IUCN Conservation Outlook Assessment 2014 **(archived)**
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Please note: this is an archived Conservation Outlook Assessment for China Danxia. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

China Danxia

SITE INFORMATION

Country:
China
Inscribed in: 2010
Criteria:
(vii) (viii)

Site description:
China Danxia is the name given in China to landscapes developed on continental red terrigenous sedimentary beds influenced by endogenous forces (including uplift) and exogenous forces (including weathering and erosion). The inscribed site comprises six areas found in the sub-tropical zone of south-west China. They are characterized by spectacular red cliffs and a range of erosional landforms, including dramatic natural pillars, towers, ravines, valleys and waterfalls. These rugged landscapes have helped to conserve sub-tropical broad-leaved evergreen forests, and host many species of flora and fauna, about 400 of which are considered rare or threatened. © UNESCO

SUMMARY

2014 Conservation Outlook

Good

The conservation outlook for the property is generally good and of low concern. The current state of the values of the property and the trend are respectively satisfactory and stable. The serial nature of the property, with its six widely separated component parts, is complex but the authorities must be commended on the degree to which they have provided a uniformly consistent legal and institutional framework for protection and management. Existing staff and other management resources appear to be adequate in coping with current factors affecting the property and low levels of threat. Protection of the property is assisted by its remoteness from development and the robust character of the geological landscape. There is a need to ensure protection of the natural forest vegetation and biodiversity, which contribute significantly to the scenic and aesthetic qualities and to the on-going land forming processes. There is a need to be vigilant in the face of an inevitable increase in visitor numbers and tourism development, and astute management intervention will be required to avoid any undesirable impacts of mass tourism. Among the most important challenges for the authorities is to increase the level of international understanding of the Danxia geological landscape, through increased collaborative research and scientific publication and wider promotion campaigns.

Current state and trend of VALUES

Low Concern
Trend: Stable

The current state of the outstanding scenic and aesthetic and geological values of the property is satisfactory and the trend is stable. Overall, the situation can be assessed as of low concern. Remoteness of the property from urban and industrial development and the inherently robust character of the geological landscape combine to provide for a strong degree of integrity for the serial property despite its geographical discontinuity and complexity. All six sites in the

property have strong legal protection and active management sufficient to cope with existing and foreseen environmental and human pressures. There is a need for vigilance in the face of the real prospect of substantially increased tourism development. Management must also give due attention to protection of the natural forest habitats that add significantly to the overall visual and aesthetic values of the property and are vital to maintain the on-going natural geomorphological processes. Protection of the geological values of the property would be enhanced through greater international scientific exposure of the Danxia formation and landscapes, as well as development of geological monitoring indicators.

Overall THREATS

Low Threat

Overall the threats to the property are at a low to very low level, though in some cases it is difficult to judge because of limited available information. It appears that the more notable threats are from pressure of township and associated infrastructure development and from the growth of visitor numbers and tourism. Threats are generally higher in the buffer zone than inside the property. Existing management capacity appears to be sufficient to respond adequately to current threats.

Overall PROTECTION and MANAGEMENT

Mostly Effective

Overall, the protection and management of the property can be assessed as mostly effective and there are no significant concerns. This is an extremely complex serial property comprising six components in six provinces scattered across some 1700 km of Southeast China. The effort made to provide uniformly effective legal, institutional and management mechanisms for protection of the Outstanding Universal Value throughout the property is highly commendable. On-going protection effort should give emphasis to managing the growing pressure from tourism, and to the need to give greater international scientific exposure to China Danxia though collaborative research and wider publication.

FULL ASSESSMENT

Description of values

Values

World Heritage values

- **An exceptionally beautiful landscape**
  Criterion:(vii)

  China Danxia is an impressive landscape of great natural beauty. Red conglomerate and sandstone have been shaped into spectacular peaks, pillars, cliffs and imposing gorges, together with winding rivers and majestic waterfalls, within a sub-tropical forest setting (SoOUV, 2010).

- **A landscape formed in continental sedimentary rocks with a great variety of distinctive landforms**
  Criterion:(viii)

  The term "Danxia" describes the physical landscape developed from uplifted continental (terrestrial) reddish conglomerate and sandstone, also known as "red-beds," in a warm, humid monsoon climate. China Danxia is the world’s most outstanding example of this landscape. Each of the six component parts of this serial property displays landforms characteristic of its stage in the erosion history, and collectively they illustrate the full extent of geomorphic evolution of the Danxia formation in southeastern China (SoOUV, 2010).

Other important biodiversity values

- **Intact sub-tropical forest remnants protecting significant**

biodiversity values.

