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**ORGANISATION DES NATIONS UNIES
POUR L'EDUCATION, LA SCIENCE ET LA CULTURE**

CONVENTION CONCERNING THE PROTECTION OF THE WORLD CULTURAL AND NATURAL HERITAGE

CONVENTION CONCERNANT LA PROTECTION DU PATRIMOINE MONDIAL, CULTUREL ET NATUREL

WORLD HERITAGE COMMITTEE / COMITE DU PATRIMOINE MONDIAL

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**Phnom Penh, Cambodia / Phnom Penh, Cambodge
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Item 7 of the Provisional Agenda: State of conservation of properties inscribed on the World Heritage List and/or on the List of World Heritage in Danger.

Point 7 de l'Ordre du jour provisoire: Etat de conservation de biens inscrits sur la Liste du patrimoine mondial et/ou sur la Liste du patrimoine mondial en péril

MISSION REPORT / RAPPORT DE MISSION

**Three Parallel Rivers of Yunnan Protected Areas (China) (N 1083bis)
Aires protégées des trois fleuves parallèles au Yunnan (Chine) (N 1083bis)**

15 -25 April 2013 / 15 - 25 avril 2013

This mission report should be read in conjunction with Document:
Ce rapport de mission doit être lu conjointement avec le document suivant:

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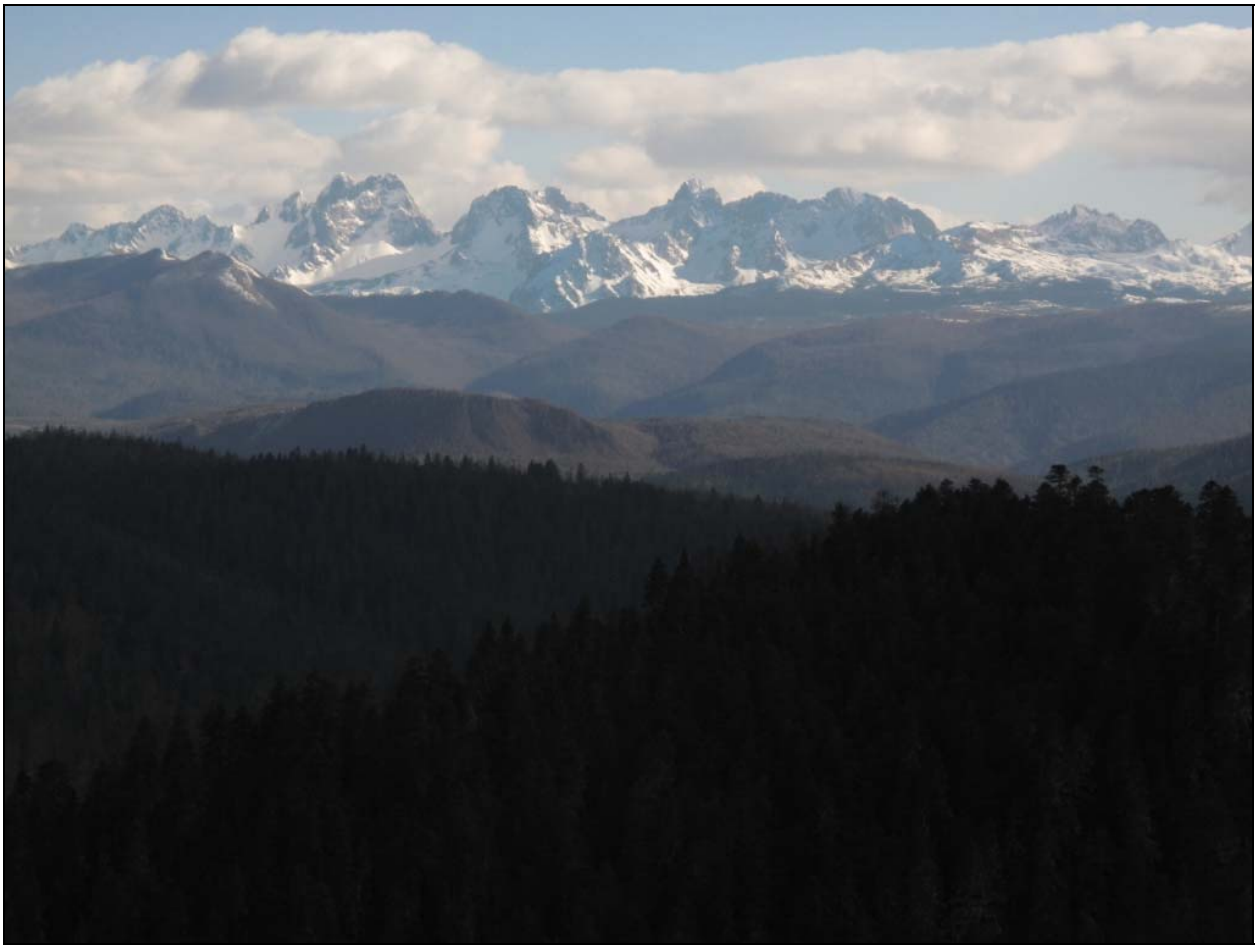
IUCN

REPORT ON THE MISSION TO THREE PARALLEL RIVERS OF YUNNAN PROTECTED AREAS, P.R. OF CHINA

15 - 25 APRIL 2013



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Tilman Jaeger and Bruce Jefferies – IUCN

May 2013

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EXECUTIVE SUMMARY AND LIST OF RECOMMENDATIONS

The Three Parallel Rivers of Yunnan Protected Areas is a serial property consisting of 15 protected areas in 8 clusters in Northwest Yunnan, Southwest China. The property was inscribed on the World Heritage List in 2003 according to all four natural criteria. Concerns about large-scale hydro power development, mining, tourism and other management challenges have accompanied the property since its inscription. In 2012 the World Heritage Committee requested that a reactive monitoring mission led by IUCN visit the property, to shed light on the current state of conservation, progress achieved in the implementation of Committee decisions and newly emerging issues (Decision **36 COM 7B.9**). The mission was conducted from 15 to 25 April 2013.

