IUCN Conservation Outlook Assessment 2017 **(archived)**
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Please note: this is an archived Conservation Outlook Assessment for Sichuan Giant Panda Sanctuaries – Wolong, Mount Siguniang & Jiajin Mountains. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

Sichuan Giant Panda Sanctuaries – Wolong, Mount Siguniang & Jiajin Mountains

SITE INFORMATION

Country:
China
Inscribed in: 2006
Criteria:
(x)

Site description:
Sichuan Giant Panda Sanctuaries, home to more than 30% of the world's pandas which are classed as highly endangered, covers 924,500 ha with seven nature reserves and nine scenic parks in the Qionglai and Jiajin Mountains. The sanctuaries constitute the largest remaining contiguous habitat of the giant panda, a relict from the paleo-tropic forests of the Tertiary Era. It is also the species' most important site for captive breeding. The sanctuaries are home to other globally endangered animals such as the red panda, the snow leopard and clouded leopard. They are among the botanically richest sites of any region in the world outside the tropical rainforests, with between 5,000 and 6,000 species of flora in over 1,000 genera. © UNESCO

SUMMARY

2017 Conservation Outlook

Good with some concerns

A number of concerns remain regarding road and dam developments inside the site, as well as mining, translocation of local residents, an emphasis on tourism development rather than conservation, a preoccupation with new developments following earthquake events and a temptation to accelerate ecological restoration through reforestation with arguably inappropriate tree species. There is too much emphasis on captive breeding and less emphasis on in-situ conservation and habitat restoration. Reintroduction research and practice has been undertaken in the area for over a decade, with some progress, but reintroduction will not significantly contribute to wild panda population increase in the near future. The latest IUCN reactive monitoring mission recommended extending the site to include Rongjin NR to link with the Liangshan giant panda population. In fact, additional sites in Minshan and even Baishuijiang (in Gansu Province) could be added as parts of a serial site even though not physically connected. Coordination of management between sub-sites via the World Heritage office remains weak; better reporting from the field and greater authority accorded to the World Heritage office are also needed.

Current state and trend of VALUES

Low Concern
Trend: Data Deficient

Despite some damage from earthquakes and human developments (roads, mining, Qiaoqi dam, etc.), the site retains its essential World Heritage values and remains in a very natural state over the great majority of its area. It continues to serve as the heart of China’s wild giant panda population and the hub of giant panda conservation.

Overall THREATS

High Threat

Although several high threats exist, these are limited to rivers and less remote sectors of the property. Only few threats impact on giant pandas and consequently the Outstanding Universal Value of the property. Areas adjacent to human developments are somewhat compromised, but are small in total area and peripheral to the core values of the site. The earthquakes that are of great concern to human residents are considered a natural part of the site's geography and ecology. Landslides caused by earthquakes are generally healing through natural recolonisation, with the exception of certain areas, including the eastern part of Wolong Nature Reserve. Due to its steep profile, large size, humid climate and wide altitudinal range, the property contains some large undisturbed areas with high natural resilience. The changing climate is causing forest zones to climb further up the mountains, reducing the habitat area for important alpine communities. Intensity and frequency of extreme rainfall events may also increase in the future.

Overall PROTECTION and MANAGEMENT

Some Concern

Wolong as the central protected area of the site has always enjoyed first place in concern, financial and manpower investment of all China's protected areas. Some of the other county sites are still poorly supported and require improvements in staffing, operational budgets, basic ecological training and management capacity. Better integration of local communities into the site management is recommended. The government is spending large sums of money in encouraging some villages to translocate out of the core area. The general trend in this part of China is for continued movement of population from countryside to towns. A disproportionate effort is placed on the management of a captive giant panda population. Coordination of management between sub-sites via the World Heritage office remains weak, better reporting from the field and greater authority to the World Heritage office is needed. There is also a major gap in integrating conservation and development policies with effective disaster risk management planning and implementation.

FULL ASSESSMENT

Description of values

Values

World Heritage values

▶ **High proportion of global population of iconic giant panda**
Criterion:(x)

The Sichuan Giant Panda Sanctuary includes more than 30% of the world's population of giant panda and constitutes the largest and most significant remaining contiguous area of panda habitat in the world. It is the most important source of giant panda for establishing the captive breeding population of the species (World Heritage Committee, 2012).

