IUCN Conservation Outlook Assessment 2017 **(archived)**
Finalised on 10 November 2017

Please note: this is an archived Conservation Outlook Assessment for Three Parallel Rivers of Yunnan Protected Areas. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

Three Parallel Rivers of Yunnan Protected Areas

SITE INFORMATION

Country:
China
Inscribed in: 2003
Criteria:
(vii) (viii) (ix) (x)

Site description:
Consisting of eight geographical clusters of protected areas within the boundaries of the Three Parallel Rivers National Park, in the mountainous north-west of Yunnan Province, the 1.7 million hectare site features sections of the upper reaches of three of the great rivers of Asia: the Yangtze (Jinsha), Mekong and Salween run roughly parallel, north to south, through steep gorges which, in places, are 3,000 m deep and are bordered by glaciated peaks more than 6,000 m high. The site is an epicentre of Chinese biodiversity. It is also one of the richest temperate regions of the world in terms of biodiversity. © UNESCO

SUMMARY

2017 Conservation Outlook

Significant concern

The large serial property continues to boast extraordinary natural values; however, credible and consistent reports about poaching, inadequate tourism planning, illegal wildlife trade, tensions with local communities, conceptual lack of clarity and a lack of management coherence across the distinct legal, governance and management set-ups of the 15 individual protected areas are worrisome. The State Party has recently re-affirmed its commitment to consider the property off-limits to mining after years of a grey area and the inclusion of mining areas in the initially inscribed area, undetected by the independent IUCN evaluation at the time. The ongoing construction of large dams have already impacted on the scenic beauty of the valleys and gorges. There are concerns about much deeper impacts though, as the and further plans to convert all three major rivers into a series of hydropower dams and reservoirs with associated access and transmission structure amount to a significant landscape transformation. Despite the physical location of the infrastructure outside of the property assured by the State Party, basic ecology and well-documented experience with large dams elsewhere imply that direct and indirect impacts on the ecosystems are inevitable. Even though the State Party acknowledges the need to refine laws, policies and management, this underlying dilemma remains unresolved.

Current state and trend of VALUES

High Concern
Trend: Deteriorating

The serial property covers some 960,000 hectares. Despite this vast size, the configuration of the property is strongly biased towards the higher altitudes, thereby failing to cover a full representation of the diverse landscape. The rivers themselves and major dramatic canyons, which are key visual landscape features and the basis for the property’s name, are systematically missing in the

property. While this can reasonably be interpreted as a growing mismatch between the property's configuration, its name and the applicability of criterion (vii) due to the transformation of the three major rivers for hydropower generation, the concerns about the biodiversity values are even more important. The landscape transformation through major infrastructure development coincides with pressure from poaching and illegal collection and trade, while resettlements mean the end of a longstanding interaction between a landscape and its traditional inhabitants and users.

Overall THREATS

Very High Threat

The range of major threats to the property includes tourism, poaching and wildlife trade, mining activity hydro-power development and water transfer schemes. The scale of the planned hydropower development and water transfer schemes poses the greatest actual and potential threat to the property and the wider mountain landscape it will inevitably transform. The ongoing transformation of the main rivers which are key features of the landscape and its ecology and aesthetics raises the question, whether criterion (vii) will remain tenable and whether the name of the property might require re-consideration.

Overall PROTECTION and MANAGEMENT

Serious Concern

The State Party has been covering new ground by successfully nominating a large and unusually complex serial property. It is unsurprising that an approach bringing together different protected area categories, legal and governance frameworks amounts to work in progress. The State Party, in its reporting, openly acknowledges an ongoing search for conceptual clarity and a need for refining laws and policies, as well as for balancing governmental conservation, tourism development and local livelihoods.

FULL ASSESSMENT

Description of values

Values

World Heritage values

► **Spectacular landscape beauty dominated by three deep parallel river gorges**
Criterion:(vii)

The deep, parallel gorges of the Jinsha, Lancang (Upper Mekong) and Nu Jiang (Salween) Rivers are the dominating landscapes features in the area. Other noteworthy and highly aesthetic landforms include the glaciated peaks of the Meili Baima and Haba Snow mountains (World Heritage Committee, 2011).