Hydro power development plans on the Nu Jiang (Salween), Lan Cang (Mekong) and Jinsha (Yantze) Rivers are part of an enormous "West-East Electricity Transfer Project". The project would transform the landscape of Northwest Yunnan and no doubt has important ecological, socio-economic and cultural consequences. The rivers are mostly located outside of the property and its buffer zone and no construction of dams or associated infrastructure appears to be occurring or planned in the property or its buffer zone. Nevertheless, there is concern about impacts on scenic landscape values under natural World Heritage criterion (vii). The majority of required Environmental Impact Assessments (EIA) have not been concluded and therefore could not be reviewed. The absence of completed EIAs for most of the planned projects makes it impossible to derive definitive conclusions and recommendations with regards to potential impacts on the property's conservation values from dams on the three rivers that give it its name. A review of excerpts of existing EIAs translated into English and made available by the State Party strongly indicates that further investment in quality and depth of assessment is needed. In addition to ensuring quality and independent technical analysis of individual EIAs, the mission strongly recommends that the cumulative impacts and risks of the multiple development projects are considered as a basis for balanced and responsible decision-making. A Strategic Environmental Assessment (SEA) lends itself as a methodological framework. The mission acknowledges the limited available guidance and experience with this instrument. Rather than applying a readily available tool, an SEA approach would have to be specifically developed.

While hydro power is likely to have only indirect impacts on the property, mining may prove to be more problematic as control efforts are consistently described as less strict. The area removed from the property in 2010 through a controversial minor boundary modification, located between the Hong Shan and the Haba Snow Mountain Clusters, deserves particular scrutiny and monitoring. The impacts on landscape connectivity and wildlife are suggested as necessary considerations. Illegal mining is reported to be still a risk and likewise requires monitoring and, if needed, management responses.

A full assessment of the management effectiveness of the property exceeded the scope of the mission. In agreement with State Party representatives, the mission considers a comprehensive Management Effectiveness Assessment (MEA) and strategic planning for the property are essential and urgent, based on preliminary findings and ideas discussed during the mission. Specific areas which would benefit from a comprehensive MEA include:

(i) Lines of decision-making, leadership and coordination given the institutional complexity and overlap;

(ii) Site design, including connectivity and the feasibility of including additional areas of high conservation value in the vicinity of the property;

(iii) Tourism and recreation planning and the interface with nature conservation in light of ambitious tourism development plans;

(iv) Linkages with and management implications of major development schemes in the broader region, including energy, resource extraction and tourism;

(v) Operational monitoring systems.

An MEA and corresponding strategic planning would ideally bring together the various institutions and levels of government, non-governmental organizations and academics, drawing on existing research and partnerships. The exercise would look both at individual sites and the overall planning and should draw on guidance developed through the *Enhancing our Heritage* project (see e.g. http://whc.unesco.org/en/series/23).

Specific recommendations are as follows:

Recommendation 1
Further invest in the quality and depth of Environmental Impact Assessments as a basis for decision-making.

Recommendation 2
Refrain from any further construction of dams in the absence of approved Environmental Impact Assessments.

Recommendation 3
Develop and conduct a Strategic Environmental Assessment for development options in Northwest Yunnan.

Recommendation 4
Avoid the construction of transmission infrastructure within the property and its buffer zones, and minimize the impacts, including visual impacts, of transmission infrastructure through Environmental Impact Assessments and careful planning.

Recommendation 5
Include the issuing of prospecting permits in the formal commitment to refrain from mining in the property and its buffer zone.

Recommendation 6
Document and map prospecting and mining licenses that have already been issued in the vicinity of the property and make the information available to the World Heritage Centre.

Recommendation 7
Establish a monitoring system for all mining and prospecting activities between the Hong Shan and the Haba Snow Mountain components of the property in order to understand risks and impacts, particularly in regards to landscape connectivity and wildlife.

Recommendation 8
Systematically monitor illegal mining and respond to reports of such activities.

Recommendation 9
Develop and conduct a comprehensive Management Effectiveness Assessment for the entire property.

Recommendation 10
Formally submit the exact location and surface area of all national protected areas that make up the property as well as all its buffer zones to the World Heritage Centre to enable updating of the partially

inaccurate formal documentation, including the retrospective Statement of Outstanding Universal Value, following the appropriate procedures as stipulated in the *Operational Guidelines*.

1. BACKGROUND TO THE MISSION

The Three Parallel Rivers of Yunnan Protected Areas is a serial natural World Heritage property consisting of 15 protected areas within 8 clusters in Northwest Yunnan, Southwest China. In line with IUCN recommendations the property was inscribed on the World Heritage List in 2003 according to all four natural World Heritage criteria. The name of the property refers to three of Asia's largest rivers, the Nu (Salween), Lan Cang (Mekong) and the Jinsha (Yangtze). All three rivers originate on the Tibetan Plateau north of the property before running through Northwest Yunnan from North to South in roughly parallel fashion. Despite its name the property mostly covers forests, meadows, wetlands, lakes, rocky peaks and glaciers of the vast and highly diverse Hengduan Mountain Range in altitudes high above the main river courses. The Hengduan System consists of several smaller ranges extending across Northwest Yunnan, parts of Sichuan, Tibet Autonomous Region and neighbouring Myanmar. The range is located within a threatened area of global biodiversity importance referred to by Conservation International as the *Mountains of Southwest China Biodiversity Hotspot*.

Since the time of the IUCN evaluation the boundaries of the property have been the subject of discussion, as consistently documented in the IUCN evaluation report, several State of Conservation reports, the 2006 reactive monitoring mission report and various Committee decisions. The latter include for example encouragement for "the continued refinement of the boundaries of the property" at the time of inscription (Decision 27COM 8C.4). This discussion eventually triggered a formal submission of a proposal for a minor boundary modification in 2009 by the State Party.

The proposal encompassed boundary modifications in all clusters. One of them, concerning the Hong Shan (Red Mountain) Cluster, proved contentious. As it turned out, mining and prospecting licenses in that area had predated both the establishment of national level protected areas and the inscription of the property on the World Heritage List. IUCN neither detected nor was made aware of the situation at the time of evaluation. Consequently, the World Heritage Committee inscribed the property without the knowledge of the presence of licensed mining and prospecting areas. In the minor boundary modification, the State Party proposed the excision of the licensed prospecting and mining areas in the Hong Shan Cluster. Following careful analysis IUCN recommended that the World Heritage Committee not accept excision of licensed mining areas as a "minor boundary modification", including on procedural grounds. IUCN considered a "significant modification" the appropriate procedure. As per paragraph 165 of the Operational Guidelines a "significant modification" triggers a new nomination and a full IUCN evaluation - unlike a "minor boundary modification". Nevertheless, The World Heritage Committee approved the new boundaries of the Hong Shan Cluster in 2010. While the controversial areas are now formally outside of the property, there continue to be questions in terms of possible impacts of prospecting and mining in that area (see below).

