IUCN Conservation Outlook Assessment 2017 **(archived)**
Finalised on 09 November 2017

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

Xinjiang Tianshan

SITE INFORMATION

Country:
China
Inscribed in: 2013
Criteria:
(vii) (ix)

Site description:

Xinjiang Tianshan comprises four components—Tomur, Kalajun-Kuerdening, Bayinbukuke and Bogda— that total 606,833 hectares. They are part of the Tianshan mountain system of Central Asia, one of the largest mountain ranges in the world. Xinjiang Tianshan presents unique physical geographic features and scenically beautiful areas including spectacular snow and snowy mountains glacier-capped peaks, undisturbed forests and meadows, clear rivers and lakes and red bed canyons. These landscapes contrast with the vast adjacent desert landscapes, creating a striking visual contrast between hot and cold environments, dry and wet, desolate and luxuriant. The landforms and ecosystems of the site have been preserved since the Pliocene epoch and present an outstanding example of ongoing biological and ecological evolutionary processes. The site also extends into the Taklimakan Desert, one of the world’s largest and highest deserts, known for its large dune forms and great dust storms. Xinjiang Tianshan is moreover an important habitat for endemic and relic flora species, some rare and endangered.
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SUMMARY

2017 Conservation Outlook

Good with some concerns

The outstanding natural values and attributes of the site are mostly unchanged from the time of inscription. There are very limited environmental pressures or threats insider the World Heritage site at present, but the anticipated steady increase in visitor numbers could bring new levels of demand for infrastructure development and possibly minor environmental damage unless precautionary management action is undertaken. Although the property has strong legal protection, there is a need to improve the management system and to prepare an overall management plan in order to provide a consistent management regime throughout the four component parts of the serial property. Future priorities include obtaining more effective engagement of the local population in protecting and managing the property, and considering the options for expanding the property to include a better representation of the regional physiography and biogeography. Climate change is likely to become an issue with melting glaciers and rising vegetation zones.

Current state and trend of VALUES

Good
Trend: Stable

The current state of the values and attributes of the site is good and the condition is stable. The property was inscribed on the World Heritage List in 2013 and no changes in the values have been reported since then. Besides potential impacts from fast tourism development, no significant changes are foreseen in the near future under the existing protection and management regime.

Overall THREATS

Low Threat

Currently, the site is free from serious threats to its natural values and attributes.

The role of livestock grazing in determining the balance between the natural character of the grassland and an unhealthy modified state is an equivocal matter. Pressure to ban livestock grazing and relocate herders to residential areas beyond the property is causing some concern about future livelihoods and changes in traditional lifestyles. There is a potential environmental threat from growth in tourist numbers in the near future and associated pressure for infrastructure development, and associated socio-economic changes affecting local people.

Overall PROTECTION and MANAGEMENT

Mostly Effective

The site appears to be well protected in law, but here are some concerns relating to management. Individual parts of the serial property have a management plan, but the overall management framework is insufficient. There is a lack of a coordinated management system that provides for unified management throughout the property. The integrity of the site is secure but its area could be expanded to include a greater representation of the regional physiography and biogeography. Staffing and financing are adequate for current needs but may need augmenting if the predicted increase in tourism occurs. Community engagement needs improvement with more effort made to employ local herders in management operations, conservation and communication about the natural values, and not only in commercial tourism activities. The preparation of a new comprehensive (at property level) management plan, including establishment of an operational coordinated management unit, is needed.

FULL ASSESSMENT

Description of values

Values

World Heritage values

- **An outstanding scenic area comprising part of the largest mountain chain in the world's temperate arid region**
  Criterion:(vii)

  The Xinjiang portion of the Tianshan runs east-west for 1,760km and is a mountain range of outstanding natural beauty. The Xinjiang Tianshan is anchored in the west by the highest peak in the Tianshan, Tomur Peak at 7,443 meters, and in the east by Bogda Peak at 5,445 meters. The range lies between two Central Asian deserts, Junggar Desert in the north and the Tarim Desert in the south. The beauty of the Xinjiang Tianshan lies not only in its spectacular snow-capped mountains and glacier-capped peaks, beautiful forests and meadows, wetlands, clear rivers and lakes and red bed canyons, but also in the combination and contrast between the mountain elements and the vast deserts. (SoOUV, 2013; IUCN, 2013).