The rugged landscapes in the property protect sub-tropical broad leaved evergreen forests and a range of habitats important for the survival of many species of flora and fauna including endemic, endangered and threatened species of conservation significance. The forests are mostly secondary, comprising 23 different vegetation types graded according to altitude, and include many ancient trees. In total the property contains 5,772 vascular plant species, 40 of which are endemic to the property and 600 endemic to China. Of the 34 species on the IUCN Red Data List, two are critically endangered, seven are endangered and 13 are vulnerable. Among the fauna are 836 vertebrates and some 3,000 insect species. Excluding insects, there are 47 species endemic to China and 66 species are listed by CITES. The eastern sites lie within a WWF Global 200 priority ecoregion and a WWF/IUCN Centre of Plant Diversity (People’s Republic of China, 2008a; UNEP/WCMC, 2012).

Assessment information

Threats

Current Threats

Low Threat

Overall the threats to the property are at a low to very low level, though in some cases it is difficult to judge because of limited available information. It appears that the more notable threats are from pressure of township and associated infrastructure development and from the growth of visitor numbers and tourism. Threats are generally higher in the buffer zone than inside the property. Existing management capacity appears to be sufficient to respond adequately to current threats.

▶ **Housing/ Urban Areas**

Low Threat

Outside site

There are approx. 34,000 permanent residents inside the property and approx. 100,000 in the buffer zone. Villages and small towns are common, but the development pressure appears to be mainly in the buffer zone (People’s Republic of China, 2008a).

► Logging/ Wood Harvesting, Fishing / Harvesting Aquatic Resources, Livestock Farming / Grazing, Subsistence hunting

Very Low Threat
Inside site
Outside site

Subsistence living and resource use occur at most sites but with variable degrees of threat (People’s Republic of China 2008a).

► Invasive Non-Native/ Alien Species

Data Deficient
Inside site
Outside site

Alien pest species are reported but specifics are lacking. Low level quarantine measures are applied inside the property (People’s Republic of China, 2008a; 2008b).

► Fire/ Fire Suppression

Low Threat
Inside site
Outside site

Wildfires occur during the dry season and at times of drought. Early-warning, preparedness and prevention systems are in place (People’s Republic of China, 2008a; 2008b).

► Water Pollution

Data Deficient
Inside site
Outside site

Pollution is listed among the factors affecting the property but there are no specifics on sources or levels of pollution. Waste production in upstream

catchments is noted as a cause. Air pollution is a national problem but is not generated in-situ (People’s Republic of China, 2008a).

► Tourism/ Recreation Areas

Low Threat
Inside site

There has been a modest increase in annual tourist numbers from 130,000 (2001) to 360,000 (2007) with steady growth continuing. Current numbers are well below the physical and social carrying capacity, though some congestion occurs at the most popular scenic spots in holiday seasons. Management capacity is sufficient to cope with current tourism pressures, but on-going vigilance is required (IUCN, 2010; People’s Republic of China, 2008a).

Potential Threats

Data Deficient

The mountainous terrain is susceptible to geological and weather event, such as the occurrence of landslide and rockfall and stream flooding. The level of threat is difficult to determine from existing information.

► Avalanches/ Landslides

Data Deficient
Inside site

The mountainous terrain is susceptible to the occurrence of landslide and rockfall and stream flooding. The level of threat is difficult to determine from existing information. There has been some localised management intervention (People’s Republic of China, 2008a; 2008b).

Protection and management

Assessing Protection and Management

► Staff training and development

Mostly Effective

There are enough qualified staff employed at each of the sites in the property, and training opportunities are available (IUCN, 2010; People's Republic of China, 2008a; 2008b).

► Sustainable use

Data Deficient

Subsistence lifestyles and uses of land and resources are supported in and around the property (People's Republic of China, 2008a).

► Education and interpretation programs

Mostly Effective

Programs are in place but could be more actively implemented and up-graded (People's Republic of China, 2008a; 2008b).

► Tourism and interpretation

Some Concern

Tourism management is guided by management plans. Some interpretation programs and methods could benefit from up-grading (People's Republic of China, 2008b).

► Monitoring

Mostly Effective

Baseline condition assessment and monitoring of change for natural values and for species have been established (People's Republic of China, 2008a; 2008b; UNEP/WCMC, 2012).

► Relationships with local people

Mostly Effective

People from the local communities are involved in management and have a good understanding of the World Heritage status (People's Republic of China, 2008a).

► Legal framework and enforcement

Mostly Effective

All land in the property is State-owned. Protection status varies from site to site but includes national nature reserve, national forest and geopark. The property has protection under the relative laws and regulations of national, provincial and local governments (People’s Republic of China, 2008a; 2008b; UNEP/WCMC, 2012).