Beyond licensed prospecting and mining in the area excised from the property, the situation is further complicated by increased mining elsewhere in Northwest Yunnan and reports about small-scale illegal mining elsewhere in the property. Therefore, mining continues to be a concern for the integrity of the property. Other key concerns recorded in official documentation can be synthesized as follows:

- Massive hydro power development plans;
- Large-scale tourism development plans;
- Highly complex legal, institutional and administrative set-up of the components and buffer zones of the serial property;
- Limited connectivity between clusters and individual components;
- Concerns about management capacity and effectiveness;

- Incomplete coverage and representation of the diverse conservation values and features of the Hengduan Mountain Range in the serial approach;
- Conflicts with local residents and resource users;

As requested by the World Heritage Committee in Decision **36 COM 7B.9** (Annex II) and as detailed in the Terms of Reference (Annex I), the reactive monitoring mission documented in this report had the objective to report on the above concerns with a focus on hydro power, mining and overall management effectiveness.

2. NATIONAL POLICY FOR PROTECTION AND MANAGEMENT

2.1 Conservation legislation

China has no protected areas law. Colleagues consulted during the mission, and other observers, expect that the longstanding discussion in this regard will eventually result in specific legislation. This may provide opportunities to consider specific stipulations for natural World Heritage.

There are several protected area categories at the national level in China. They are not unified under the umbrella of a coherent system or categorization. The property is comprised of two formally very different protected area categories, 5 Nature Reserves and 10 National Scenic Areas (referred to as "Scenic and Historic Interest Areas" in some translations). Specific regulations dated 1994 are applicable to the former. These regulations stipulate for example the prohibition of logging, grazing, hunting, fishing, collection of medicinal materials, land reclamation for agriculture, slash and burn, mining, quarrying, and sand extraction. Nature Reserves can therefore be classified as strict nature reserves in the sense of the IUCN categories. The components of the property designated as National Scenic Areas are roughly equivalent to national parks according to internationally common categorization. Tourism and education have a more prominent role and human presence and resource use is handled less restrictively. Direct economic benefits from tourism are an explicit objective of this category.

At the sub-national level, provincial governments can also designate protected areas. Tourism was described to the mission as a major incentive to do so. The mission could not establish whether consistent regulations are applicable to provincial protected areas. Furthermore, there is a long and ongoing history of traditional forms of conservation by the various minorities in and around Northwest Yunnan. Many mountains, lakes, springs, rivers and individual trees are considered sacred. The proceedings of a joint UNESCO/IUCN/ Chinese Academy of Sciences workshop held in Kunming in 2003 make specific reference to Northwest Yunnan and build a strong case for the integration of "traditional" and "modern" conservation efforts there.

Internal zonation in China's Nature Reserves and National Scenic Areas is intended to differentiate the type and intensity of use. This is of major importance in the National Scenic Areas in terms of tourism planning. This spatial management tool must not be confused with the use of the term "buffer zone" in the documentation and mapping of the World Heritage property. There are buffer zones adjacent to all components of the property. Unlike in many other natural World Heritage properties, all buffer zones of the property have national level protected area status. As detailed below and contrary to official World Heritage documentation, the buffer zones are not considered by the State Party to be part of the property.

A broad range of environmental regulations, including on wildlife and forests, is applicable. Given that many of the forests of Northwest Yunnan have been subject to heavy state-run logging the general ban

on logging in China's natural forests since 1998 deserves to be noted. Likewise noteworthy, the Chinese government adopted a "National Plan for Main Function Areas" in 2010. Based on multiple criteria, including biodiversity and cultural values, this functional zoning scheme identifies areas of major importance in terms of ecological functions. The national plan includes zones where industrialization and urbanization are restricted or even prohibited. Parts of Northwest Yunnan and the property are identified in this national plan for their role in erosion control and water provision.

At the level of the property, it is noteworthy that the provincial government of Yunnan has established management regulations in 2005. However, the mission was unable to establish the practical implications and how these regulations relate to other applicable rules and regulations at the various governmental levels.

China has a Law on Environmental Impact Assessments (EIA) applicable to major development projects, including hydro power development and mineral extraction. While critical observers point out limited enforcement, modest quality requirements and the apparently minor consequences of non-compliance, it is noteworthy that the State Environmental Protection Administration (SEPA) has repeatedly halted major projects, including hydro power projects, based on this law. Since 2006, there have been provisions for public involvement in EIA processes. While analysis of the implementation of public involvement is beyond the scope of the mission, it seems encouraging that the options for the involvement of a broader range of stakeholders are increasing. According to discussions held during the mission, hydro power development planning includes the level of river basins. However, the EIAs made available to the mission refer exclusively to individual projects. More comprehensive assessments, looking at the energy sector more widely or even across sectors in the sense of Strategic Environmental Assessments, have not been conducted. Government representatives insisted that there are no legal requirements in this regard and little, if any, practical experience with Strategic Environmental Assessments exists.

2.2 Institutional framework

A 2012 workshop co-hosted by IUCN China, the Chinese Academy of Sciences (CAS) and UNEP-WCMC identified at least 7 institutions of the central government directly involved in the supervision of protected areas. This complexity is reflected in the serial property which brings together two main categories. These fall under the responsibility of different bodies of the central government, namely the State Forestry Administration (National Nature Reserves) and the Ministry of Housing and Urban-Rural Development (National Scenic Areas), which also has a specific mandate for World Heritage properties. The Yunnan Three Parallel Rivers Management Bureau serves as a coordination and management body for the property and is responsible for master planning.

