaves as if it were on an island”. The nominated property’s isolation and changing climatic conditions have led to a high degree of endemism, with a total of 46 locally endemic plant species, 4 endemic vertebrate species and 245 endemic invertebrate species. The most prominent endemic species are Fanjingshan Fir (*Abies fanjingshanensis* - EN¹) and Guizhou Snub-nosed Monkey (*Rhinopithecus brelichi* - EN), both of which are entirely restricted to the nominated property. Three species of *Fagus* (*F. longipetiolata*, *F. lucida*, and *F. engleriana*) are the dominant species of what the nomination dossier states is the largest and most contiguous primeval beech forest in the subtropical region, providing insight into how beech forests evolved from the subtropical to the temperate zone.

A total of 3,724 plant species have been recorded in the nominated property, an impressive 13% of China’s total flora. The nominated property is characterized by an exceptionally high richness in bryophytes (791 species) as well as one of the richest concentrations of gymnosperms in China (36 species). The diversity of

invertebrates (2,317 species) is also very high. A total of 450 vertebrate species are found inside the nominated property, including 80 mammal, 224 bird, 60 fish, 43 reptile and 43 amphibian species. Although the nomination dossier puts much emphasis on Fanjingshan being the only habitat in the world for Fanjingshan Fir and Guizhou Snub-nosed Monkey, as many as 64 plant and 38 animal species that are listed as Vulnerable (VU), Endangered (EN) or Critically Endangered (CR) on the IUCN Red List are also found here, including the tree *Bretschneidera sinensis* (EN), Chinese Giant Salamander (*Andrias davidianus* - CR), Forest Musk Deer (*Moschus berezovskii* - EN), Reeves’s Pheasant (*Syrnaticus reevesii* - VU), and Asiatic Black Bear (*Ursus thibetanus* - VU).

3. COMPARISONS WITH OTHER AREAS

The nomination dossier undertakes a detailed comparative analysis for each of the criteria for which the property is nominated. Recognizing that an objective comparison of aesthetic value is challenging, the nomination dossier nevertheless attempts to compare Fanjingshan with all 133 sites listed under criterion (vii), by looking at the presence or absence of 10 recurring categories of scenic values (lakes, waterfalls, coastlines, panoramas, landforms, deserts, mountains, forests, meteorological phenomena, and wildlife spectacles). Further comparison is made with seven other mountain World Heritage sites in China, comparing the scales of these properties and the aesthetic values for which they have been inscribed.

The conclusions in the nomination document that Fanjingshan can claim Outstanding Universal Value (OUV) for seven of the abovementioned categories of scenic values is not substantiated. The aesthetically important geomorphological features of Fanjingshan all occur on a very limited scale at the top of Jinding Peak, and do not compare favourably with other dramatic rock formations already included on the World Heritage list, such as the sandstone columns of Wulingyuan Scenic and Historic Interest Area (China) or the remarkable granite rock formations of Mount Sanqingshan National Park (China). Similarly, there is no evidence that the aesthetic value of the nominated property’s wetlands and waterfalls stands out when compared to other sites already on the World Heritage list, such as Pantanal Conservation Area (Brazil) or Canaima National Park (Venezuela). Claims made in the nomination document that the nominated property would meet criterion (vii) on the basis of wildlife spectacles are also not substantiated, as the nominated property does not feature any noteworthy wildlife spectacles in the sense of other such spectacles already recognized on the World Heritage list, such as the congregation of flamingos in Kenya Lake System in the Great Rift Valley (Kenya), the abundant marine life in the Galápagos Islands (Ecuador), the millions of cave swiftlets and bats in Gunung Mulu National Park (Malaysia), or the overwintering congregation of the monarch butterfly at Monarch Butterfly Biosphere Reserve (Mexico), to name but a few.

¹ These codes reflect the conservation status of each species as recorded in the *IUCN Red List of Threatened Species* at the time of the evaluation; for more information please visit <http://www.iucnredlist.org>

In terms of its biodiversity values, the nomination dossier lists Fanjingshan with other World Heritage sites in the same Udvardy Biogeographical Province (Oriental Deciduous Forest) and Terrestrial Ecoregion (Guizhou Plateau broadleaf and mixed forests), as well as other broad-scale global conservation priorities, including Freshwater Global 200 priority ecoregions and Endemic Bird Areas. However, it draws no conclusions on the significance of the nominated property in these contexts. Additional analysis undertaken by IUCN and UN Environment-WCMC to rank the irreplaceability of the nominated property on the basis of its species assemblages found that it has a high irreplaceability, particularly for its mammals, ranking 10th in all of China, and 1st in both the Jian Nan subtropical evergreen forests and the Guizhou Plateau broadleaf and mixed forests ecoregions. Within these ecoregions, the nominated property's irreplaceability ranking for birds and amphibians is also relatively high, respectively 34th and 16th for birds, and 18th and 12th for amphibians.