► Integration into regional and national planning systems

Data Deficient

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► Management system

Mostly Effective

A management plan exists for each of the sites in the serial property and there is an integrated management plan for the property as a whole (People’s Republic of China, 2008a; 2008b).

► Management effectiveness

Some Concern

Generally, there appear to be adequate long-term legislative, regulatory, institutional and traditional protection and management mechanisms for safeguarding the inscribed values of the property. However, the WH Committee has requested that there also be a greater focus on protection of biodiversity values (People’s Republic of China, 2008a; 2008b; 34COM.8B.1).

► Implementation of Committee decisions and recommendations

Some Concern

At the time of inscription, the WH Committee requested the State Party to ensure the effective long-term management and protection of the property and meet integrity requirements; to focus on the protection and effective management of the important biodiversity values; to support the organization of international meetings and to continue scientific research regarding the Danxia Landform; and to make available in translation key scientific studies on the topic of the China Danxia and to actively assist the further development of international scientific knowledge of the China Danxia

phenomena and red-beds sandstone geomorphology more generally. The 1st International Symposium on Danxia Landform was convened in 2009, supported by the IUGS and IAG and several scientific institutions in China, intended to strengthen research and scientific collaboration on Danxia and similar landforms throughout the world (34COM.8B.1; Xiao Shizen et al., 2009).

► Boundaries

Mostly Effective

Boundaries of the property and the buffer zones for each of the component parts are well demarcated and logical with respect to ensuring integrity (IUCN, 2010; People’s Republic of China, 2008a; 2008b).

► Sustainable finance

Data Deficient

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► Research

Mostly Effective

There is a long history of national research in Danxia geology and active research programs are in place or planned. However, wider scientific awareness and understanding of the Danxia phenomena suffers from a lack of published research in the international English language scientific literature. The WH Committee has urged the State Party to improve this situation and a good beginning has been made to comply (People’s Republic of China, 2008a; 34COM.8B.1; Xiao Shizen et al., 2009). Danxia landform development and evolution has been mostly explained by geographical points of view, it is necessary to carry out geological investigation to understand the Danxia landform evolution.

Overall assessment of protection and management

Mostly Effective

Overall, the protection and management of the property can be assessed as mostly effective and there are no significant concerns. This is an extremely

complex serial property comprising six components in six provinces scattered across some 1700 km of Southeast China. The effort made to provide uniformly effective legal, institutional and management mechanisms for protection of the Outstanding Universal Value throughout the property is highly commendable. On-going protection effort should give emphasis to managing the growing pressure from tourism, and to the need to give greater international scientific exposure to China Danxia though collaborative research and wider publication.

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

Mostly Effective

On available evidence, there appears to be a relatively seamless transition between management inside and outside the property. All key stakeholders in the surrounding communities support the World Heritage status of the property.

State and trend of values

Assessing the current state and trend of values

World Heritage values

▶ **An exceptionally beautiful landscape**

Low Concern
Trend:Stable

The current state of the outstanding scenic and aesthetic values of the property is satisfactory and the trend is stable. All six sites in the serial property have strong legal protection and active management sufficient to cope with existing environmental and human pressures. There is a need to be vigilant especially regarding the real prospect of a substantial increase in the numbers of visitors and growing tourism development. Overuse of some scenic spots and excessive facilities development could cause localised physical damage and undesirable visual intrusion detrimental to the scenic quality of the beautiful natural landscape and to the degree of visitor satisfaction. Management must also give due attention to protection of the natural forest habitats that add significantly to the overall visual and

aesthetic values of the property (IUCN, 2010; People’s Republic of China, 2008a).

► A landscape formed in continental sedimentary rocks with a great variety of distinctive landforms

Low Concern
Trend:Stable

The current intact state of the outstanding geological and landform values of the property and the stable trend give little cause for concern. The six component parts of the property are all remotely located in mountainous terrain so are well buffered from areas of urban and industrial development. The geological values are inherently robust and resilient against agents of disturbance and change. These characteristics of remoteness and resilience provide for a strong degree of integrity for the serial property, despite its geographical discontinuity and complexity. Protection of the geological values of the property would be enhanced through greater international scientific exposure and wider promotion of the Danxia formation and landscapes. To date, the State Party has responded well to the recommendations of the Committee and IUCN in this regard (IUCN, 2010; People’s Republic of China, 2008a; 34COM.8B.1; Xiao Shizen et al., 2009).

Other important biodiversity values

► Intact sub-tropical forest remnants protecting significant biodiversity values.

