IUCN Conservation Outlook Assessment 2017 **(archived)**
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Please note: this is an archived Conservation Outlook Assessment for Jiuzhaigou Valley Scenic and Historic Interest Area. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

Jiuzhaigou Valley Scenic and Historic Interest Area

SITE INFORMATION

Country:
China
Inscribed in: 1992
Criteria:
(vii)

Site description:
Stretching over 72,000 ha in the northern part of Sichuan Province, the jagged Jiuzhaigou valley reaches a height of more than 4,800 m, thus comprising a series of diverse forest ecosystems. Its superb landscapes are particularly interesting for their series of narrow conic karst land forms and spectacular waterfalls. Some 140 bird species also inhabit the valley, as well as a number of endangered plant and animal species, including the giant panda and the Sichuan takin. © UNESCO

SUMMARY

2017 Conservation Outlook

Good with some concerns

Overall, the outstanding natural value and attributes of the property have been well preserved. However, a recent 7.0 earthquake (2017) has caused significant changes in the natural landscape and its specific impacts will require a comprehensive evaluation. In the past, protection of some natural areas and resources had been also compromised by rapid and excessive tourism infrastructure development and by visitor overcrowding in excess of the environmental and social carrying capacity. However, many recent improvements in management and efforts at mitigation of threats and their impacts regime provided an effective response to these challenges. However, achieving success in this will require continuing and careful vigilance, and astute judgment in management intervention. The effectiveness of post-hazard responses will also need to be evaluated in the future.

Current state and trend of VALUES

Low Concern
Trend: Data Deficient

Protection of some natural areas and resources has been compromised in the past especially by rapid and excessive tourism infrastructure development and by visitor overcrowding in excess of the environmental and social carrying capacity. Today, as a result of careful management intervention and improved technologies most key sites have been hardened through the establishment of paved roads and boardwalks, and pollution of water and air has been reduced. Further efforts are required in staff capacity building and in the assessment of the biodiversity values of the property, to further advance the protection programs and to mitigate undesirable impacts. However, the recent 7.0 earthquake has caused significant changes in the natural landscape and its specific impacts will require a comprehensive evaluation.

Overall THREATS

Low Threat

Overall, the threat level ranges from low to high. The recent high-magnitude natural event, 2017 Jiuzhaigou 7.0 scale earthquake, has impacted the values of this property. However, a comprehensive assessment of all impacts will require additional time. If such unpredictable natural events are excluded, the greatest and ongoingThe greatest threats are from rapid growth of tourist infrastructure consequent upon burgeoning visitor numbers that at times exceed the environmental and social carry capacity of the property. Management intervention has alleviated the threat level somewhat but concerns remain about the capacity of the authorities to completely avoid the undesirable impacts of mass tourism. Specific threats from water and air pollution, and hazards from natural high-magnitude events, especially landslides, have been somewhat reduced by improved technologies and management practices. Environmental response to atmospheric warming is a major potential threat to the natural values of the property. High magnitude events such as the 2008 8.2 scale and 2017 7.0 earthquakes cannot be managed for, and a landscape approach to planning village, route and infrastructure needs to be taken, with ecological disaster risk reduction best practice.

Overall PROTECTION and MANAGEMENT

Mostly Effective

Overall, the management of the property can be rated as largely effective. In the two decades since inscription of the property there have been major advances, particularly with respect to visitor and tourism management, pollution abatement, rehabilitation of damaged areas, control of extreme natural events, environmental monitoring and research. Some concerns remain regarding the capacity of the authorities to be fully effective in enforcing protection legislation and regulations. Of particular concern is the on-going pressure on the carrying capacity of the property and emergence of environmental and social impacts accompanying the growth of mass tourism. There is a need to extend the current training programs and enlist more well-qualified staff. More effort is also required to assess the biota and wildlife habitats of the property, and to implement policies and programs to mitigate detrimental effects of human pressures while allowing greater recognition of the outstanding biodiversity values. Additionally,

consideration should be given to ways of improving conservation management in the buffer zone and extending the boundaries, as well as regional landscape approach taken to conservation in the broader contiguous region (the Minshan Landscape). The 2017 7.0 scale earthquake has made significant changes in the natural landscape and damaged the touristm infrastructure. Management responses to this disaster should be evaluated in the future to ensure that the rebuilding efforts support, and not compromise, the WH values.