► **Outstanding display of major, ongoing geological processes in the evolution of the land surface of Asia**
Criterion:(viii)

Some 50 million years of ongoing geological history associated with the collision of the Indian Plate with the Eurasian Plate, the closure of the ancient Tethys Sea, and the uplifting of the Himalaya Range and the Tibetan Plateau is evident in the property; all major geological events in the ongoing evolution of the land surface of Asia. This history is illustrated by the diverse rock types present in the property. The range of karst, granite monolith, and Danxia sandstone landforms in the alpine zone are some of the best examples of their type in the world (World Heritage Committee, 2011).

►

Convergence of three of the world’s major biogeographic realms and an exceptional diversity of ecological processes

Criterion:(ix)

Intricately linked to the above biodiversity considerations the property is part of a region demonstrating an unusual diversity of ecological processes which result from a dramatic mix of geological, climatic and topographical factors. The complexity of ecological processes is amplified by orographic belt influences; topographical complexity, a wide range of rock substrates and the fact that this is a “collision point” between tectonic plates. The area was also a Pleistocene refugium and is located at a biogeographic convergence zone of three major realms with distinct temperate and tropical elements (World Heritage Committee, 2011).

► Part of the biologically and culturally most diverse area in China

Criterion:(x)

The large serial property is situated within the most biodiverse part of China, sometimes referred to as the "Mountains of Southwest China Hotspot" (CEPF, 2002), covering a wide range of natural habitats of the globally significant Hengduan Mountains. CEPF (2002) considers the hotspot to be the "most biologically diverse temperate forest ecosystem in the world". Several characteristics underpin this extraordinary biological wealth, including but not limited to (i) exceptional topographic and climatic diversity and (ii) a location at the juncture of the East Asia, Southeast Asia, and the Tibetan Plateau. The property supports over 6,000 plant species, as well as a remarkable range of fungi and lichen (IUCN, 2003). The property is considered the or one of the last stronghold(s) for an extensive suite of rare and endangered plants and animals (World Heritage Committee, 2011). The area is the most outstanding region for faunal diversity in China (IUCN, 2003).

Other important biodiversity values

► Watershed protection and freshwater biodiversity values

The three rivers which give the property its name are of critical importance for the vast watersheds and their inhabitants and boast a rich and productive freshwater biodiversity (Li et al., 2014; Dudgeon, 2011, IUCN, 2003). Despite

the property bearing the direct reference to the rivers in its name, the rivers themselves are regrettably not included in the spatial configuration of the property in any meaningful way, raising questions in terms of the appropriateness of the name.

Assessment information

Threats

Current Threats

High Threat

A range of current threats to the site have been identified, most significantly related to mining activities in close proximity to the site, extensive ongoing and planned hydro-electric and water transfer developments, tourism, poaching and wildlife trade. The relationships with resident populations within the property and its buffer zone are compromised by use restrictions and relocation. There is significant concern about the lack of consideration of cumulative impacts from the dams and associated infrastructure (including transmission infrastructure), and the fact that significant construction has been permitted to take place prior to the completion and approval of Environmental Impact Assessments. A Strategic Environmental Assessment for development options in Northwest Yunnan should urgently be conducted, as requested by the World Heritage Committee (2013) based on foundations reported by the State Party of China (2016).

▶ **Identity/ Social Cohesion/ Changes in local population and community**

High Threat
Outside site

Both reports of Reactive Monitoring missions conducted to the property note major resettlement schemes, often associated with dam construction. Besides associated social and cultural impacts, this raises questions in terms of the breakdown of traditional cultural practices and the erosion of associated knowledge in a region, which has an ancient human history and

displays a remarkable coincidence of cultural and biological wealth (Jaeger et al., 2013; Lopoukhine et al., 2006).

► Other Biological Resource Use

High Threat
Inside site, extent of threat not known
Outside site

Although the current status and trends of wildlife appear to be poorly understood, there are many credible hints at poaching and wildlife trade being severe threats at least in parts of the World Heritage property. Zhang et al. (2008) provide an alarming overview of commercial trade in wildlife in Southwest China. The most recent Reactive Monitoring mission notes publicly available assessments by TRAFFIC indicating limited management responses to wildlife trade, negative trends reported to the mission in personal communication and a possibly particularly challenging situation near the international border with Myanmar (Jaeger et al., 2013).