- **Outstanding example of biological evolution in an arid continental climate, with relict, rare, endangered and endemic species**
  Criterion:(ix)

  Natural ecosystem development in a mountain range isolated and surrounded by desert areas as a consequence of the plate tectonic in Himalayas and Central Asia region. Large range of vegetation types reflecting altitudinal zonation and marked differences between north and south facing areas and slope gradients. Forest vegetation includes: mono-specific coniferous forest (endemic to Tianshan mountain range); evergreen

and deciduous fruticose forest with several native species of wild fruit trees, and deciduous broad-leaved forest. The original warm, wet flora has gradually been replaced by xeric Mediterranean-type flora. Rich biodiversity comprising: 2,622 spp. vascular plants; 550 spp. vertebrate animals; 94 relict plants from before the Quaternary glaciations; 110 spp. rare and endangered plants; 367 spp. rare and endangered animals; 118 spp. endemic plants; and 22 spp. endemic animals. The property is an outstanding example for the study of biological community succession in mountain ecosystems in an arid zone undergoing global climate change. Xinjiang Tianshan is also an outstanding representative of biological and ecological evolution in the Pamir-Tian Shan Highlands. (SoOUV, 2013; IUCN, 2013).

Assessment information

Threats

Current Threats

Low Threat

Impacts on the natural grassland ecosystem from limited livestock grazing by nomadic herders, and social change due to relocation of people to surrounding areas with new income generating activities in connection with tourism development are the main current threats to the property. Current impacts of global climate change (glacial melt and hydrological change) are unclear, but are likely to increase in future.

▶ **Changes in traditional ways of life and knowledge systems**

Low Threat
Inside site, extent of threat not known

There is some pressure on the local nomadic people to relocate from the property to reside in villages in surrounding areas (China, 2012; IUCN, 2013). Rapid tourism development has led to a new type of income generating activities.

► Livestock Farming / Grazing

Low Threat
Inside site, scattered(5-15%)
Outside site

Some of the components of this serial site have been subject to various levels of livestock grazing by nomadic people over the last centuries. There is some view that grazing should be banned but the State Party wants to establish sustainable traditional grassland uses in the long term (China, 2012; IUCN, 2013). Different management approaches are applied according to each component's specificities; for example, all human activities are banned in Kuerdening, while winter grazing is part of the ecosystem management of the Bayinbuluke wetlands.

► Temperature extremes

Data Deficient
Inside site, scattered(5-15%)
Outside site

The Tianshan mountains are characterized by large surface of glaciers and a remarkable hydrological system which influences the ecosystem development in property and also the traditional activities in the surrounding areas. With the onset of climate change, changes to this hydrological system are likely as a result of glacial melt. Insufficient data are currently available to assess the extent to which this threat is currently affecting the property, but noticeable impacts are likely in the future.

Potential Threats

Low Threat

A observed steady growth in tourist numbers and associated demand for infrastructure development has the potential to cause undesirable environmental impact in and around some of the property's components.

► Tourism/ Recreation Areas

Low Threat

Inside site, scattered(5-15%)
Outside site

The current tourist pressure is growing rapidly since the site's inscription on the World Heritage List. While the estimated maximum visitor carrying capacity of 9.5 million per year (China, 2012; IUCN, 2013) has not yet been reached, management of the site needs to be prepared for this increasing tourist pressure. According to Xinhua News, the number of tourists who visited the World Heritage Site at the end of July 2013 had reached 15,000 person / day (at Bayinbuluke Swan Lake site); right after the Tianshan was inscribed (http://news.xinhuanet.com). The number of visitors in Bayinbuluke went from less than 100’000 in 2012 to more than a half million in 2016.; similar evolution took place in Kalajun, while in Bogda, already very much developed before the inscription, the growth rate has not exceeded 10 %.

Protection and management

Assessing Protection and Management

► Relationships with local people

Some Concern

Consultation with local people about heritage conservation appears to have begun only with the World Heritage nomination. There is some disquiet among the nomadic pastoralist population about the pressure to cease livestock grazing and relocate out of the site. There appears to be little employment of the local people in management activities (IUCN, 2013). Management authorities have strengthened efforts in encouraging local residents to take part in protection and management activities, supporting operations like farmstay, increasing incomes, and inspiring their enthusiasm of participating in protection and management (IUCN Consultation, 2017). However, this is almost exclusively tourism orientated.

► Legal framework

Highly Effective

The site is subject to comprehensive national and local laws and regulations providing for the protection of land (including official protected areas) and

wildlife, and for the management of grassland and water resources (IUCN, 2013).