FULL ASSESSMENT

Description of values

Values

World Heritage values

► Landscape of outstanding natural beauty

Criterion:(vii)

Covering 72,000 ha in the northern part of Sichuan Province, Jiuzhaigou is an alpine travertine wetland landscape of exceptional natural beauty, with spectacular forest-covered mountains soaring to almost 5,000 m above crystal clear, blue, green and purplish, mineral-rich pools, some 100 lakes and about 20 large waterfalls, along with karst formations such as calcareous tufa dykes, shoals and terraces and caves. High-altitude glacial landforms include horns, arêtes, cirques, lakes and moraines (MOC 1991; UNESCO 1996; UNEP/WCMC 2011; SoOUV 2012).

Other important biodiversity values

► Diversity of forest ecosystems and endangered species

Jiuzhaigou lies within a Conservation International designated Biodiversity Hotspot, a WWF Global 200 Freshwater Eco-region, and a WWF/IUCN Centre of Plant Diversity, and is one of the world’s Endemic Bird Areas. It is also designated as a UNESCO/MAB Biosphere Reserve. The property protects a diverse range of mixed and coniferous forest ecosystems and alpine meadows. There are about 2,500 plant species including more than 200 aquatic species. Excellent habitat is available for the 233 bird species recorded, 13 of which are listed as endangered. Also protected are 313

vertebrate species and 78 mammals, including the endangered giant panda and golden snub-nosed monkey, and the vulnerable Sichuan takin (MOC 1991; UNEP/WCMC 2011; SoOUV 2012; IUCN Consultation, 2017).

Assessment information

Threats

Current Threats

High Threat

Overall, the current threat level ranges from low to high. The recent high-magnitude natural event, 2017 Jiuzhaigou 7.0 scale earthquake, has impacted the values of this property. However, a comprehensive assessment of all impacts will require additional time. If such unpredictable natural events are excluded, the greatest and ongoing threats are from rapid growth of tourist infrastructure consequent upon burgeoning visitor numbers that at times exceed the environmental and social carrying capacity of the site (Gu et al., 2013). Management intervention has alleviated the threat level somewhat but concerns remain about the capacity of the authorities to completely avoid the undesirable impacts of mass tourism. Pressures from prefecture and county authorities creates a conflict within the site management itself, as performance appraisal systems currently only look at gross visitor numbers, rather than visitor contribution to the local economy in review. Specific threats from water and air pollution, and hazards from natural high-magnitude events, especially landslides, have been reduced by improved technologies and management practices; however, some concerns, such as tufa degradation, remain (Liu 2017; Qiao et al. 2016).

▶ Invasive Non-Native/ Alien Species

Data Deficient

Inside site, extent of threat not known

Low level of threat from forest pests and diseases is reported but details are

lacking (IUCN 21992; WHC/IUCN 1998; SP China 2003).

► Water Pollution

Low Threat
Inside site, extent of threat not known

Direct discharge of sewage from residences and hotels resulted in high levels of pollution in waterways. Initially installed sanitation and wastewater treatment systems were expensive, labour-intensive and ineffective due to engineering design flaws and management failures. Improved systems are replacing the former ones but some problems persist. A municipal waste treatment plant is being constructed close to Jiuzhaigou andin Nanping town, 40 km below Jiuzhaigou. There are still major concerns in how human waste is being collected within the site itself, from the 2000-20,000 visitors per day, as well as local communities. As of 2012, the park produced waste was being collected in a complicated system involving plastic bags, removed by truck and shredded. This practice is unsustainable and needs to be replaced with a more professional low tech, high performance solution.(IUCN 1992; WHC/IUCN 1998; SP China 2003; Fang et al. 2005; Gaulke et al. 2009). Increased nitrogen and phosphorus concentrations that originate mainly from atmospheric pollution and tourist activities at scenic attractions could trigger excessive diatom growth and , which inhibits tufa precipitation (Liu, 2017; Pan et al. 2017; Qiao et al., 2016).

► Earthquakes/ Tsunamis

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

The 7.0 earthquake on August 8, 2017 in Jiuzhaigou caused significant effects on all WH values in this property. A thorough evaluation is needed to assess the degree, type, scope, location of specific impacts and restorability of the values (IUCN Consultation 2017).

► Changes in traditional ways of life and knowledge systems

Low Threat
Inside site, extent of threat not known

Local residents are Tibetan, previously living in nine villages but now reduced

to four through resettlement and/or relocated to other villages. Land in subsistence agriculture has been converted to forest. Loss of cultural traditions and practices has occurred through establishment of a tourist-service culture. Population of about 1,300 villagers today, serving mainly as tourist merchandise sellers, guides, craftsmen and entertainers. The local community suffers from some inequality in the distribution of economic benefits (IUCN 1992; WHC/IUCN 1998; SP China 2003; Hendricksen 2009; Qingxia 2011; IUCN Consultation 2017).