► Renewable Energy, Dams/ Water Management or Use

Very High Threat
Outside site

Proposals for - and more recently construction of - multiple large dams on the three rivers that give the site its name have been a cause for major concern for many years. Since inscription the World Heritage Committee has expressed concern on every possible occasion (World Heritage Committee, 2017, 2015, 2013, 2012, 2011a, 2010a, 2008, 2007, 2006, 2005, 2004, and 2003). IUCN (2014) summarized the situation as follows based on information provided by the State Party of China (2013): a total of 13 large proposed hydro-power dams, with six alone on the Lancang (or Upper Mekong) River. Construction had already started on five dams, of which four were on the Lancang River (i.e. the Lidi, Tuoba, Huangdeng, and Dahuaqiao dams), and one (the Liyuan dam) on the Jinsha River. The Environmental Impact Assessments (EIAs) for none of these dams had been completed or approved prior to the commencement of (in some cases large scale) preparatory construction. A further concern consistently expressed is that - when EIAs are available - these are for individual projects only, whereas the inevitable cumulative impacts appear to be ignored. Adding further question marks, information about the planned location and expected impacts of transmission

infrastructure is limited or unavailable. The 13 proposed dams are part of the “West-East Electricity Transfer Project”, which is not restricted to Northwest Yunnan. Some reports suggest that many more dams are planned further away from the World Heritage Site on the same rivers (Li et al., 2014; Jaeger et al., 2013; Yan, 2013; Wang, 2006). Although the 2013 IUCN reactive monitoring mission to the site acknowledged that physically, all known dam projects appear to be located outside the World Heritage property and its buffer zone, it does note that the visual integrity of the property recognized under criterion (vii) will be strongly affected. The mission also highlighted that - despite locations outside the boundaries of the World Heritage property - the dams are likely to have impacts on the complex linkages between terrestrial and aquatic ecosystems, as well as on wildlife corridors and landscape connectivity (Jaeger et al., 2013).

► Roads/ Railroads, Utility / Service Lines

High Threat
Outside site

Road construction, including the upgrading and widening of existing roads is inevitably required for the major dam construction projects and ambitious tourism development plans. The same holds true for the inevitable transmission infrastructure hydropower dams require.

► Tourism/ visitors/ recreation

Low Threat
Inside site, extent of threat not known

The General Management Plan expected tourism to increase five-fold following inscription (IUCN, 2003). Both Reactive Monitoring missions to the property (Jaeger et al., 2013; Lopoukhine et al., 2006) and the two most recent State of Conservation reports (UNESCO et al., 2017 and 2015) note localized tourism impacts and inadequate tourism planning.

► Mining/ Quarrying

High Threat
Inside site, extent of threat not known
Outside site

The World Heritage Committee (2010) partially approved a Minor Boundary

Modification excluding mining from the property, which predated the World Heritage inscription and had not been detected during the technical evaluation (IUCN, 2003). While the State Party has repeatedly committed itself to refrain from granting any further permits for mineral extraction within the property or its buffer zone (e.g. State Party of China, 2016), it remains unclear whether this commitment includes exploration licenses and whether illegal mining can effectively be controlled across the vast property (Jaeger et al., 2013). The 2013 IUCN Reactive Monitoring mission noted that the land between the Hong Shan and the Haba Snow Mountains components of the serial property is covered by some twenty prospecting licenses, raising questions about future impacts from possible mining operations on these components and the connectivity between them. Reports of continued illegal mining within the site are an additional concern. The State Party acknowledged that small scale illegal mining may continue locally within the site, and further scrutiny is required to verify reports if such activities (Jaeger et al., 2013). Most recently, the World Heritage Committee (2017) noted with appreciation that the State Party explicitly stated in formal reporting (State Party of China, 2016) that it considered the property and its buffer zone "off limits with regard to mining". The Committee encouraged the State Party to "expand its commitment so as to explicitly encompass any mineral exploration and extraction that would impact the Outstanding Universal Value (OUV) of the property, and to rehabilitate all closed mines within the property and its buffer zones".