► Enforcement

Data Deficient

Insufficient data available.

► Integration into regional and national planning systems

Some Concern

The site has been included in the Plan of Major Function Area in Autonomous Region and Plan of Protection and Utilization of Scenic Resources in Autonomous Region (IUCN Consultation, 2017). However this plan is essentially promoting tourism and potential impacts on the site's values should be carefully assessed.

► Management system

Mostly Effective

While at the level of the component protected areas the management is highly effective, there is only a limited overall management framework for coordinating action in the four component parts of this serial property, thereby providing for uniform management throughout the property (IUCN, 2013). In August of 2016, the People's Government of Xinjiang Uygur Autonomous Region established “the Management Administration of World Natural Heritage” and its World Natural Heritage Nomination Leadership Team was renamed the World Natural Heritage Management Committee of Xinjiang Uygur Autonomous Region, thus strengthening overall coordination and comprehensive management of Tianshan World Heritage Site (IUCN Consultation, 2017). This is not fully operational yet, e.g. no regular meetings of component managers. A new management plan should be prepared in the near feature, including to address this issue.

► Management effectiveness

Mostly Effective

Apart from a lack of an overall management plan for the whole World Heritage property, it appears that management intervention is generally

effective in the individual component parts of the property (IUCN, 2013). Each separate component has established its management authority to ensure the protection and management effectiveness of the whole World Heritage Site (IUCN Consultation, 2017). However, the management measures are mostly focused on tourism development.

► Implementation of Committee decisions and recommendations

Mostly Effective

At the time of inscription (2013) the World Heritage Committee requested the State Party to address certain issues, including completion of an integrated management plan for the whole area, collaboration with neighbouring countries and consideration of the potential of integrating local communities and in particular traditional herdsmen into management of the property (Decision 37COM 8B.10). A new integrated management plan should replace the 2012-2016 MP and its preparation has started. A new World Heritage Site has been inscribed in Western Tianshan in 2016 (Kazakhstan, Kyrghyzstan, Uzbekistan), but this does not appear to have involved any other countries besides the nominating States Parties. Local communities are reported to be involved, but mainly regarding the development in their area. At present, Xinjiang Tianshan is compiling its master plan, actively engaging traditional herdsmen in management (IUCN Consultation, 2017).

► Boundaries

Mostly Effective

The boundaries of all four components of the site are appropriate and adequate and the buffer zone boundaries are complete. It is noted that the boundaries are drawn to avoid areas of mining and potential transport corridors. It has been recommended that consideration be given to adding further areas to the property (IUCN, 2013). Boundaries are clearly demarcated on the ground.

► Sustainable finance

Mostly Effective

Funding is reported to be in the order of USD 100 million over the next five years (IUCN, 2013). Regular budgets are allocated to the different

components but more centralized activities should be implemented (management coordination, communication) with an “umbrella” budget.

► Staff training and development

Mostly Effective

There is a staff of about 650 personnel who are reportedly well qualified (IUCN, 2013). However centralized training (at whole property’s level) could be developed.

► Sustainable use

Some Concern

Concerns are held among the local nomadic herders about the possible ban on livestock grazing, but the State Party favours establishing a traditional sustainable resource exploitation regime (IUCN, 2013). Specific schemes adapted to the characteristics of each component should be designed and implemented. Very fast tourism development might lead to unsustainable use of some resource (eg. water).

► Education and interpretation programs

Mostly Effective

Education programmes are not reported but some good quality interpretation is conducted (IUCN, 2013). However, the information is mainly focused on tourism needs, and more communication should be done regarding the values of the site and their long-term conservation.

► Tourism and visitation management

Mostly Effective

Tourism operations and visitor numbers are not causing serious concerns at present. However, there is a need for caution in the face of the observed and further predicted steady increase in numbers to an estimated carrying capacity of about 9.5 million per year. The management authorities will need to be vigilant to avoid inappropriate types and levels of activities, such as the use of 4WD vehicles that could destroy vegetation cover and cause accelerated rates of soil erosion (IUCN, 2013). Measures have been taken to stop private car traffic inside the property (transportation by shuttle buses) in

the different components. Environmental protection facilities have been built or are under construction, e.g. large water treatment plant in Bayinbuluke.

► Monitoring

Mostly Effective

There is a comprehensive environmental monitoring programme (IUCN, 2013). Bogda site has constructed a monitoring center for resources and environmental protection, including an early-warning system with 140 high-definition cameras installed with 100% coverage (IUCN Consultation 2017).