2.3 Management structure

The various National Nature Reserves and National Scenic Areas comprising the property fall under the responsibility of two different central government institutions. Set up as a coordinating body for the property, the Yunnan Three Parallel Rivers Management Bureau has its Head Office in the provincial capital of Kunming. Secondary offices are located in Diqing, Nujiang and Lijiang prefectures, with local representation in offices and stations in many counties. As part of the government’s efforts to improve coordinated management a unified management model has been developed and is being progressively implemented. It aims to integrate the management effort of central, provincial, prefecture and county government. There are individual management plans for various components of the property, some but

not all of which are completed. A Master Plan serves as an umbrella; the one currently in force was approved by the Central Government in 2012.

Central government funding covers the construction and operation of facilities, staff salaries and master planning. Local governments are providing additional funding for visitor centres and other purposes. Government funding at all levels is reported to be growing.

2.4 Other international designations and programmes

The westernmost cluster of the property overlaps with the Gaoligong Mountain Biosphere Reserve, designated by UNESCO's Man and the Biosphere (MAB) Programme in 2000. The Gaoligong Range is also one of several Important Bird Areas recognized in Northwest Yunnan by BirdLife International. Conservation International (CI) lists the "Mountains of Southwest China" as a global Biodiversity Hotspot. The hotspot is believed to contain the most endemic-rich temperate flora in the world. While the hotspot encompasses all of Northwest Yunnan (and thus the property) it is much larger and may contain other areas of World Heritage potential.

3. IDENTIFICATION AND ASSESSMENT OF ISSUES AND THREATS

In line with earlier findings, the multiple hydro power dams planned along all major rivers in and beyond Northwest Yunnan, and resource extraction, could be confirmed as potential threats to the integrity of the property. Despite important investment and progress, many general management challenges remain in the large serial property. These three main areas of concern are described hereafter.

3.1 Hydro development and associated impacts

Over the last few years the proposed construction of a series of large-scale dams on all of the three rivers which give the property its name has been raising concerns, including from a World Heritage perspective. The plans are part of an enormous "West-East Electricity Transfer Project" which is not restricted to Northwest Yunnan. Besides well-documented social and cultural impacts, the construction and operation of large dams and associated infrastructure can have multiple adverse impacts on aquatic and terrestrial biodiversity, as well as scenic landscape values. International experience, synthesized most prominently through the World Commission on Dams (WCD), acknowledges that large dams have important benefits but also inevitably high social and environmental costs. Decision-making should therefore be based on a comprehensive understanding of impacts, costs and risks versus benefits. When decisions to construct large dams are made, the inevitable impacts should be minimized and mitigated to the degree possible.

Well-documented impacts, costs and risks to be considered include:

- Flooding of the upstream river valley and loss of economic and cultural value of drowned land and resources;
- Resettlement and associated cultural and social impacts;
- Sedimentation in reservoirs as a challenge to long-term economic viability;
- Eutrophication of reservoirs;
- Disruption and modification of downstream flow patterns;
- Impacts on water quality;
- Loss of nutrient and mineral rich sediments downriver affecting agricultural productivity and food security;

- Effects on river and estuary fisheries through impacts on freshwater ecology and fish spawning migration and reproduction;
- Fragmentation of terrestrial habitats through disturbance, road infrastructure and high voltage lines;
- Uneven distribution of costs and benefits between local and national level;
- Dam security in seismically active areas;
- International conflicts and tensions in transboundary river basins.

In its most recent report on the state of conservation of the property dated January 2013, the State Party noted 13 large hydro power dams proposed along the Nu Jiang, Lan Cang and Jinsha rivers near the property. The status of planning is detailed in an overview table, which had been submitted to UNESCO's World Heritage Centre in almost identical form enclosed with a letter in November 2012. According to this table, overall hydropower planning along the three rivers predates the inscription of the property on the World Heritage List. This may explain why only a few small stretches of the 3 rivers are physically located within the boundaries of the property or its buffer zone (see Map 1 in Annex V). The current project status differs by watershed, and individually. It should also be noted that an updated overview table made available to the mission upon request summarizing the situation as of 22 April 2013 shows important differences (see Annex VII). Most notably, according to this latest table construction has started on four proposed dams on the Lan Cang River (Lidi, Tuoba, Huangdeng and Dahuaqiao), unlike in the table submitted in January 2013. The discrepancies may stem from errors or construction may have started after January 2013. As the discrepancies could not be clarified conclusively, the following section synthesizes the situation by river based on the officially submitted State Party information prior to drawing specific conclusions and suggesting recommendations.

3.1.1 Nu Jiang River

The Nu Jiang or Salween River originates on the Tibetan Plateau and eventually empties into the Andaman Sea after its long journey through China and Myanmar. One stretch of the river forms the border between Myanmar and Thailand. The plans for hydro power development along the Nu Jiang have been sparking considerable controversy about social and environmental impacts for several years in both China and Myanmar. The plans have repeatedly changed over time and status reports vary by source. Around 2004 the highest level of the Chinese government temporarily suspended projects along the Nu Jiang pending further scientific study. The State Party's 2011 report on the state of conservation of the property refers to another suspension of dam development plans but does not provide detailed information. The planning has since resumed with four dams under discussion on the Nu Jiang in Northwest Yunnan alone under the 12th Five-Year-Plan. Other sources suggest a much larger number of planned and proposed dams on the Nu Jiang River. It deserves to be noted that the official information, including maps, is entirely restricted to Northwest Yunnan. The full scale of the overall planning schemes is therefore not reflected in the World Heritage documentation.

During the mission, the State Party made available an updated overview table detailing the proposed dams at Maji, Yabiluo, Liuku and Saige (see Annex VII and Map 1 in Annex V). The table indicates for example that the four dams would jointly require the resettlement of more than 17,000 local residents. The Maji Dam would be the largest dam on the Nu Jiang River with a reservoir of some 100 kilometres in length. According to the State Party none of the planned dam construction on the Nu Jiang River would be located within or directly affect components of the property or its buffer zones. The State Party further insisted that no construction has taken place so far in response to unconfirmed non-

governmental reports of construction having commenced. The mission visited all four proposed sites on the Nu Jiang River and no signs of construction activities were evident.