Potential Threats

Very High Threat

Hydro-electric development and water transfer schemes possibly exceeding the scale of the existing formal World Heritage documentation remain the most significant potential threat to the property. Even though all of the known planned dams are technically located outside the property, the individual and cumulative direct and indirect impacts of the dams and associated access and transmission are undoubtedly significant. Information on transmission and access infrastructure remains scarce. Concerns boil down to an intensification of the existing threats on many facets of the World Heritage values. Impacts can be expected due to altered hydrological regimes, pollution and sedimentation, impacts on aquatic life, landscape beauty, impacts arising from

associated access and other infrastructure; impacts arising from human resettlement and socio-economic change.

▶ Renewable Energy, Dams/ Water Management or Use

Very High Threat
Outside site

Further to the documented concerns about massive hydropower development and water transfer schemes detailed above, there are reports about even more ambitious plans to modify the main rivers giving the property its name (Li et al. 2014).

Protection and management

Assessing Protection and Management

▶ Relationships with local people

Serious Concern

Persistent concerns exist over forced relocation and conflicts between protected areas and local livelihoods (Jaeger et al., 2013; Lopoukhine et al., 2006) and a number of local community disputes have been reported (UNESCO et al., 2012).

▶ Legal framework

Some Concern

China has no overarching protected areas legislation and no single and coherent national protected areas system (Jaeger et al., 2013). The 15 individual protected areas that jointly make up the serial property in several clusters are subject to different national and provincial laws and regulations, including as national and provincial level nature reserves and national scenic areas. While this is not per se negative this complexity obstacles and questions marks in terms of the harmonized overall approach expected and indeed required in serial World Heritage properties. Specific legislation applicable includes the Regulations of the People’s Republic of China on Scenic and Historic Interest Areas (2006), Regulations of Yunnan Province on Management of the Scenic and Historic Interest Areas (1996), Regulations of

Yunnan Province on Protection of the TPR World Heritage Site (2005), The Regulations of the People's Republic of China on Nature Reserves (1994). In the context of major current and future hydropower and water transfer projects China's Law on Environmental Impact Assessments (EIA) deserves to be mentioned. Since 2006, there have been provisions for public involvement in EIA processes (Jaeger et al., 2013).

► Enforcement

Data Deficient

The effectiveness of law enforcement in the property is not known in any detail.

► Integration into regional and national planning systems

Serious Concern

Values and protection needs of the site do not appear to be adequately considered in national and regional planning for hydro-electric development.

► Management system

Serious Concern

Three Parallel Rivers of Yunnan Protected Areas is a large serial property, for which an overall master plan was approved in 2012. In 2012, a workshop co-hosted by IUCN China, the Chinese Academy of Sciences (CAS) and UNEP-WCMC identified seven institutions of the central government directly involved in protected area governance and management (Jaeger et al., 2013). This complexity is fully reflected in the serial property which brings together protected area categories under the responsibilities of the State Forestry Administration (National Nature Reserves) and the Ministry of Housing and Urban-Rural
Development (National Scenic Areas), respectively. In addition, the latter also has a specific mandate for World Heritage properties. Despite the establishment of
The Yunnan Three Parallel Rivers Management Bureau in Kunming as a coordination and management body, both Reactive Monitoring mission reports, State of Conservation reporting and other sources have consistently identified coordination and harmonization across the serial property as a major challenge (UNESCO et al., 2017, 2015, 2013; Jaeger et al., 2016; UNEP-

WCMC, 2012; Lopoukhine et al., 2006).

► Management effectiveness

Some Concern

Almost 15 years after the World Heritage inscription, no formalized system is in place to systematically assess the effectiveness of management (Jaeger et al., 2016; UNEP-WCMC, 2012; Lopoukhine et al., 2006). The World Heritage Committee (2013) requested the implementation of the 2013 IUCN Reactive Monitoring mission recommendation that a comprehensive Management Effectiveness Assessment be elaborated and conducted for the entire World Heritage property. The State Party of China (2016) expressed its agreement with the request and has since been working on corresponding follow-up, acknowledging a “necessity to refine the management measures, policy and law”. Despite this positive response, the scale and complexity of the configuration combined with the parallel challenges of major transformations of the landscape and social systems implies a long road ahead.