► Tourism/ visitors/ recreation

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

There has been a dramatic increase in the annual number of tourist visitors from 170,000 in 1991 (just prior to inscription of the property) to 5 million in 2012 (last available figures), with growth accelerating from 1998. Expansion of hotels occurred in the property until 2001 when all were closed and removed outside. Now, more than 100 hotels plus other guest houses are clustered around the property entrances and are visually intrusive. Some 80% of tourists come in the period of Spring Festival in March, as well as summer holidays June-September, then in Golden Week in October, causing overcrowding that exceeds the environmental and social carrying capacity. Visitor numbers were capped at 41,000 per day from 2013 (increased from 12,000 from 2001). On many days the numbers of visitors entering the site exceeded 20,000 persons. Private vehicles were banned and replaced in 1999 by low-polluting buses with guides. The low-polluting buses do require regular maintenance however. Damage to trails and pollution of waterways were reduced by construction of boardwalks and introduction of improved waste management systems, respectively. On-going tourism development remains the greatest management challenge for the property (UNEP/WCMC 2011; WHC/IUCN 1998; SP China 2003; WenJun 2005(a),2005(b); Hendricksen 2009; Gu et al., 2013).

Potential Threats

Low Threat

Environmental response to atmospheric warming is a major potential threat to

the natural values of the property. High magnitude events such as the 2008 Wenchuan 8.0 scale earthquake cannot be managed for, and a landscape approach to planning village, route and infrastructure needs to be taken, with ecological disaster risk reduction best practice (IUCN Consultation 2017).

► Habitat Shifting/ Alteration

Low Threat
Inside site, throughout(>50%)

Atmospheric warming will impact higher altitudes in particular through reduction in snow and ice cover and there will be an altitudinal shift of vegetation zones affecting ecosystems and wildlife habitats (Bossard et al., 2015).

► Earthquakes/ Tsunamis

High Threat
Inside site, throughout(>50%)
Outside site

Jiuzhaigou lies on a large fault zone, the Minshan fault. The May 12th, 2008 earthquake only slightly damaged the site, but the August 8, 2017 earthquake did cause significant damage to the infrastructure and substantial changes to the natural resources. Earthquakes will continue to be a concern.

Protection and management

Assessing Protection and Management

► Relationships with local people

Some Concern

Generally, the interaction with the local community has been good, with opportunities provided for employment and for management partnerships. However, there needs to be a more proactive scheme for environmental leadership put in place whereby jobs in ecology, environmental management and more educated positions are made available to local people in addition to the maintenance and patrolling and tourism management activities.. The

cessation of subsistence agricultural land use and resettlement schemes have been controversial and problematic, and there is evidence of inequalities in the sharing of financial benefits with local people. (IUCN 1992; SP China 2003; Hendricksen 2009; Qingxia 2011). Regular and more effective communication between local authorities and local residents on environmental policies is needed to could reduce mistrust and misunderstanding as identified in recent research (Gao et al., 2015).

► Legal framework

Mostly Effective

The legal framework is strong, but management authorities lack the capacity to fully enforce laws and regulations (MOC 1991; IUCN 1992; WHC/IUCN 1998; SP China 2003; SoOUV 2012).

► Enforcement

Mostly Effective

Private vehicles were banned and replaced in 1999 by low-polluting buses with guides. The low-polluting buses do require regular maintenance however. Damage to trails and pollution of waterways were reduced by construction of boardwalks and introduction of improved waste management systems, respectively. Modern information technology, such as GPS, GIS, RFID, are integrated into a platform to support enhanced tourist services and communication, crowd management, and emergency responses during natural disasters (Wu et al., 2017). The 2017 7.0 scale earthquake has made significant changes in the natural landscape and damaged the tourist infrastructure. Rebuilding efforts are underway and they should be evaluated in the future to ensure that the new tourist infrastructure and new patterns of tourist use do not compromise the WH values.

► Integration into regional and national planning systems

Highly Effective

The Government of China is working extensively to integrate national parks and protected areas into its National Biodiversity, Climate and Land planning systems. Jiuzhaigou remains a high profile model for other protected areas in China to learn from and study at.

▶ Management system

Mostly Effective

There is a comprehensive administrative and planning framework, but the management plan is due for revision (SP China 2003; UNEP/WCMC 2011).