▶ **Rich montane flora, with many endemic species**
Criterion:(x)

The property is also one of the botanically richest sites of any temperate region in the world or indeed anywhere outside of the tropical rain forests (World Heritage Committee, 2012). The property contains more than 10,000 plant species making it possibly the richest temperate flora in the world with high levels of endemism; for example more than 200 species of rhododendron are located here, almost all endemic to China and many confined to this property. Other significant floral elements include magnolias, orchids, lilies, primulas, alpine flora, relict trees and endangered medicinal plants (State Party of China, 2006; UNEP-WCMC, 2012).

▶ **Rare and endemic birds**
Criterion:(x)

The property constitutes best protected examples of two Endemic Bird Areas

(EBAs) – Central Sichuan Mountains and West Sichuan Mountains (ICBP, 1992) and contains 5 recognised Important Bird and Biodiversity Areas (IBAs) – Wolong, Anzihe, Heishuihe, Fengtongzhai and Labahe (BirdLife International, 2009). The site lists more than 300 resident breeding bird species including many local endemics. This is a radiation centre for pheasants – 11 species (State Party of China, 2006).

► Rare and threatened mammals

Criterion:(x)

The property lists some rare species – snow leopard, clouded leopard, blue sheep and wolf – probably in non-viable numbers (a recent study suggests that there might be a viable, even though still small and probably declining, population of snow leopard within the property (Liu, 2011); but contains viable and significant population of many other rare, endemic and protected mammals including takin, red panda and golden monkey (State Party of China, 2006; UNEP/WCMC, 2012; Smith & Xie, 2008).

► Diversity of habitats

Criterion:(x)

The property’s biological richness, ecological resilience and scenic values are due to its large size, wide altitudinal range, steep profiles and great diversity of habitats. There is a continuum from the permanent glaciers of Siguniang eastwards through coniferous and temperate broadleaf forests to evergreen subtropical forests and westwards through alpine grasslands to less humid scrub oak, larch and birch woodlands. Mountain streams form breeding catchments of several different rivers (State Party of China, 2006).

► Diverse endemic richness of other groups

Criterion:(x)

Overall richness and/or high levels of endemism are repeated in many other taxa including fungi, insects (Bhutanitis, Apollo, etc.), amphibians (salamanders) and fish (rare Yangtze catfish endemics) (State Party of China, 2006).

Assessment information

Threats

Current Threats

High Threat

Several high threats identified with serious impacts on aquatic habitat and forests, including roads, dams, earthquakes and landslides.

▶ Tourism/ Recreation Areas

Low Threat
Inside site
Outside site

Major investments in Wolong, Dujiangyan, Yaan and Qiaoqi among other towns increase impacts of tourism (Liu et al., 2012).

▶ Roads/ Railroads

High Threat
Inside site
Outside site

A few roads cross the property, especially sensitive is the road across Balangshan from Wenchuan to Aba prefecture (Smith & Xie, 2008; Liu et al., 2012).

▶ Agricultural effluents

Low Threat
Inside site
Outside site

Fertiliser and insecticide run-off from agricultural lands (Smith & Xie, 2008).

▶ Solid Waste

Very Low Threat

Inside site
Outside site

Fly tipping of waste into the rivers is quite common in most towns and villages (Smith & Xie, 2008; Liu et al., 2012).

► Mining/ Quarrying

Very Low Threat
Inside site

Old mine shafts remain in Pitiao and other valleys. May cause toxic run off and explain low fish density (Liu, 2011).

► Housing/ Urban Areas

High Threat
Inside site
Outside site

Many small villages and some towns within the property or buffer enclaves create disturbance (Liu, 2011; Smith & Xie, 2008).

► Invasive Non-Native/ Alien Species

Low Threat
Inside site

Planting of non-native species – metasequoia, cryptomeria, gingko, non-local bamboos plus reforestation on landslide areas are inappropriate.

► Commercial/ Industrial Areas

Low Threat
Outside site

The Major Qiaoqi dam and many other smaller dams exist on the Donghe, Baoxing, Pitiao and other rivers of property. These have high impact on river fauna but low impact on the Outstanding Universal Value of the site (Liu, 2011).

► Crops

Low Threat

Inside site
Outside site

Agriculture is practised in small patches of inhabited valleys, causing some encroachment and disturbance (Liu, 2011; He et al., 2008; Smith & Xie, 2008; Liu, 2012; Liu et al., 2012).