► Implementation of Committee decisions and recommendations

Serious Concern

Repeated requests by the World Heritage Committee in literally all decisions since the World Heritage inscription to refrain from dam construction in the absence of approved, appropriate EIAs (World Heritage Committee, 2017, 2015, 2013, 2012, 2011a, 2010a, 2008, 2007, 2006, 2005, 2004, and 2003) have not been responded to. Progress on the likewise requested Strategic Environmental Assessment which unlike EIAs would consider at cumulative impacts of the numerous river modifications was recently reported by the State Party of China (2016), namely "active attempts" and "preliminary achievements". While the unusual complexity of the large serial property is fully acknowledged, major follow up to World Heritage Committee decisions remains to be delivered, such as the requested implementation of all recommendations by the 2013 Reactive Monitoring mission.

► Boundaries

Some Concern

Contrary to what the name of the property implies, the large serial World Heritage property is for the most part separated from the actual river courses

and most of the spectacular gorges. Only one of the three major rivers, the Lancang, runs within the property's boundaries, albeit for a short distance only. This is on the one hand understandable as the lower elevations have been subject to longer and more intense human use than the more "natural" higher elevations. At the same time, the conservation values of the lower elevations are systematically excluded and thus not represented in the property. At a time when all three major rivers are subject to fundamental transformation, eventual discussion of the appropriateness of the property name appears to be unavoidable. There appears to be some confusion about the buffer zones which have at times been incorrectly interpreted as belonging to the property (Jaeger et al., 2013). As noted elsewhere, the property is located within and an important and integral part of the globally recognized Mountains of Southwest China Biodiversity Hotspot. It is clear that the extraordinary natural (and cultural) values do not coincide with the administrative boundaries of Yunnan Province, implying a potential for extensions beyond the province (Jaeger et al., 2013).

► Sustainable finance

Some Concern

The State Party is strongly committed to the property - and World Heritage more broadly - and has been heavily and steadily investing in the property. Additional project funds supplement funding. Financing per se does not appear to be a major bottleneck. Rather, the conceptual clarity of investment and the coherence across of investment across the complex and large serial property appear to be the challenges.

► Staff training and development

Data Deficient

Staff training and development is insufficiently known to permit an informed assessment.

► Sustainable use

Data Deficient

Insufficient information available. The relatively recent establishment of large protected areas in areas traditionally inhabited and used by local communities can be expected to raise the same questions it does in any rural

setting. There are conflicts between governmental conservation measures and local needs and interests (Zhou et al., 2011). The most drastic form of conflict is the relocation of communities. While there are clear hints at such common and predictable conflicts, analysis of the exact situation is beyond the scope of this exercise.

► Education and interpretation programs

Some Concern

Awareness-raising and interpretation is restricted to a limited number of information centers.

► Tourism and visitation management

Serious Concern

Tourism development and promotion are explicit management priorities (State Party of China, 2016, 2015, 2013). However, tourism and recreation planning appear to be mostly absent and disconnected from conservation planning, with apparently few requirements for prior assessment of environmental impacts (Jaeger et al., 2013).

► Monitoring

Serious Concern

The helpful selective surveys for a limited number of species have generated important information while not amounting to a systematic monitoring approach. . Baseline data to better understand the current status of wildlife and to detect trends in the future are needed (Jaeger et al., 2013). The effects of the major transformation of all three major rivers which give the property its name, should likewise be monitored.

► Research

Some Concern

Important research has been undertaken on all sorts of aspects of the cultural and natural heritage of the mountain are has been conducted. Similar to monitoring efforts, it does not amount to a coherent approach which could help management in its efforts to move towards a more

coherent management of the serial property.

Overall assessment of protection and management

Serious Concern

The State Party has been covering new ground by successfully nominating a large and unusually complex serial property. It is unsurprising that an approach bringing together different protected area categories, legal and governance frameworks amounts to work in progress. The State Party, in its reporting, openly acknowledges an ongoing search for conceptual clarity and a need for refining laws and policies, as well as for balancing governmental conservation, tourism development and local livelihoods.