The nomination dossier goes on to compare Fanjingshan's nature as an 'ecological island' with other ecological islands on the World Heritage List, including some that are marine islands. While most marine islands are discarded for further comparison due to their vastly different context, a comparison is still made with Galápagos Islands (Ecuador), and five other mountain sites, i.e. Mount Emei Scenic Area, including Leshan Giant Buddha Scenic Area (China), Manú National Park (Peru), Putorana Plateau (Russian Federation), Kinabalu Park (Malaysia), and Virgin Komi Forests (Russian Federation). These sites differ fundamentally from Fanjingshan in terms of biogeography, climate and ecological processes. With the exception of Mount Emei, all these sites are also significantly larger than the nominated property. The comparative analysis provides little insight into how Fanjingshan compares to each of these sites in terms of demonstrating the evolutionary processes that led to its high levels of endemism and ancient and relict species. Other sites with landlocked ecological islands that demonstrate such processes, such as Canaima National Park (Venezuela), are not included in the comparative analysis.

The nomination document undertakes a thorough comparative analysis of each of the features put forward as a justification of the nomination of Fanjingshan under criterion (x), including Snub-nosed Monkeys, rare and endangered fir species, beech forests, bryophytes, plant diversity, and animal diversity. It concludes that the nominated property has significant global plant biodiversity, and an impressive number of endemic and endangered species (230 species of rare and endangered plants, 115 species of rare or endangered animals, and 46 local endemic plant species). Most importantly, it is the only habitat for Guizhou Snub-nosed Monkey and Fanjingshan Fir. A comparison of 17 sites in China in the same biogeographic province indicates that Fanjingshan is the richest in terms of overall plant diversity. It also ranks highest in terms of gymnosperms (a striking 36 species). Fanjingshan also constitutes an important distribution centre for mosses. According to a

comparison with 12 Chinese sites, the diversity and level of endemism of bryophytes in Fanjingshan almost matches the Hengduan Mountains, which cover a much larger area (36.4 million ha). When measured against 16 other sites in the same biogeographic province, Fanjingshan boasts the second largest number of vertebrate species (450, after Shennongjia, which is substantially larger) and the largest number of amphibians and freshwater fish. As such the nominated property may be considered important for the conservation of freshwater biodiversity.

A separate, more thorough comparison is made with Hubei Shennongjia, which is located less than 500 km away in the same biogeographic province, and was inscribed in 2016 on the basis of criteria (ix) and (x). In terms of plant species richness, Fanjingshan is slightly more diverse than Shennongjia (3,724 vs. 3,644 including bryophytes; 2,933 vs. 3,386 excluding bryophytes) despite being significantly smaller in size (403 vs. 733 km²). In terms of mammals, the two sites are very similar (Fanjingshan: 80; Shennongjia: 87). However, Shennongjia has more birds (389 vs. 224). The comparison of Fanjingshan with the previously inscribed Shennongjia provided in the nomination dossier is very useful. It demonstrates that despite many similarities, there are some key differences that set Fanjingshan apart from Shennongjia, including the much higher richness in bryophyte species, the higher richness and distinct species assemblage of gymnosperms, the higher richness of amphibians and freshwater fish, and its higher levels of endemism.

4. INTEGRITY, PROTECTION AND MANAGEMENT

4.1. Protection

The nominated property benefits from an adequate legal protection and management framework. Fully within the jurisdiction of Guizhou Province and Tongren City, the nominated property covers three counties: Jiangkou County, Yinjian Tujia and Miao Autonomous County, and Songtao Miao Autonomous County. It consists of three contiguous areas with different levels of legal protection, i.e. a National Nature Reserve, part of a Provincial Nature Reserve, and a small area of National Non-Commercial Forest. According to the nomination dossier, there are plans to incorporate this area of National Non-Commercial Forest into Fanjingshan National Nature Reserve. Furthermore, much of the buffer zone and the wider landscape enjoy various levels of legal protection, including parts of the Fanjingshan National Nature Reserve and the Yinjiang Yangxi Provincial Nature Reserve not included in the nominated property, the Fanjingshan-Taipinghe Provincial Park, the Yinjiang Mu Huang Provincial Park, and multiple National Non-Commercial Forests.