► Livestock Farming / Grazing

Low Threat
Inside site
Outside site

Yaks graze on most high pastures, competing with wild ungulates and leading to illegal human persecution of carnivores (Liu et al., 2012).

► Livestock Farming / Grazing

Low Threat
Inside site
Outside site

Cattle and horse grazing in forests, leading to altered understory vegetation structure and species composition (with long-term implications for forest regeneration) and reduced bamboo biomass for pandas (UNEP-WCMC, 2012; IUCN, 2010; Hull et al., 2014). Generally, in Wolong forests, cattle and goats are much more common than horses, and they generally cause less damage than horses.

► Mining/ Quarrying

Low Threat
Outside site

Marble mines cause disturbance, noise, dust and rubble. Now being contained and controlled (Liu, 2011; Smith & Xie, 2008).

► Logging/ Wood Harvesting

Low Threat
Inside site
Outside site

Former commercial logging farms have been closed since 1980s. However, villagers cut trees for fuel, house construction and growing mushrooms (Liu,

2011).

► Tourism/ visitors/ recreation

Low Threat
Inside site
Outside site

Tourism declined after the 2008 earthquake, but is set to be reopened and increase greatly (Liu et al., 2012). New investments have been made into large-scale tourism development in Tianquan and Lushan after the 2013 earthquake.

► Dams/ Water Management or Use

High Threat
Inside site
Outside site

Dams create new still water habitat but greatly change annual water flow critical to fish and rare salamanders (Liu et al., 2012).

► Other

Low Threat
Inside site
Outside site

Major giant panda compounds in Chengdu, Dujianyan, Yaan and Wolong plus breeding centres for golden monkeys, rare pheasants, etc. all have overall negative impact on wild populations until such time as reintroduction programmes become effective (Liu et al., 2012).

► Poaching

High Threat
Inside site
Outside site

Snare lines are set in remote areas and near cropland by local villagers, local villagers and outsiders hunt using guns and dogs, local herders set snares and use poison around pasture land (Liu, 2011; He et al., 2008; Smith & Xie, 2008).

► Air Pollution

Low Threat
Inside site
Outside site

The leaves of trees in eastern parts of the property are coated with a layer of black soot from smog due to heavy industry in the Chengdu basin and some valleys in the World Heritage site (e.g. in Wenchuan county).

► Earthquakes/ Tsunamis

Very High Threat
Inside site
Outside site

The Richter 8 Wenchuan earthquake in 2008 and Richter 6.6 Lushan/Yaan earthquake in 2013 both caused landslides and much destruction to forest and infrastructure.

► Other Biological Resource Use

High Threat
Inside site
Outside site

Several medicinal plants are harvested to critical levels, including gastroidea, gentians, caterpillar fungus amongst others. (He et al., 2008; Liu, 2012; Smith & Xie, 2008; Liu et al., 2012).

► Avalanches/ Landslides

High Threat
Inside site
Outside site

The forest is a mosaic of former landslides and earthquakes. Damage to giant pandas appears to be not so serious and dynamic geology may be biologically enriching.

Potential Threats

High Threat

Some new threats may be on the horizon, including the potential discovery of valuable minerals. Climate change and growing pressure from tourism, roads and increasing population will get much greater.

▶ Temperature extremes

Low Threat
Inside site
Outside site

Extreme snow and cold weather occurred in 2007/8 followed by extreme high rainfall in 2012 and 2013. Such extreme weather events are predicted to become more frequent with climate change.

▶ Mining/ Quarrying

High Threat
Inside site
Outside site

Potential discovery of valuable mineral deposits could lead to heavy disturbance and pollution, but there are no current plans for such developments.

Protection and management

Assessing Protection and Management

▶ Relationships with local people

Some Concern

Locals, especially the poorer ones, do not benefit much from the site, are losing access and sometimes are relocated (Smith & Xie, 2008; Liu et al., 2012).

▶ Legal framework

Mostly Effective

The property is covered by a range of laws and regulations at national and provincial levels. These include the ‘Regulations of the People’s Republic of

China on Nature Reserves' and 'Regulations on the Management of Nature Reserves of Sichuan Province'. A specific regulation relating to the protection of World Heritage in Sichuan Province has been developed, to apply to the nominated property, and this represents the first of its kind in China. These regulations provide an adequate legal framework for protection of the nominated property. The challenge is to ensure their effective implementation and to ensure that there is effective coordination between all relevant agencies and stakeholders (Liu et al., 2012).