▶ Management effectiveness

Some Concern

Management of natural resources and environment has advanced considerably since inscription of the property. Some inadequacies in staffing and funding raise concerns about the capability of the authorities to contain the growing numbers of visitors and increasing tourist infrastructure development (SP China 2003; UNEP/WCMC 2011).

▶ Implementation of Committee decisions and recommendations

Some Concern

There has been a mixed response to WH Committee recommendations. Stronger safeguards against human impact include: halting of logging; replanting of forests and land rehabilitation; conversion of cultivated lands to forests; resettlement of local population and reduction in housing areas; removal of hotels; reduction of air and water pollution, and better monitoring for managing environmental impacts. Improved visitor handling systems, have been introduced and there has been good progress in reducing the impacts of tourism infrastructure and services. There are improved inventories of flora and fauna but a species conservation report has not yet been prepared and no consideration has been given to inscribing the property on biodiversity criteria.
There has been little progress in controlling tourism and urbanization in the buffer zone, or extending the property boundaries. There needs to be more consideration given to the role that the World Heritage site plays in the broader Minshan conservation landscape of which Jiuzhaigou is just a 20% component. (UNESCO 1992, 1996, 1998; IUCN 1992; WHC/IUCN 1998; SP China 2003).

▶ Boundaries

Some Concern

Little consideration has been given to assessing the adequacy of the boundaries of the property or the buffer zone under changing circumstances. The regional Minshan landscape which includes also Wanglang and the Nanping Golden Monkey reserve also require consideration. (UNESCO 1992, 1996.1998; WHC/IUCN 1998; SP China 2003).

▶ Sustainable finance

Mostly Effective

Income generation from tourism in particular has been impressive (2 Billion million RMB in 2012), and the introduction of shared ventures with the local community is a positive move, though concerns have been expressed about an uneven sharing of revenues. There are reports that sustainable funding levels remain inadequate, although the key issue is not funding, but reallocation of funding from local tourism revenue, and from gate receipts to park management and conservation science. (SP China 2003; WenJun 2005(a); Hendricksen 2009; Qingxia 2011).

▶ Staff training and development

Some Concern

Training programs exist but more professional training is required. In particular a more professional training in ecology, visitor impact, resource protection, environmental education and training, climate change and disaster risk reduction is required. (WHC/IUCN 1998; SP China 2003; IUCN Consultation, 2014).

▶ Sustainable use

Mostly Effective

Land use is now limited to tourism, and no sustainable extraction is practiced. Some consideration is being given to ecotourism in Zharu Valley.

▶ Education and interpretation programs

Mostly Effective

Active programs exist, with guides on each of the tour buses within the park. The visitor centre is underutilized, and there are no curriculum led

programmes to include local schools, local communities, or visitors coming on tours (IUCN Consultation, 2014).

► Tourism and visitation management

Some Concern

Tourism management is the greatest challenge facing the administering authorities. Private vehicles were banned and replaced in 1999 by low-polluting buses with guides. The low-polluting buses do require regular maintenance however. Damage to trails and pollution of waterways were reduced by construction of boardwalks and introduction of improved waste management systems, respectively. Modern information technology, such as GPS, GIS, RFID, are integrated into a platform to support enhanced tourist services and communication, crowd management, and emergency responses during natural disasters (Wu et al., 2017). The 2017 7.0 scale earthquake has made significant changes in the natural landscape and damaged the tourist infrastructure. Rebuilding efforts are underway and they should be evaluated in the future to ensure that the new tourist infrastructure and new patterns of tourist use do not compromise the WH values.

► Monitoring

Highly Effective

There is a comprehensive program for monitoring of water resources, biodiversity, forest pests and diseases, weather, climate and visitor use, among others (SP China 2003; SoOUV 2012).

► Research

Highly Effective

There is an active research program, good working relationships with research providers and effort is made to apply research results to management. Although a good early start has been made, more serious efforts need to be made to apply science and monitoring to management practices. (SP China 2003; Hinckley et al. 2005).