All land in the nominated property is owned by the People's Republic of China, which governs and regulates the use of natural resources. The nominated property is divided into three management zones based on conservation value, presentation need, and community utilization.

The nominated property is protected by a comprehensive range of national and provincial legislation. In addition, the villages within the nominated property and its buffer zone each have their own village regulations, which prescribe certain behaviours that respect the natural environment of the mountain.

IUCN considers that the protection status of the nominated property meets the requirements of the Operational Guidelines.

4.2 Boundaries

The boundaries of the nominated property and its buffer zone are clearly designated and at least partly demarcated on the ground. The nominated property covers all important local floristic elements, and is of sufficient size to encompass the entire known home range of Guizhou Snub-nosed Monkey. A buffer zone (37,239 ha) fully surrounds the property. The inclusion of the Chayuan area of the Yinjiang Yangxi Provincial Nature Reserve into the nominated property improves its ecological integrity, by extending the amount of suitable habitat for the Guizhou Snub-nosed Monkey to occupy. It should be noted that the continuity of ecological connectivity between the Chayuan area and Fanjingshan National Nature Reserve is interrupted by the presence of some roads and also impacted by village areas, as well as agricultural land (mainly cropping tea and vegetables). These villages are located in the experimental zone of Fanjingshan Biosphere Reserve, but are included within the nominated property. A wildlife corridor has been constructed over a road near the village of Longmenao, on the boundary of the nominated property, to enhance ecological connectivity. This corridor was purposely built with the integrity of the nominated property in mind.

Overall, the nominated property includes all key components required to express the claimed OUV and is of adequate, if minimal size to ensure the complete representation of the features which convey its significance; however in relation to the application of criterion (ix) the size of the nominated property is considered to be too small to sustain the full range of ecological functions. Any further reduction in size or increased fragmentation of the nominated property, through development of roads, infrastructure or modified or extension of agriculture or residential land uses would certainly be of concern in relation to its integrity.

There is a need to further clarify how the boundaries of the nominated property relate to those of the Fanjingshan Biosphere Reserve, with the aim of ensuring that any developments permitted in the experimental zone of the Biosphere Reserve do not cause any negative impact on the nominated property. Where feasible, the zones of the Biosphere Reserve should be rationalised to correspond with the boundaries of the nominated property and its buffer zone.

IUCN considers that the boundaries of the nominated property meet the requirements of the Operational Guidelines.

4.3 Management

There are three main management agencies responsible for the nominated property, i.e. the Administration of Fanjingshan National Nature Reserve, the Administration of Yinjiang Yangxi Provincial Nature Reserve (both department-level government affiliated institutions), and the Forest Department (directly affiliated with Guizhou Province). Current staffing levels, although relatively small, appear adequate, in part thanks to the collaboration with local police, the small portion of the nominated property that is open to the public, as well as its rugged terrain, and the use of advanced monitoring techniques. The latter include some 250 camera traps (not counting the 58 CCTV cameras used for monitoring tourists) scattered throughout the nominated property (i.e. one camera for every 1.6 km²), the use of a GPS-based monitoring system akin to the Spatial Monitoring and Reporting Tool (SMART), and the use of drones to monitor inaccessible areas. The latter is particularly used for monitoring Guizhou Snub-nosed Monkey. A systematic monitoring system is in the process of being developed, which will involve monitoring of OUV, visitors, environmental quality, natural disasters, human activity, and villages. Monitoring indicators are still being developed and should in the future enable the adoption of an adaptive management approach.

The management organisation and capacity of the property appears to be adequate. However, noting that there are three agencies responsible for the management of the three component areas of the nominated property, management could be further streamlined by establishing one overarching agency responsible for the management of the entire nominated property. This would also facilitate the implementation of the management plan for the nominated property (Fanjingshan Management Plan 2016-2020).

Other relevant plans exist for the management of each of the component protected areas of the nominated property (except for the National Non-commercial Forest), for ecotourism development of Guizhou Fanjingshan National Nature Reserve, and for the conservation of Guizhou Snub-nosed Monkey. To a certain extent, these plans also address threats outside the boundaries of the nominated property, where the component protected areas extend beyond these boundaries.