► Enforcement

Data Deficient

Data deficient

► Integration into regional and national planning systems

Some Concern

Integration into regional and national planning systems is rather weak, needing more mainstreaming (Smith & Xie, 2008; Liu et al., 2012).

► Management system

Mostly Effective

The site is managed under the auspices of the Sichuan World Heritage Management Committee (SWHMC) and has a cascading structure of governance that includes representatives from the relevant government ministries and agencies involved in the site (State Forest Administration (SFA), Ministry of Construction (MOC) and Ministry of Environment (MEP, formerly State Environmental Protection Agency (SEPA)). The state of conservation report submitted to the World Heritage Committee at 34 COM mentions that "the management authority should establish regular reporting on the property's state of conservation to the SWHMC, including information on habitat, wildlife populations and the conditions of local people, in order to allow the Committee to proactively manage the property and identify issues of concern early on" (State Party of China, 2010; Sun et al., 2006; Liu, 2011; He et al., 2008; Smith & Xie, 2008; Liu et al., 2012).

► Management effectiveness

Some Concern

Some concerns were expressed at the time of inscription of the property with regards to the management effectiveness. The World Heritage Committee requested the State Party to “Ensure the Sichuan World Heritage Management Committee has sufficient powers, resources and authority to ensure it can effectively carry out its role in relation to management of the property, including in relation to the review and approval of any major development proposals which may impact on the natural values of the nominated property” (World Heritage Committee, 2006).

► Implementation of Committee decisions and recommendations

Some Concern

At the time of inscription, the World Heritage Committee requested the State Party to implement certain measures regarding management effectiveness, existing infrastructure within the property, existing and proposed dams and tourism development (World Heritage Committee 2006). Certain progress has been achieved in addressing some of the issues as evidenced by the 2010 Mission report – “Efforts are being made on the part of the State Party to enhance management so as to improve the integrity of the property. While action has been taken on all issues identified at the time of inscription, a number of issues remain in addition to some issues arising subsequent to inscription” (Liu et al., 2012).

► Boundaries

Mostly Effective

The site boundaries are deemed to be adequate (Liu, 2011; Smith & Xie, 2008) but could be extended (Liu et al., 2012).

► Sustainable finance

Mostly Effective

The property enjoys overall relatively high levels of finance, with a high level of variation between national and regional level protected areas. Provincial and county level protected areas and buffer areas do not receive enough finance for monitoring and management activities (Liu et al., 2012).

► Staff training and development

Some Concern

Some weaknesses noted and capacity building in disaster risk management is especially needed (Liu et al., 2012).

► Sustainable use

Some Concern

This continues to be a concern (Liu, 2011; He et al., 2008; Liu et al., 2012; Smith & Xie, 2008).

► Education and interpretation programs

Some Concern

These are weak or absent (Smith & Xie, 2008).

► Tourism and visitation management

Some Concern

“While the investments in tourism infrastructure and in public awareness of the beauty of nature have been strong, less attention has been paid to increasing tourism staff capacity or tourist visitor awareness of conservation issues. In addition, monitoring for impacts of tourism has not yet started, yet this is crucial to begin prior to any major increase in visitor numbers in order to have a baseline from which to assess change” (Liu et al., 2012).

► Monitoring

Serious Concern

Weak with almost no reporting (Smith & Xie, 2008; Liu et al., 2012).

► Research

Mostly Effective

Much research has been done in the site, but this is still not enough to meet the existing challenges. Especially needed is research that would integrate biodiversity conservation, rural development and disaster risk reduction for

overall sustainability and resilience of the World Heritage site.

Overall assessment of protection and management

Some Concern

Wolong as the central protected area of the site has always enjoyed first place in concern, financial and manpower investment of all China's protected areas. Some of the other county sites are still poorly supported and require improvements in staffing, operational budgets, basic ecological training and management capacity. Better integration of local communities into the site management is recommended. The government is spending large sums of money in encouraging some villages to translocate out of the core area. The general trend in this part of China is for continued movement of population from countryside to towns. A disproportionate effort is placed on the management of a captive giant panda population. Coordination of management between sub-sites via the World Heritage office remains weak, better reporting from the field and greater authority to the World Heritage office is needed. There is also a major gap in integrating conservation and development policies with effective disaster risk management planning and implementation.