A special chapter on property-wide monitoring should be integrated in the new management plan.

► Research

Mostly Effective

The property has been extensively researched by national and international scientists (IUCN, 2013). Bogda has developed a long-term cooperation in scientific research and teaching with CAREERI, Chinese Academy of Forestry Sciences, Xinjiang University and many other schools and institutions, having achieved more than 80 research papers on glacier hydrology, forest ecology, geology and geomorphology, biodiversity and so on (IUCN Consultation 2017).

Overall assessment of protection and management

Mostly Effective

The site appears to be well protected in law, but here are some concerns relating to management. Individual parts of the serial property have a management plan, but the overall management framework is insufficient. There is a lack of a coordinated management system that provides for unified management throughout the property. The integrity of the site is secure but its area could be expanded to include a greater representation of the regional physiography and biogeography. Staffing and financing are adequate for current needs but may need augmenting if the predicted increase in tourism occurs. Community engagement needs improvement with more effort made to employ local herders in management operations, conservation and communication about the natural values, and not only in commercial tourism

activities. The preparation of a new comprehensive (at property level) management plan, including establishment of an operational coordinated management unit, is needed.

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

Highly Effective

Environmental impact from tourism development around the property is largely addressed. There are no other reported threats from outside the property, though mining operations may be of potential impact. Xinjiang has taken measures accordingly, ordering 4 mining pits at the Bogda component (in the outer edge of the buffer zone) to completely stop production as of May 2017 (IUCN Consultation 2017).

▶ **Best practice examples**

Bogda component (the easternmost component, close to Urumqi) has successively formulated and published 37 polices and regulations, including Regulations of Protection and Management of Xinjiang Tianshan Tianchi Scenic Areas, Work Program of Vegetation Protection and Recovering of Tianchi Scenic Area, Protection Program of Ancient Elm Trees in Sangonghe River. It has also constructed a monitoring center for resources and environment protection and early-warning, installed 140 high-definition cameras with 100% coverage. Besides, it has developed a long-term cooperation in scientific research and teaching with CAREERI, Chinese Academy of Forestry Sciences, Xinjiang University and many other schools and institutions, having achieved more than 80 research papers on glacier hydrology, forest ecology, geology and geomorphology, biodiversity and so on (IUCN Consultation, 2017).

State and trend of values

Assessing the current state and trend of values

World Heritage values

- **An outstanding scenic area comprising part of the largest mountain chain in the world's temperate arid region**
  Good
  Trend:Stable

  The scenic and aesthetic values of the property are unchanged from the time of inscription (IUCN, 2013). The tourism development and the change in traditional ways of life in and around the property needs to be addressed in the long run.

- **Outstanding example of biological evolution in an arid continental climate, with relict, rare, endangered and endemic species**
  Good
  Trend:Stable

  There has been no significant change to the biological values and attributes of the site since its inscription on the World Heritage List (IUCN, 2013). However global climate changes might influence the values on the long-term.

Summary of the Values

- **Assessment of the current state and trend of World Heritage values**
  Good
  Trend: Stable

  The current state of the values and attributes of the site is good and the condition is stable. The property was inscribed on the World Heritage List in 2013 and no changes in the values have been reported since then. Besides potential impacts from fast tourism development, no significant changes are foreseen in the near future under the existing protection and management regime.

Additional information

Benefits

Understanding Benefits

► Access to drinking water

The site allows for the continuation of traditional sustainable uses of grasslands and mountain lands, including access to water supplies and other essential resources.

► Outdoor recreation and tourism

The site is a popular tourist attraction for climbing, hiking, sight-seeing and general wilderness recreational pursuits.

► Importance for research

The highest parts of the mountain, including the forest belt, are very well protected and offer a good protection against the potential consequences of climate change.

Summary of benefits

The site is of great significance in providing for protection of a large tract of mountainous terrain with very important wilderness and biodiversity values, and major water resources for large areas around. It allows for a range of recreational activities such as climbing, hiking and sight-seeing and it provides for the maintenance of a wide range of environmental services including conservation of soil, forest and water resources, and climate change mitigation.

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	.		.

REFERENCES

№	References
1	37COM.8B.10
2	China, 2012. World Heritage nomination of Xinjiang Tianshan, China.
3	IUCN, 2013. Evaluation of the World Heritage nomination of Xinjiang Tianshan, China.
4	IUCN, 2017. Stakeholder consultation.