In the view of the mission and based on the information made available to it, it is formally accurate that none of the dams, reservoirs or road infrastructure are located within the property or its buffer zone. Thus, it can be argued that there are no obvious direct impacts on the property. While the individual Environmental Impact Assessment (EIA) has been concluded for the proposed Liuku site, the EIAs for the other dams are either pending or awaiting finalization and none have been approved. In the absence of completed EIAs it is premature to draw any definitive conclusions at this stage. The mission found no evidence of the existence of an EIA looking at possible cumulative impacts of the various dams and associated infrastructure. Plans for future transmission infrastructure could not be obtained by the mission. Therefore, in the view of the mission, indirect impacts cannot be excluded based on the information made available.

3.1.2 Lan Cang River

The Lan Cang River or Upper Mekong River is known as the Yunnan Component in the terminology of the Mekong River Commission (MRC) to which China is a Dialogue Partner. The river likewise originates on the Tibetan Plateau. As in the case of the Nu Jiang, hydro power development has a transboundary dimension. Downstream countries include Myanmar, Lao PDR, Thailand, Cambodia, and Viet Nam. Many dams exist along the Mekong and many more are planned. A major international concern is that further dam construction could impact on the flow regime of the Lower Mekong Basin, including the Cambodian floodplain, the Tonle Sap Lake with its unique flow reversal and the delta in Viet Nam.

In official World Heritage communication the State Party notes six planned dam projects on the Lan Cang River in Northwest Yunnan. These are Gushui, Wulongnong, Lidi, Tuoba, Huangdeng and Dahuaqiao (see Map 1 in Annex V). According to State Party information some 30,000 residents would be affected by resettlements. The mission noted and documented major construction activities at the two visited dam sites, Lidi and Wulongnong (see Annex VI). Areas of inconsistency with the State Party report were evident when representatives of the governmental HydroLancang Company briefed the mission on location. It was stated that preparatory construction on the Lidi dam site started as early as 2009. Final approval for construction was reportedly granted in February 2013, i.e. just after submission of the State Party report to the World Heritage Centre. In the case of the proposed Wulongnong site, major construction has been visibly taking place for some time. This is described as preparatory construction in the State Party report. The EIA status for this dam proposal was reported by the State Party as not formulated in November 2012. The corresponding section is left blank in the updated table provided in the report dated January 2013. Company representatives explained that approval for preparatory construction was granted by provincial authorities, while final approval for construction from the central government remains pending. The situation here seems to be that major construction can take place in the absence of approved EIAs. This raises questions of compliance with Committee decision **36 COM 7B.9** urging the State Party to "ensure that active site preparation works for proposed hydroelectric projects do not proceed ahead of an approved Environmental Impact Assessment". As in the case of the Nu Jiang, no plans for the location of future transmission infrastructure could be obtained by the mission.

3.1.3 Jinsha River

The State Party report of January 2013 mentions three planned dams, Longpan, Liangjiaren and Liyuan (see Map 1 in Annex V), on the Jinsha (note that the Jinsha is variably referred to as the upper Yangtze

or a major tributary of the Yangtze River). The excerpts of the EIAs and other sources, however, refer to a much larger number of dams along the river, describing the basin as the "largest energy base of China". Publicly accessible non-governmental sources state 115 existing or planned dams for the Yangtze watershed, including major tributaries. This leaves no doubts about the scale of the planned hydro power development in general and along the Jinsha in particular. To give an idea of the order of magnitude, the reservoir of the Longpan would extend some 265 kilometres and the number of residents to be resettled for this project alone would exceed 193,000. According to the State Party report, no EIA has been formally approved for any of the 3 hydro power projects on the Jinsha River near the property. Nevertheless, preparatory construction is reported to have started at the Liyuan dam site east of the Haba Snow Mountain component. The situation appears to be comparable with the Wulongnong site, i.e. provincial level approval appears to have enabled preparatory construction despite pending EIA completion and subsequent approval. None of the proposed dam sites on the Jinsha River could be visited by the mission due to time constraints. Planned transmission corridors appeared to be unknown and no corresponding information could be obtained by the mission.

3.1.4. Conclusions and Recommendations

To conclude, the planned and partially started dam construction is a massive undertaking which will no doubt change the impressive river valleys and gorges and thus the face of the landscape of Northwest Yunnan. While it is plausible that the State Party restricts its reporting to the vicinity of the property, it is important to understand that the planned hydro power development is part of a much larger scheme.

The central claim made by the State Party in its reporting and during the reactive monitoring mission is that none of the proposed dams, reservoirs or access roads is or will be physically located within the property or its buffer zone. The stated disconnect between the property and the hydro power plans is supported by the somewhat unexpected boundary design of the property, which covers almost exclusively high altitude terrain of the Hengduan Mountains. Contrary to what would be expected from a property bearing the name "Three Parallel Rivers", two of the three rivers are not even partially within the property (Nu Jiang and Jinsha Rivers), while the third (Lan Cang River) crosses only one of the 15 protected areas comprising the serial property. The boundary design can certainly be related to integrity consideration, as the higher elevations of the Hengduan are in a much more natural state than the lower sections of the valleys which have been settled for millennia. As hydro power plans already existed at the time of nomination they may also have played a role in the boundary design. Whatever the rationale, it could be argued that the name of the property does not accurately reflect its values.

In the view of the mission, the central claim by the State Party is formally accurate. Based on a review of the written information provided by the State Party and from selected site visits there are no indications that construction of dams and/or associated infrastructure is planned or occurring within any components or buffer zones of the property. In the mission's technical view, however, physical location and altitudinal distance are insufficient criteria to assess ecological impacts. Such a restricted consideration does not do justice to the complex and well-documented ecological linkages in the landscape. Examples of the complexity that need to be considered include the linkages between terrestrial and aquatic ecosystems and habitats and the impacts of physical barriers and disturbance of wildlife corridors along rivers during construction and operation and consequently impacts on landscape connectivity.

The State Party focus on the location of boundaries can be interpreted as consistent with the sections on integrity and ascertained and potential danger in the Operational Guidelines. At the same time, in the view of the mission the limited guidance on large-scale landscape changes near World Heritage

properties may well be considered as a shortcoming of the Operational Guidelines at a time when conservation thinking has moved beyond treating protected areas as "islands". While the framework of the Operational Guidelines makes it difficult to formally question the massive hydropower plans on World Heritage grounds, two aspects deserve to be highlighted. First, the visual integrity of the scenic beauty recognized under criterion (vii) would without doubt be dramatically affected, regardless of boundary locations. A prime example is the Nu River. Visitation there is practically restricted to the river valley, as this part of the property is located in the rugged and largely inaccessible Gaoligong Range bordering Myanmar. Residents and visitors would experience a completely altered face of the entire valley if dam construction goes ahead as planned. Second, the ongoing "preparatory construction" occurring in three dam sites prior to EIA approval is of significant concern given that the World Heritage Committee had explicitly urged the State Party to avoid such situations (Decision **36 COM 7B.9**).