The rugged landscapes in the property protect sub-tropical broad leaved evergreen forests and a range of habitats important for the survival of many species of flora and fauna including endemic, endangered and threatened species of conservation significance. The forests are mostly secondary, comprising 23 different vegetation types graded according to altitude, and include many ancient trees. In total the property contains 5,772 vascular plant species, 40 of which are endemic to the property and 600 endemic to China. Of the 34 species on the IUCN Red Data List, two are critically endangered, seven are endangered and 13 are vulnerable. Among the fauna are 836 vertebrates and some 3,000 insect species. Excluding insects, there are 47 species endemic to China and 66 species are listed by CITES. The eastern sites lie within a WWF Global 200 priority ecoregion and a WWF/IUCN

Centre of Plant Diversity (People’s Republic of China, 2008a; UNEP/WCMC, 2012).

Summary of the Values

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

Low Concern

Trend: Stable

The current state of the outstanding scenic and aesthetic and geological values of the property is satisfactory and the trend is stable. Overall, the situation can be assessed as of low concern. Remoteness of the property from urban and industrial development and the inherently robust character of the geological landscape combine to provide for a strong degree of integrity for the serial property despite its geographical discontinuity and complexity. All six sites in the property have strong legal protection and active management sufficient to cope with existing and foreseen environmental and human pressures. There is a need for vigilance in the face of the real prospect of substantially increased tourism development. Management must also give due attention to protection of the natural forest habitats that add significantly to the overall visual and aesthetic values of the property and are vital to maintain the on-going natural geomorphological processes. Protection of the geological values of the property would be enhanced through greater international scientific exposure of the Danxia formation and landscapes, as well as development of geological monitoring indicators.

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

Low Concern

Trend: Stable

Although inscribed for its outstanding scenic and geological values, the China Danxia property also has biodiversity values which are of national and regional significance. These values should be well protected within the context of World Heritage protection for the property, but elements of flora and fauna are readily lost and difficult to restore so careful on-going

management intervention is required.

Additional information

Key conservation issues

▶ **Increased international understanding of the Danxia geological formation and landscape.**
National

Danxia geology is not well known or understood outside China because of the lack of exposure in the international English language scientific literature. There is a need for more international collaborative research and publication.

▶ **Growth in visitor numbers and tourism development.**
Local

Visitor numbers are currently at levels below the carrying capacity of the property and the current management capacity. Numbers will inevitably grow in the near future, possibly rapidly, which could potentially introduce some of the undesirable elements of mass tourism.

Benefits

Understanding Benefits

▶ **Does management of the site provide jobs (e.g. for managers or rangers)?**

Many people from the local communities in and around the property are employed for administrative and management duties and as guides, from which they derive significant cash income which contributes to up-grading their social and economic well-being.

▶

Legal subsistence hunting of wild game, Collection of wild plants and mushrooms, Fishing areas and conservation of fish stocks, Traditional agriculture

Subsistence activities such as hunting, farming, fishing and firewood collection are permitted by regulation, and traditional customs and religious beliefs are respected and maintained. There is some threat from modernization.

▶ **Outdoor recreation and tourism**

Commercial tourism operations are growing modestly but steadily throughout the property and the associated economic opportunities are of great benefit to residents both in the property and the buffer zone. It is important that the level of development is maintained within the physical and social carrying capacity of the property and that the excesses of mass tourism are avoided.

▶ **Soil stabilisation, Water provision (importance for water quantity and quality)**

The protection of the property is highly significant for control of soil erosion, land stability, forest conservation and the maintenance of water quality.

▶ **Importance for research**

Danxia geology is nationally renowned in China based on long-established research. China has a major role to play in making this information available to the wider international scientific community. A beginning was made with the convening of the 1st international Symposium on Danxia Landform in 2009.

Summary of benefits

The China Danxia property makes a major contribution to maintaining the traditional lifestyles, customs and beliefs of the local communities and to enhancing their socio-economic standing through employment opportunities and income generation either directly in the property or indirectly, through

commercial tourist operations in particular.

Projects

Compilation of active conservation projects

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

Compilation of potential site needs

№	Site need title	Brief description of potential site needs	Support needed for following years
1	Local and national scientists	Combined research projects with scientists and collaboration with scientific organizations outside China, and publication of research results in the international English language scientific literature.	
2	Local site management and national authorities.	Research and investigation of tourism management planning and intervention approaches, especially in anticipation of increased tourism development.	

REFERENCES

№	References
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2	IUCN 2010. Technical evaluation of World Heritage nomination of China Danxia, China. IUCN, Gland, Switzerland, 17pp.
3	People’s Republic of China 2008a. China Danxia nomination text. 281 pp.
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6	Xiao Shizen et al. 2009. Minutes of the 1st International Symposium on Danxia Landform, Shaoguan City, Guangdong Province, China, 26-18 May 2009.