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

Serious Concern

Governmental decision-making on large scale hydro-power development and water transfer schemes does not adequately take into account the protected areas, let alone their World Heritage status, despite their location within one of the world's most biodiverse regions. The simplistic argument that the World Heritage values may not be affected due to the dams and infrastructure being physically located outside of the property boundaries is not in line with basic ecological concepts even when one ignores the fundamental changes to the freshwater systems. Rather than addressing threats from the outside, the State Party engages in one of the world's largest infrastructure projects in the immediate vicinity of the property.

State and trend of values

Assessing the current state and trend of values

World Heritage values

►

Spectacular landscape beauty dominated by three deep parallel river gorges

High Concern
Trend:Deteriorating

From the perspective of the overall landscape beauty, concerns about localized impacts from tourism and mining pale against the large-scale transformation of the three rivers giving the property its name. The landscape beauty has already been strongly affected and further construction of dams and associated access and transmission infrastructure will inevitably result in substantial further visual impacts (Jaeger et al., 2013).

▶ Outstanding display of major, ongoing geological processes in the evolution of the land surface of Asia

Low Concern
Trend:Stable

There is no evidence to suggest that the geological and geomorphological values of the property have been diminished at the level of ongoing processes despite major construction projects.

▶ Convergence of three of the world’s major biogeographic realms and an exceptional diversity of ecological processes

Low Concern
Trend:Deteriorating

Boundary modifications due to mining areas which were inadvertently included in the original nomination may have excluded some areas of value from the property. In addition, ongoing and potential future mining operations may have impacts on the connectivity between the Hong Shan and Haba Snow Mountain components of the property (Jaeger et al., 2013). A range of other threats may also be impacting ecological processes, including poorly planned tourism development. However, the most fundamental concerns stem from the landscape transformation resulting from massive hydropower and water transfer schemes (Jaeger et al., 2013; Lopoukhine et al., 2006).

▶ Part of the biologically and culturally most diverse area in China

High Concern
Trend:Deteriorating

Assumption or claims that the impacts of some of the world's most ambitious hydropower and water transfer programmes can be separated from the conservation status of nearby protected areas because the infrastructure's physical location outside of the protected area boundaries are not tenable on the grounds of basic ecology. Ecosystems are by definition open and there are complex inter-relationships in the between terrestrial and aquatic ecosystems. While the freshwater biodiversity will inevitably and directly be affected from major river modifications, terrestrial systems will also be affected by additional road and transmission infrastructure, disturbance and new barriers to landscape connectivity. Combined with pressure on flora and fauna from illegal trade and poaching, the overall concern is high.

Summary of the Values

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

High Concern

Trend: Deteriorating

The serial property covers some 960,000 hectares. Despite this vast size, the configuration of the property is strongly biased towards the higher altitudes, thereby failing to cover a full representation of the diverse landscape. The rivers themselves and major dramatic canyons, which are key visual landscape features and the basis for the property's name, are systematically missing in the property. While this can reasonably be interpreted as a growing mismatch between the property's configuration, its name and the applicability of criterion (vii) due to the transformation of the three major rivers for hydropower generation, the concerns about the biodiversity values are even more important. The landscape transformation through major infrastructure development coincides with pressure from poaching and illegal collection and trade, while resettlements mean the end of a longstanding interaction between a landscape and its traditional inhabitants and users.

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

Data Deficient

Trend: Data Deficient

The mountains of Northwest Yunnan are renowned for the coincidence of an exceptionally diverse cultural and natural heritage. Along with the natural heritage, there are clear indications that the traditional cultures are similarly exposed to important threats.

Additional information

Benefits

Understanding Benefits

► Outdoor recreation and tourism, Natural beauty and scenery

The renowned mountain area offers attractive options for outdoor recreation and tourism which are actively being developed and promoted (State Party of China, 2003).

► Access to drinking water

Three of Asia's most important rivers benefit from the protection the property grants to considerable parts of the watersheds with major benefits ranging from the local to the international level (IUCN, 2003).

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

The entire region has a long human history. Use of wild biodiversity, livestock husbandry and small-scale agriculture have all been part of the local livelihood systems at all times. While the use restrictions in protected areas strongly affect these benefits, the protected areas contribute to maintaining the biodiversity and productivity of the broader mountain ecosystem.