Given the scale of the projects, the mission was concerned about the quality of the EIAs provided. While the language barrier is acknowledged and only excerpts could be made available to the mission, the EIA statements seem questionable at best in their quality and depth. Important conclusions are drawn but not substantiated. The quality of EIAs and the lack of more comprehensive assessments that consider cumulative impacts raise the serious question of whether the available information allows for informed and responsible decision-making. The mission therefore makes the following recommendations:

Recommendation 1
Further invest in the quality and depth of Environmental Impact Assessments as a basis for decision-making.

Recommendation 2
Refrain from any further construction of dams in the absence of approved Environmental Impact Assessments.

The question of the usefulness of a Strategic Environmental Assessment (SEA) was openly discussed during the mission. The lack of a clear understanding of the cumulative effects of the many dams and associated infrastructure was fully acknowledged by the State Party representatives met during the mission. The State Party re-affirmed its willingness to embark on such an exercise in order to better understand the complexity of the planned hydro power development and other developments. At the same time, it was made clear that there is no clear legal basis for an SEA. Consequently, an SEA would have to operate on an experimental basis. There is no practical experience and technical support seems both needed and desired. Annex VIII provides an overview of the fundamental differences between EIA and SEA.

Recommendation 3
Develop and conduct a Strategic Environmental Assessment for development options in Northwest Yunnan.

The existing documentation makes no specific reference to possible future power lines. The location of possible future transmission corridors is unclear and no consideration of possible impacts could be detected.

Recommendation 4

Avoid the construction of transmission infrastructure within the property and its buffer zones, and minimize the impacts, including visual impacts, of transmission infrastructure through Environmental Impact Assessments and careful planning.

3.2 Legal and illegal Mining

The existence of valid licenses preceding the establishment of protected areas in one cluster was not considered at the time of inscription. It is important to remember that this situation was in direct contradiction with the widely accepted principle to consider World Heritage properties no-go areas for mining. This position has repeatedly been confirmed by the World Heritage Committee and has also been adopted by important private sector actors and associations, including the International Council on Mining and Metals (ICMM). As described above, the situation was addressed through a minor boundary modification. In its report of January 2013, the State Party reaffirmed its unambiguous commitment to refrain from granting any further permits for mining operations within the property and its buffer zones. The State Party does not state whether its reaffirmed commitment includes exploration licenses.

Recommendation 5
Include the issuing of prospecting permits in the formal commitment to refrain from mining in the property and its buffer zone.

Other governmental statements referring to legal mining appear vague. In its January 2013 report the State Party noted that "a certain area outside the property will be delineated as a no-mining zone where mining rights will not be approved". The methods underpinning such delineation are not specified and there is likewise no reference to exploration licenses. The relationship of the planned delineation with existing buffer zones is not commented on. Statements regarding mining rights that have existed in the adjacent areas and buffer zones before inscription indicate the existence of such rights but fail to specify the scale and/or location. According to the State Party report, unspecified international standards regarding the environment and human health are to be applied.

Recommendation 6
Document and map prospecting and mining licenses that have already been issued in the vicinity of the property and make the information available to the World Heritage Centre.

The mission visited the tailings of a former mine and a large copper mining operation in the area that was excised from the property through the minor boundary modification, located between the Hong Shan and the Haba Snow Mountain components of the property and met with private and governmental company representatives. Two other mining projects nearby could not be visited due to weather conditions. The State Party confirmed a total of four current mining and prospecting projects between the two above components. On location, a map was shown suggesting that some 20 prospecting licenses jointly cover most of the land between the Hong Shan and the Haba Snow Mountain components (see Map 2 in Annex V). While State Party and company representatives insisted that prospecting is unlikely to take place across the entire area licensed for exploration, the scale and location of possible operations raise serious questions in terms of possible future impacts on the Hong Shan and the Haba Snow Mountain components and the connectivity between them. Environmental monitoring of prospecting and mining, as described to the mission, appears to focus on technical aspects of air and water pollution, whereas impacts on wildlife appear not to be monitored.

Recommendation 7
Establish a monitoring system for all mining and prospecting activities between the Hong Shan and the Haba Snow Mountain components of the property in order to understand risks and impacts, particularly in regards to landscape connectivity and wildlife.

Another concern expressed by non-governmental observers is illegal mining. Governmental representatives and consulted scientists acknowledged the past occurrence of illegal mining but suggested that it has been brought under better control over the last years. At the same time, it was acknowledged that small-scale mining operations may continue locally within the property in violation of the clear position of the central government in this regard. Some governmental representatives and technical colleagues met during the mission suggested that the lack of clarity of the exact boundaries of the property may contribute to the occurrence of illegal mining within the property. Independent reports on alleged illegal gold mining near Mount Kawagebo, where the Baimang-Meili component of the property borders the Tibet Autonomous Region, could be neither confirmed nor discarded by the mission. While the State Party reported that it was not aware of any current mining there, further scrutiny seems needed.

Recommendation 8
Systematically monitor illegal mining and respond to reports of such activities.

3.3 Overall Management and Management Effectiveness

Three Parallel Rivers of Yunnan Protected Areas is a large serial property. The clusters and components are distributed across an even larger and very rugged mountain landscape. Distances are huge and the extreme topography sets natural limits to road infrastructure. Conceptual and practical management challenges are inevitable. Over the decade since inscription, the State Party has made substantial investments in office and visitor infrastructure and in improving management. According to documentation and briefings during the mission, the management structure is reasonably well established and being progressively refined. Room for improvement is acknowledged by the State Party and appears ever more important given the increasing development pressures around the property.