The total estimated budget for the property for the period 2016-2020 is a generous 100,410,000 Yuan (approximately USD 15.1 million). More than 20% of this is directed to capacity building, while nearly 26% is allocated to the sustainable development of surrounding communities. Nearly 24% is allocated to ecological and environmental protection and management. There are three sources of funding, i.e. Central Government, Guizhou Provincial Government,

and a small part of self-generated funding coming from the operating incomes of Fanjingshan National Nature Reserve and Yinjiang Yangxi Provincial Nature Reserve. Among the financial safeguards included in the management plan, it is noted that the nominated property is encouraged to seek multilateral investments, including domestic and foreign long-term low interest loans and grants, and to use special funds deployed by central and local governments and departments, such as grain-for-green projects where villagers are given grain in return for allowing their land to be naturally reclaimed by the forest.

The current budget appears adequate to meet the needs of the nominated property, provided that actual allocations meet the estimates in the management plan. There are a number of management issues that are however not fully addressed in the current management of the nominated property, and which require resolution prior to possible inscription on the World Heritage List. These are discussed below in sections 4.4 and 4.5.

IUCN considers that the management of the nominated property does not fully meet the requirements of the Operational Guidelines.

4.4 Community

There are several villages within the nominated property (5, with 718 households) and in the buffer zone (18, with 4,974 households). Management of community lands and related decision-making is done by Village Committees, independent of the Nature Reserve administrations. Local communities also have a right to vote on any decisions being made by the Nature Reserve administrations that may affect them. The nomination appears to have facilitated a better relationship between the Nature Reserve administrations and the local communities, and during the nomination process, much effort has been made to address development needs of local communities.

The budget estimate in the management plan includes a significant portion (>25%) of funds allocated to the sustainable development of local communities, and the benefits flowing to some local communities were evident during the field mission, as demonstrated by the construction of new homes, repairs to existing structures, and training in alternative livelihoods such as bamboo weaving and furniture manufacture.

The nominated property has significant cultural values, as it has been influenced by Buddhism since the 12th century, and during the 17th and 18th centuries there were five Royal Temples and 48 Ordinary Temples in Fanjingshan. Most of these no longer exist, but some temples and ruins remain, and Buddhist worship, along with spirit and totem worship by local ethnic minorities, is still very evident. There are no indications that the rights of local communities to access places of worship and continue these cultural practices would be in any way impeded by the nomination. However, care should be taken to avoid negative impacts from growing numbers of tourists, especially if Fanjingshan starts to

attract visitors from further afield in the case of an inscription on the World Heritage List.

The management plan for the nominated property refers to a detailed relocation and compensation plan, as well as plans to reduce the permanent population within the nominated property. Supplementary information submitted by the State Party asserts that the relocation process is entirely voluntary, but neither the nomination, nor the supplementary information, clarify adequately the process followed to ensure that this is the case and that there is adequate public consultation, beyond the stated public notice period of at least seven days for the list of people to whom relocation is proposed. Insufficient details are provided regarding compensation schemes. It is crucial that, prior to an inscription of the nominated property, the State Party further clarify the process and measures taken concerning the relocation of residents living within the nominated property to ensure that this process is fully voluntary and in line with the policies of the Convention and relevant international norms, including principles related to free, prior and informed consent (FPIC), effective consultation, fair compensation, access to social benefits and skills training, and the preservation of cultural rights. These matters need to be clarified before inscription could be recommended.

4.5 Threats

Approximately 90% of the property is made up of primary forests. The ruggedness of the terrain has contributed to preserving Fanjingshan largely in its natural state. Past deforestation has therefore only had a minimal impact on the nominated property. The one major development project that has been implemented within its boundaries is the construction of a cable car which may have caused some disturbance to native wildlife and made previously difficult to access areas in the upper altitudinal zones more accessible. On the other hand, the cable car has also led to a reduction of foot traffic on the path leading to Jinding Peak. Past hunting of wildlife may have led to the extirpation of Leopard (*Panthera pardus* - VU) and Clouded Leopard (*Neofelis nebulosa* - VU), and there is no recent evidence to support claims of their continued existence in the nominated property made in the nomination dossier. Poaching has decimated Giant Salamander, but is reported by the State Party to now be under control. Some recent literature still refers to active poaching of Giant Salamander, as well as to the risk of Wild Salamanders being harvested for restocking of nearby salamander farms. This risk is exacerbated by a lack of clarity regarding the regulation of the taming of wild animals, which is noted in the management plan as a permitted activity. However, the State Party noted during the field mission that farm restocking relies on captive bred salamanders from Shaanxi. The proximity of these farms to the nominated property further raises concern about risks of disease transmission, including the risks of the devastating disease chytridiomycosis.