►

Cultural identity and sense of belonging, History and tradition, Sacred or symbolic plants or animals, Sacred natural sites or landscapes

Many mountains, lakes, springs, rivers and individual trees are considered sacred by local communities (Jaeger et al., 2013).

► **Importance for research**

There can be no doubt that large protected areas in China's most biodiverse region is of major scientific interest and importance.

► **Carbon sequestration, Soil stabilisation, Flood prevention, Water provision (importance for water quantity and quality)**

The property contains important forest areas, which provide the full range of corresponding ecosystem services, including but not limited to carbon sequestration, water provision and regulation and soil stabilization.

► **Direct employment, Tourism-related income, Provision of jobs**

While tourism development will only be possible in selected occasions, it will offer income and employment opportunities.

Summary of benefits

Many of the tangible ecosystem benefits which traditionally formed part of local livelihood systems are compromised by the use restrictions in the protected areas. Nevertheless, the protected areas contribute to the maintenance of the productivity of the landscape. Traditional communities consider mountains, rivers and many other landscape features sacred. Tourists appreciate the scenic beauty of the mountains, canyons and forests. Tourism in turn comes with income and employment opportunities. From a regional and global perspective, the property contributes to the watershed protection of parts of the headwaters of several of Asia’s mightiest rivers, which provide ecosystem services to millions of downstream users in several countries.

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	The Nature Conservancy (TNC)	From: 2017 To: 2017	TNC has been an active conservation actor in Yunnan Programme for several years and runs an office in Kunming, the capital of the province. The focus is to identify and promote conservation solutions for Yunnan's exceptional forests and species, such as, for example, rare primates.
2	World Wide Fund for Nature (WWF)	From: 2009 To: 2017	WWF China operates a Kunming Programme Office which focuses on WWF China’s Upper Mekong Programme. The organization considers the higher reaches of the Mekong River (Lancang River) to be one of the global conservation priorities.
3	Centre for Mountain Ecosystem Studies (CEMS), Kunming	From: 2017 To: 2017	In cooperation with the World Agroforestry Center, the Kunming Institute of Botany / Chinese Academy of Sciences has established the joint Centre for Mountain Ecosystem Studies. CEMS carries out various research activities which are directly relevant to the property.
4	Yunnan Natural and Cultural Heritage Conservation Council (YNCHCC)	From: 2017 To: 2017	The Council publishes information material about the heritage of Yunnan Province.

Compilation of potential site needs

№	Site need title	Brief description of potential site needs	Support needed for following years

1	Development of a management effectiveness system	The large serial property comprised of different protected areas categories is extraordinarily complex, including in terms of assessing the effectiveness of management. While challenging, the development of an adapted management effectiveness system would significantly enhance the foundation of informed decision-making. The project idea responds to a technical recommendation (Jaeger et al., 2013), which was formally endorsed (World Heritage Committee, 2014) and accepted by the State Party (State Party of China, 2017).	From: 2017 To: 2017
2	Balancing tourism and conservation	Tourism is an explicit objective in many of the protected areas jointly comprising the property. As noted in the inscription decision (World Heritage Committee, 2003), there is concern about the "nature and extent of future tourism". Tourism planning could reduce and mitigate the risks inherent to the promotion of tourism in remote mountain areas.	From: 2017 To: 2017
3	Conservation beyond the administrative boundaries of Yunnan Province	As the name highlights, the property is restricted to Yunnan Province, whereas the ecosystem boundaries - or rather the lack thereof - do not follow the same rationale. The property shares, for example, a long border with neighboring Myanmar to the west. To the east, the Hengduan Mountain Range extends into Sichuan Province, including protected areas contiguous with components of the property. Despite predictable complexity, the analysis of conservation values across administrative boundaries and the assessment of the feasibility of extensions would be highly desirable from a technical perspective. The World Heritage Committee (2003) endorsed this perspective in the inscription decision which encouraged "the continued refinement of the boundaries of the property, including the addition of other areas of equally high natural value, expansion of core zones and discussion of transboundary issues with neighbouring jurisdictions". It is needless to say that extensions within the State Party are politically less complex than the possible consideration of transboundary options.	From: 2017 To: 2017

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