▶ **Assessment of the effectiveness of protection and management in addressing threats outside the site**

Data Deficient

Data Deficient

State and trend of values

Assessing the current state and trend of values

World Heritage values

▶ **High proportion of global population of iconic giant panda**

Low Concern
Trend:Improving

Continued improvement of bamboo habitat following the flowering and die-off in the 1980s plus good protection and connectivity and low mortality in earthquakes supported by periodic new surveys indicate a healthy and increasing population.

▶ Rich montane flora, with many endemic species

Good
Trend:Stable

Satellite imagery indicates forests and vegetation remain in good condition so, apart from over-collected rare medicinal plants, richness of flora should be retained and resilient against climate change.

▶ Rare and endemic birds

Good
Trend:Stable

Apart from some peripheral hunting of song birds (hwamei) and pheasants, the bird fauna remains undisturbed and no indications of declines.

▶ Rare and threatened mammals

High Concern
Trend:Deteriorating

Some mammal species are now rare or absent as a result of hunting or disturbance – primates, deer, carnivores, argali, etc.

▶ Diversity of habitats

Good
Trend:Stable

Full range of habitats maintained.

▶ Diverse endemic richness of other groups

Data Deficient
Trend:Data Deficient

Little data on some taxa, although aquatic organisms are certainly declining.

Summary of the Values

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

Low Concern

Trend: Data Deficient

Despite some damage from earthquakes and human developments (roads, mining, Qiaoqi dam, etc.), the site retains its essential World Heritage values and remains in a very natural state over the great majority of its area. It continues to serve as the heart of China's wild giant panda population and the hub of giant panda conservation.

Additional information

Benefits

Understanding Benefits

► **Outdoor recreation and tourism**

Tourism is becoming the major commercial industry for many villages and towns around the property. Recent earthquakes have demonstrated that this is a vulnerable reliance. Benefits from tourism could be better distributed among local communities to encourage greater participation.

► **Water provision (importance for water quantity and quality)**

The property forms part of the critical water catchment of the Yangtze River on which hundreds of millions of people depend and vast hydro-investments (Three Gorges Dam, Zhouba, etc.) are also dependent. Water supply and flood prevention are crucial services.

► **Soil stabilisation**

Healthy forests in the property provide protection for human settlements from small-to-medium scale landslides and debris flows, and may contribute to reduced economic loss and mortality in major disaster events (e.g. the earthquakes).

▶ **Carbon sequestration**

The area is a large healthy forest contributing to carbon sequestration and local climate amelioration, serving as a wonderful green lung on the edge of the densely populated Sichuan basin.

▶ **Collection of genetic material**

Although not very developed, the property constitutes a vast gene bank of rare trees, valuable horticultural plants (rhododendrons, magnolias, etc.), wild fruit relatives (plums, cherries, apples, pears) and valuable medicinal plants.

Summary of benefits

The property is recognised as a valuable generator of tourism industry (both direct and indirect) and provider of vital ecosystem services. It is zoned as an ecological priority area in both the National Biodiversity Strategy and Action Plan and also the National Hydrological map of key areas for conservation.

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	Shan Shui (domestic NGO)		Long-term interest in panda monitoring and some community projects.
2	WWF		Original foreign partner in developing Wolong research and breeding centres. Continued support for monitoring and some community projects.

№	Organization/ individuals	Project duration	Brief description of Active Projects
3	SFA (State Forestry Administration)		SFA manages several major national projects within the property including Natural Forest Protection Program, Sloping Land Conversion Program, Post-earthquake Ecological Restoration Programme, panda breeding centre and release trials.
4	European Investment Bank		Sichuan Forestry Department received large-scale loan for investment in reforestation – post 2008 earthquake. Activities mostly outside but close to property.
5	FFI-China (Fauna and Flora International)		.
6	HELP (Human and Environment Linkage Programme)		Long-term interests and efforts in integrated and adaptive management at community, reserve and World Heritage scales. Partners with Wolong Nature Reserve and Sichuan World Heritage Management Office on various projects since 2006. NGO partner with UNESCO in post-Lushan-earthquake sustainable community reconstruction project since 2013.

Compilation of potential site needs

№	Site need title	Brief description of potential site needs	Support needed for following years
1	.	Disaster risk management and planning to enhance resilience	
2	.	Community co-management	
3	.	Coordinated monitoring (for Sichuan WH office and site staff)	
4	.	Staff training (including basic ecology)	

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