Jiangkou County, the area of Fanjingshan where most salamander sightings were reported, has also been subjected to massive infrastructural development for tourism (roads, hotels, tourism villages) outside the buffer zone of the nominated property, thus making this salamander population particularly vulnerable. Without additional targeted conservation measures, the nominated property is unlikely to be providing adequate conservation for Giant Salamander.

Direct poaching of Snub-nosed Monkeys appears to be no longer a threat but reports of indirect poaching (through snares set for other wildlife such as Muntjac and Musk Deer) existed until recently. The nomination document mentions establishing an efficient breeding program for the Guizhou Snub-nosed Monkey as a suggested conservation measure. However, given the precarious state of the species in the wild, further extractions needed to establish a genetically diverse *ex situ* population are not justified. The Snub-nosed Monkey population is clearly vulnerable to catastrophic events because they are restricted to the nominated property, which is surrounded by modified habitat. It is particularly vulnerable to human-caused or natural disturbances that could wipe out an entire population, and changes in habitat suitability resulting from a rapidly changing climate. Research on the impacts of climate change on the biodiversity of the nominated property, especially on particularly sensitive species and ecological specialists such as Guizhou Snub-nosed Monkey and Fanjingshan Fir, is still in its infancy, but some projects are currently being funded by the National Natural Science Foundation of China.

Water pollution does not seem to be an issue, with the water having excellent quality. If and how industrial air pollution in areas in the vicinity of the property (such as the city of Tongren) affects forest health is unknown, and deserves further investigation as there have been some reports of acid rain. All mining operations inside the property have apparently ceased but areas affected by past mining were not visited during the field mission. The presence of various minerals poses the need for strict monitoring to prevent illegal mining activities. A busy ring road passes through the western portion of the enlarged reserve and has had some effect on the passage of wildlife but the construction of a sizeable tunnel has alleviated some of these threats. There are no reports of road-kill impacting species.

The main potential threat to the property would be a further increase in infrastructures to accommodate higher number of tourists and creating further fragmentation of the habitat and disturbance to the species of importance in response to an inscription of the nominated property.

Public use is tightly regulated and closely monitored, with a maximum of 8,000 visitors per day. All tourism activities are concentrated in a relatively small area (the presentation zone) which comprises only 2.1% of the nominated property, and tourists are strictly prohibited from entering the conservation zone. A cable car provides the main access to this area and effectively concentrates visitation. All overnight stays on the mountain tops are prohibited. Monitoring of

tourist behaviour inside the nominated property is facilitated by a network of 58 CCTV cameras distributed throughout the presentation zone, which also ensure visitor safety. Tourist numbers have been steadily rising, from 180,000 in 2010 to 360,000 in 2014. The reserve administration is adamant about maintaining the quota of 8,000 visitors per day even in the face of a projected further upsurge in tourism numbers in case of an inscription. Current levels of visitation are not considered to be an immediate threat to the integrity of the property, but potential investment in additional infrastructure projects as an alternative to manage increasing tourist numbers is a concern, in particular in case of any plans to develop the currently little used western access. The existence of such plans should be fully clarified, and full impact assessments should be undertaken of any such plans before they are developed further. IUCN considers that there should be no additional cable car development given the small size of the nominated property and the excellent condition of its forest. Assurances are needed in this regard before inscription on the World Heritage List could be recommended.

There are significant tourism developments outside the buffer zone of the nominated property which may result in indirect impacts on the nominated property. Some of this development appears to be undertaken in an effort to diversify tourist attractions and reduce overcrowding in the nominated property during the high season; however, the scale of development is much larger than would be justified if this was the only purpose, and there appears to be a clear interest in increasing visitation to the wider area.

Delicate balance between visitation and conservation needs to be upheld and careful monitoring and management of tourism development and infrastructure projects will be required to circumvent any possible threats to the nominated property over the long term. The management plan for the nominated property acknowledges that *“when tourist numbers start to damage the OUV, it is time to stop growth and reduce to sustainable levels”*. However, a more preventive approach should be adopted to avoid damage from excessive visitation. Clear measures to manage increasing visitation in relation to a possible inscription of the nominated property should be developed in the framework of a revised management plan, including firm restrictions on the further expansion of tourism infrastructure and visitor numbers. This is a further matter where assurances are needed prior to recommending possible inscription.