The Terms of Reference for the reactive monitoring mission (Annex I) required that the mission "evaluate the overall management effectiveness of the different components of the property, in particular the existence and implementation of management plans, available staffing and budgets of the management authority and their capacity to effectively conserve the OUV of the property". While designing and implementing a comprehensive and rigorous Management Effectiveness Assessment (MEA) was beyond the scope of the reactive monitoring mission, informed impressions could be obtained, discussed and documented. Issues deserving further assessment include local resource use, status and monitoring of wildlife populations, human-wildlife conflict, and tourism and recreation planning. The latter appears to be a largely neglected issue despite plans for a massive expansion of tourism. Apparently, tourism planning is largely disconnected from conservation planning (and financing). Unlike in the case of hydro power development and resource extraction there appear to be few requirements for prior impact assessments.

State Party representatives agreed on the usefulness of an in-depth MEA. Entry points and options for cooperation between the State Party and IUCN were openly discussed during the mission, drawing on

existing IUCN guidance and the experience gained though the Enhancing our Heritage initiative (EoH). A full MEA would amount to a medium size project and would require corresponding funding. The beneficiaries of a possible MEA include governmental officials at all levels and civil society.

Specific areas which would benefit from a comprehensive MEA include:

i. Lines of decision-making, leadership and coordination given the institutional complexity and overlap.
ii. Site design, including connectivity and the feasibility of including additional areas of high conservation value in the vicinity of the property, including across the administrative boundaries of Yunnan.
iii. Tourism and recreation planning and the interface with nature conservation in light of ambitious tourism development plans.
iv. Linkages with and management implications of major development schemes in the broader region, including energy, resource extraction and tourism.
v. Operational monitoring systems.

Recommendation 9
Develop and conduct a comprehensive Management Effectiveness Assessment for the entire property.

4. ASSESSMENT OF THE STATE OF CONSERVATION OF THE PROPERTY

4.1 Outstanding Universal Value

The assessment of the state of conservation requires a clear understanding of the exact location and extension of the given property. The basic question of what exactly constitutes the World Heritage property is less than clear in the case of Three Parallel Rivers of Yunnan Protected Areas. While routinely referred to as a property exceeding 1.7 million hectares in surface area, a closer look reveals that the various components total less than one million hectares. An actual surface area of the property of some 960,000 hectares was noted to the mission by the State Party. Correction of the official documentation is needed.

Another formality with important practical implications for future management but also for World Heritage documentation and communication is the clarification of the exact boundary design of the components and buffer zones. The distinction between the inscribed property and its buffer zones is somewhat unclear throughout the existing documentation. While functionally important, the State Party confirmed that the large buffer zones are not formally part of the property, and this is also the understanding of IUCN. In order to avoid further confusion and to establish a common denominator, including as regards the assessment of impacts, it is recommended to urgently correct any ambiguities.

Beyond formalities the mission notes that in several cases entire "National Scenic Areas" serve as buffer zones of "Nature Reserves" belonging to the property. In other cases, individual "National Scenic Areas" are partially within the property and partially forming a buffer zone, respectively. Available World Heritage maps do not capture these subtleties. The mission is concerned that the existence of differences between the boundaries of nationally protected areas and components of the World Heritage property may lead to confusion in management. This should be addressed in an in-depth Management Effectiveness Assessment.

Recommendation 10
Formally submit the exact location and surface area of all national protected areas that make up the property as well as all its buffer zones to the World Heritage Centre to enable updating of the partially inaccurate formal documentation, including the retrospective Statement of Outstanding Universal Value, following the appropriate procedures as stipulated in the *Operational Guidelines*.

Considering conservation values according to the logic of the *Operational Guidelines*, all four natural criteria deserve to be re-visited individually. The situation can be summarised as follows:

Criterion (vii)
The deep, parallel gorges of the Jinsha, Lancang and Nu Jiang are the outstanding natural feature of the site; while large sections of the three rivers lie just outside the site boundaries, the river gorges are nevertheless the dominant scenic element in the area. High mountains are everywhere, with the glaciated peaks of the Meili, Baima and Haba Snow Mountains providing a spectacular scenic skyline. The Mingyongqia Glacier is a notable natural phenomenon, descending to 2700 m altitude from Mt Kawagebo (6740 m), and is claimed to be the glacier descending to the lowest altitude for such a low latitude (28° N) in the northern hemisphere. Other outstanding scenic landforms are the alpine karst (especially the 'stone moon' in the Moon Mountain Scenic Area above the Nu Jiang Gorge) and the 'tortoise shell' weathering of the alpine Danxia.

The wording stresses deep river gorges as "outstanding natural features" and "dominant scenic elements" while acknowledging that they are only marginally covered by the design of the property. The situation clearly differs by cluster and component. For example, along the Nu Jiang River (Salween), the higher elevations of the Gaoligong Mountains constituting this part of the property are almost inaccessible. Visitation is restricted to the bottom and lower elevations of the valley. Views are therefore inevitably affected by possible dam construction. At the same time, none of the proposed landscape transformation directly occurs within or even in the immediate vicinity of the property. Nevertheless, the EIAs for hydro power development should specifically consider landscape beauty and aesthetics.

Criterion (viii)
The site is of outstanding value for displaying the geological history of the last 50 million years 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. These were major geological events in the evolution of the land surface of Asia and they are on-going. The diverse rock types within the site record this history and, in addition, the range of karst, granite monolith, and Danxia sandstone landforms in the alpine zone include some of the best of their type in the mountains of the world.

In the strict sense, the values described under the "geological criterion" will not be affected by possible hydro power development, as far as these values are located within the property.

Criterion (ix)
The dramatic expression of ecological processes in the Three Parallel Rivers site has resulted from a mix of geological, climatic and topographical effects. First, the location of the area within an active orographic belt has resulted in a wide range of rock substrates from igneous (four types) through to various sedimentary types including limestones, sandstones and conglomerates. An exceptional range of

topographical features - from gorges to karst to glaciated peaks -- is associated with the site being at a "collision point" of tectonic plates. Add the fact that the area was a Pleistocene refugium and is located at a biogeographical convergence zone (ie. with temperate and tropical elements) and the physical foundations for evolution of its high biodiversity are all present. Along with the landscape diversity with a steep gradient of almost 6000m vertical, a monsoon climate affects most of the area and provides another favourable ecological stimulus that has allowed the full range of temperate Palearctic biomes to develop.