Overall assessment of protection and management

Mostly Effective

Overall, the management of the property can be rated as largely effective. In the two decades since inscription of the property there have been major advances, particularly with respect to visitor and tourism management, pollution abatement, rehabilitation of damaged areas, control of extreme natural events, environmental monitoring and research. Some concerns remain regarding the capacity of the authorities to be fully effective in enforcing protection legislation and regulations. Of particular concern is the on-going pressure on the carrying capacity of the property and emergence of environmental and social impacts accompanying the growth of mass tourism. There is a need to extend the current training programs and enlist more well-qualified staff. More effort is also required to assess the biota and wildlife habitats of the property, and to implement policies and programs to mitigate detrimental effects of human pressures while allowing greater recognition of the outstanding biodiversity values. Additionally, consideration should be given to ways of improving conservation management in the buffer zone and extending the boundaries, as well as regional landscape approach taken to conservation in the broader contiguous region (the Minshan Landscape). The 2017 7.0 scale earthquake has made significant changes in the natural landscape and damaged the touristm infrastructure. Management responses to this disaster should be evaluated in the future to ensure that the rebuilding efforts support, and not compromise, the WH values.

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

Some Concern

Management appears largely ineffectual in its capacity to address threats from outside the property. This is a governance issue, since the county government is responsible for the area outside the main World Heritage property, and the forestry administration and the construction administration are responsible for the site itself. Some intervention to reduce threats inside the property, such as resettlement of residents, construction of a municipal waste treatment plant, large parking and shuttle systems and shifting hotels, has in fact undoubtedly accentuated the threats of growing urbanization

within the buffer zone and beyond.

▶ **Best practice examples**

Twinning of the property with others in Europe, the USA and elsewhere has been beneficial with staff exchanges, study tours and bilateral ongoing remote exchange and sharing of lessons

State and trend of values

Assessing the current state and trend of values

World Heritage values

▶ **Landscape of outstanding natural beauty**

Low Concern
Trend:Data Deficient

The current state of the outstanding natural values and attributes of the property is satisfactory, though not entirely so, and the trend is improving in response to better management intervention. Past problems including unchecked tourism infrastructure development and urbanization, leading to clearing of land, destruction of natural vegetation and habitats and environmental pollution, have been overcome to a large extent through human resettlement, hotel relocation, modern visitor handling methods, improved waste management and treatment technologies, upgrading of roads and the hardening of key sites with boardwalks. There is a need for increased staff capacity building and a better assessment of the biodiversity values of the property, to further advance the protection programs and to mitigate undesirable impacts. The 2017 7.0 scale earthquake has significantly impacted the natural landscape. However, a comprehensive assessment of specific impacts will require more time.

Summary of the Values

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

Low Concern

Trend: Data Deficient

Protection of some natural areas and resources has been compromised in the past especially by rapid and excessive tourism infrastructure development and by visitor overcrowding in excess of the environmental and social carrying capacity. Today, as a result of careful management intervention and improved technologies most key sites have been hardened through the establishment of paved roads and boardwalks, and pollution of water and air has been reduced. Further efforts are required in staff capacity building and in the assessment of the biodiversity values of the property, to further advance the protection programs and to mitigate undesirable impacts. However, the recent 7.0 earthquake has caused significant changes in the natural landscape and its specific impacts will require a comprehensive evaluation.

► Assessment of the current state and trend of other important biodiversity values

Data Deficient

Trend: Stable

Biodiversity of the property is better understood and valued than previously, but there remains a need for further assessment of the values and their condition.

Additional information

Benefits

Understanding Benefits

► Outdoor recreation and tourism

A very substantial increase in the per capita income has accompanied the

dramatic growth of tourism. However, the significant improvement in the livelihood of local residents from employment and cash income is somewhat offset by the loss of traditional cultural values and lifestyles

Summary of benefits

Development of the tourism industry has transformed the local economy and the livelihoods of the local people, several hundred of whom are employed either permanently or temporarily on the staff of the property. Many more benefit from running guest houses, shops, souvenir and food stalls and from selling traditional handicrafts. The local communities has also benefitted from the development of infrastructure in the area including roads and the provision of utilities such as enhanced electricification and water and sewage services. Much greater conservation awareness and empowerment among the local population are also very positive outcomes of the World Heritage status of the property. Environmental benefits are substantial and include reduction in pollution levels in air and water, rehabilitation of degraded land, and enhanced protection of wildlife habitats. Sustainable uses of low-polluting energy have replaced a former reliance on non-renewable highly polluting resources. Local young people need to be more encouraged to engage in conservation leadership, science and ecological studies and work, in order to be better qualified to work in the park administration beyond just tourism services. Regular and more effective communication between local authorities and local residents on environmental policies is needed to reduce misunderstanding of the benefits of such policies (Gao et al., 2015).

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	State Forestry Administration		Panda Research Programme
2	Park Authorities		Ecotourism Development in Zharu Valley

Compilation of potential site needs

№	Site need title	Brief description of potential site needs	Support needed for following years
1	N.A.	N.A.	

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