In conclusion, IUCN considers that the integrity, protection and management of the nominated property do not fully meet the requirements of the Operational Guidelines.

5. ADDITIONAL COMMENTS

Noting the similarities between the nominated property and the previously inscribed Hubei Shennongjia, as well as other sites included on China's Tentative List, IUCN recommends that the State Party should

coordinate future nominations with similar and complementary values. This should include consideration of the serial approach, including possible serial extensions to Shennongjia and/or the nominated property, in case of an inscription of the latter.

6. APPLICATION OF CRITERIA

Fanjingshan has been nominated under natural criteria (vii), (ix) and (x).

Criterion (vii): Superlative natural phenomena or natural beauty or aesthetic importance

The justification for criterion (vii) cites a diversity of landscapes and geological features and landforms, as well as the scenery of the mountain landscape, including its wetlands, waterfalls, its dense and diverse forest cover, and wildlife spectacles. In addition, meteorological phenomena such as rainbows, cloud seas, mirages and the so-called “Buddha’s light” are put forward. Stark seasonal contrasts are stated to further enhance the natural beauty of the nominated property.

The nomination document emphasizes that the large elevational difference makes Fanjingshan special in that this results in vertical stratification of vegetation. However, many mountain ecosystems in China and elsewhere do feature such elevational gradients, often more pronounced than at Fanjingshan. The nominated property appears less rich in dramatic landscape features than other comparable sites in China.

The meteorological phenomena described in the nomination do not provide a basis to meet this criterion, as these are common among mountain landscapes with similar climatic conditions. While seasonal variation leads to dramatic changes in the landscape, this is not uncommon. The wetlands and waterfalls do not stand out compared to those in existing World Heritage sites, especially those listed for their aesthetic value.

Claims made in the nomination document that the nominated property would meet criterion (vii) on the basis of wildlife spectacles are not substantiated, and wildlife at the property is not easily observed due to the density of the forest and the shyness of the animals. The nominated property does not feature any wildlife spectacles at the scale of those recognized on the World Heritage List.

IUCN considers that the nominated property does not meet this criterion.

Criterion (ix): Ecosystems/communities and ecological/biological processes

The nomination dossier refers to Fanjingshan as an “[ecological island] on a metamorphic dome emerging from a vast ocean of karst landscape”, and states that 75% of its flora behaves as if it were on an island, as demonstrated by a high degree of endemism among its plants as well as a number of ancient and relict species, most notably Fanjingshan Fir. These species add to the significance of the nominated property as a

place where evolutionary dynamics have been uninterrupted by mankind. However, a convincing case has not been made that the limited size of the nominated property can ensure the long-term continued natural occurrence of these ecological processes, particularly in light of the modified nature of the surrounding landscape and increased isolation and fragmentation in recent times as a result of infrastructure developments, such as the ring road around the reserve.

Fanjingshan is also the last refuge for the Guizhou Snub-nosed Monkey, which is one member of a monophyletic group of primates that has undergone an impressive adaptive radiation. However, the nominated property does not, on its own, convincingly demonstrate the adaptive radiation that this group of primates has undergone. A serial approach to encompass more Snub-nosed Monkey populations demonstrating their respective adaptations could be considered to make a more convincing case in this regard.

The nominated property also includes some 15,600 ha of primary beech forest with three species of *Fagus*, i.e. *F. longipetiolata*, *F. lucida*, and *F. engleriana*. This is claimed in the nomination dossier to be “the world’s biggest and most contiguous primeval beech forest in the subtropical region”, providing insight into how beech forests evolved from the subtropical to the temperate zone. However, this claim is not substantiated by the nomination document or the additional literature referred to therein. IUCN notes that while this feature is put forward as a justification for criterion (x), it would be more appropriately considered under criterion (ix). Nevertheless, the argument that the nominated property’s *Fagus* forests justify its inscription under either criterion (ix) or (x) remains unconvincing.

On balance IUCN does not consider that the case for application of criterion (ix) has been made convincingly in the nomination, at the present time, and also considers that a possible inscription under criterion (x) only would be the most appropriate means to recognise the potential OUV of this nominated property.

IUCN considers that the nominated property does not meet this criterion.

Criterion (x): Biodiversity and threatened species

Fanjingshan is characterized by an exceptional richness in bryophytes, with 791 species, of which 74 are endemic to China. The nominated property also has one of the richest concentrations of gymnosperms in the world, with 36 species. A significant number of endemic species is distributed inside the nominated property, including 46 local endemic and 1,010 Chinese endemic plant species, as well as four locally endemic vertebrate species. The most notable of these is the endangered Guizhou Snub-nosed Monkey, for which Fanjingshan constitutes its only distribution area in the world. Another prominent endemic species is Fanjingshan Fir, which has a very restricted distribution within the nominated property.

The nominated property contains 64 plant and 38 animal species that are listed as Vulnerable (VU), Endangered (EN) or Critically Endangered (CR) on the IUCN Red List, most notably Guizhou Snub-nosed Monkey, Chinese Giant Salamander, Forest Musk Deer, Reeves's Pheasant, Asiatic Black Bear, and *Bretschneidera sinensis*. A total of 450 vertebrate species are found inside the nominated property, including 80 mammal, 224 bird, 60 fish, 43 reptile and 43 amphibian species. Compared with other properties in the same biogeographic region already on the World Heritage List, or included in Tentative Lists, the nominated property stands out in terms of its diversity of amphibian species. The diversity of invertebrates (2317 species) is also very high.

While the nomination document claims that large cats, in particular Clouded Leopard and Leopard still roam the forests of Fanjingshan, there is no unequivocal direct or indirect evidence for the continued existence of these species within the nominated property. In supplementary information provided by the State Party it is noted that there has been no specific research on cat species in Fanjingshan since 2001. In the absence of verifiable evidence of their continued existence in the nominated property, it is therefore likely that these species are locally extinct, and the only cat species still found in Fanjingshan is Leopard Cat (*Prionailurus bengalensis*), listed as Least Concern (LC) on the IUCN Red List.

IUCN considers that the nominated property meets this criterion.

7. RECOMMENDATIONS

IUCN recommends that the World Heritage Committee adopts the following draft decision:

The World Heritage Committee,

1. Having examined documents WHC/18/42.COM/8B and WHC/18/42.COM/INF.8B2;

2. Refers the nomination of **Fanjingshan (China)** to the World Heritage List back to the State party, taking note of the strong potential for this property to meet criterion (x), in order to allow the State Party to undertake and document significant further work taking into account the need to:

- a) Clarify the process and measures taken concerning the relocation of residents living within the boundaries of the nominated property to ensure that this process is fully voluntary and in line with the policies of the Convention and relevant international norms, including principles related to free, prior and informed consent (FPIC), effective consultation, fair compensation, access to social benefits and skills training, and the preservation of cultural rights;

- b) Clarify measures taken to manage increasing visitation in relation to the possible inscription on the World Heritage List, and include adequate provisions to this effect in a revised management plan for the nominated property, and provide clear assurances that no expansion of tourism infrastructure and visitor numbers will be permitted inside the nominated property;
- c) Clarify fully whether there are any plans for the future development of the western access to the nominated property, which is currently relatively free from visitation and associated human impact, and undertake a full assessment of any such plans, prior to any decision to proceed with their implementation.

3. Requests the State Party to provide further information regarding the measures taken to:

- a) Regulate and monitor the reported taming of wild animals, and which species are included or excluded from this permitted activity, including any applicable quotas;
- b) Manage potential impacts on wild Giant Chinese Salamander populations that could result from the presence of salamander farms in close proximity to the nominated property, including measures taken to avoid and mitigate the risk of transmission of diseases, including the risks of the devastating disease chytridiomycosis.

4. Further requests the State Party to clarify how the boundaries of the nominated property relate to those of the Fanjingshan Biosphere Reserve, with the aim of ensuring that any developments permitted in the experimental zone of the Biosphere Reserve do not cause any negative impact on the nominated property, and further requests the State Party to rationalise, where feasible, the zones of the Biosphere Reserve to correspond with the boundaries of the nominated property and its buffer zone.

5. Commends the State Party for its efforts to protect Fanjingshan through highly sophisticated visitor and ecological monitoring systems, including CCTV, camera traps, drones, and a GPS-based patrol system, and encourages the State Party to continue these efforts and to adopt an adaptive management system.

Map 1: Location of the nominated property in China



Map 2: Nominated property and buffer zone