Criterion (x)

Northwest Yunnan is the area of richest biodiversity in China and may be the most biologically diverse temperate region on earth. The site encompasses most of the natural habitats in the Hengduan Mountains, one of the world's most important remaining areas for the conservation of the earth's biodiversity. The outstanding topographic and climatic diversity of the site, coupled with its location at the juncture of the East Asia, Southeast Asia, and Tibetan Plateau biogeographical realms and its function as a N-S corridor for the movement of plants and animals (especially during the ice ages), marks it as a truly unique landscape, which still retains a high degree of natural character despite thousands of years of human habitation. As the last remaining stronghold for an extensive suite of rare and endangered plants and animals, the site is of outstanding universal value.

Criteria (ix) and (x) are informally sometimes jointly referred to as the "biodiversity criteria". Scientists consulted suggest an overall satisfying to intact status of vegetation. Past logging has taken a toll on some of the forests. Limited illegal logging and forest fires continue to impact on forests and there is some concern about localised overgrazing. The current status and trends of wildlife seem poorly known besides selective surveys of a limited number of species. Credible reports about poaching and wildlife trade are discomforting. While a thorough analysis was beyond the scope of the mission, the mission noted scientific and other reports, suggesting that wildlife populations may have been severely depleted in parts of the property. For example, a peer-reviewed journal article published in Biodiversity Conservation (2008, 17:1493-1516) provides an alarming overview of the scale and impacts of commercial trade in wildlife throughout large areas of Southwest China. Similarly, publicly available assessments by TRAFFIC suggest limited management responses to strongly increasing demand for wildlife products. Negative trends were confirmed by personal communication during the mission. Colleagues with field experience in the property implied that the situation may be particularly challenging near the international border with Myanmar. Clearly, better baseline information and monitoring of status and trends of suitable indicator and keystone species are urgently needed. Another important concern which so far has not received the attention it deserves is tourism. A Management Effectiveness Assessment should look at the full range of threats in detail to inform future responses.

5. CONCLUSIONS AND RECOMMENDATIONS

As far as the mission could judge from its short visit, the high altitude areas constituting the majority of the property are not under acute threat from actual or planned development. The hydro development along the rivers is considered a landscape transformation of historic proportions within and beyond Northwest Yunnan. The primary reason why the mission does not consider that the property will be directly impacted is the fact that the rivers are only marginally located within the property. Given the name of the property the boundary design is an unexpected finding. The reasons for the boundary design are certainly related to the fact that the higher elevations of the Hengduan Range are generally less impacted by longstanding human habitation and use. However, it is also plausible that hydro power interests were strategically considered at the time of nomination.

If implemented as planned, the massive hydro power development plans in China's West, including but not limited to Northwest Yunnan, will no doubt change the face of the landscape and the ecology of the large rivers. Therefore, from a conservation perspective the minimum requirement would be to fully understand the impacts prior to definitive decision-making. The quality and depth of the excerpts of Environmental Impact Assessments made available to the mission raise serious doubts whether such a basis to inform decision-making exists. Statements made in EIAs for individual projects appear speculative. To categorically deny impacts or to suggest "positive impacts" without further elaboration is to deny basic principles of landscape ecology. More worrisome, there appears to be little, if any, consideration of cumulative impacts.

The mission notes that in the absence of completed EIAs it is premature to draw any definitive conclusions at this stage. Therefore, it considers that a comprehensive assessment of direct, indirect and cumulative impacts of the hydro power developments, including a specific assessment of impacts on the Outstanding Universal Value of the property should be undertaken. Until the impacts on Outstanding Universal Value are better understood, the mission feels it cannot make a recommendation for the property's inscription on the List of World Heritage in Danger based on the provisions of the Operational Guidelines. Yet, the mission wishes to draw attention to the extreme scale of the planned hydropower development, which will no doubt lead to significant ecological and other changes in and beyond Northwest Yunnan. The selective focus on the vicinity of the property in the State Party report understates the enormous proportions of China's West-East Electricity Transfer Project, one of the largest infrastructure projects in the World. Many more dams than the reported 13 dams are planned along the mainstreams and tributaries of all three rivers, in particular in neighbouring Tibet Autonomous Region and Sichuan Province. In addition, there are plans for hydropower developments in downstream countries along the Nu Jiang and the Lan Cang Rivers and elsewhere in China along the Jinsha River. The State Party report, including maps made available to the mission, is restricted to Northwest Yunnan, thereby providing a highly incomplete picture.

In the view of the mission and in line with the findings of the World Commission on Dams a project of this scale requires a much more profound assessment and understanding of benefits versus impacts, costs and risks. While acknowledging language barriers and the fact that only short excerpts of some EIAs could be made available, the mission wishes to put on record that the provided EIA excerpts make no reference to assessment standards or methodology. Statements and claims appear alarmingly general, and poorly substantiated. For example, comments on assumed microclimatic changes and expected impacts on vegetation appear purely speculative and non-scientific. In the absence of reliable wildlife data the reference and basis for the various statements on wildlife populations seem unclear at best. Problematic conclusions are drawn based on vague and unsubstantiated causal links or not justified at all. There is no indication that the World Heritage status has received any specific consideration, let alone specific inscription criteria. References to mitigation are similarly weak. Consequently, the quality and depth of the EIAs appear fundamentally incompatible with the scale of the individual projects.

EIAs for 10 out of the 13 listed dam projects are either not concluded or not approved. Furthermore, the State Party reports that relevant state departments continue to be engaged in in-depth research. It is therefore unexpected that major conclusions are already being drawn in governmental reporting. Another unexpected aspect of the EIA procedures is the apparent possibility that preparatory construction starts prior to EIA approval. It appears that major investments are being made in the absence of any EIAs, indicating high confidence in positive EIA outcomes before these have even started.

Moreover, the approval and construction of transmission infrastructure is reportedly subject to planning schemes and procedures disconnected from the actual dams, another indication that there is room for enhanced overall planning. The transmission infrastructure is said to follow the three river valleys southwards prior to joining the "Southern Corridor", one of three major corridors within the enormous West-East Electricity Transfer Project. However, no plans for the exact location of the transmission lines could be obtained. Most strikingly, there appears to be no overall consideration of the impacts of the multiple dams (cumulative impacts), let alone in combination with other development projects in the region, including but not limited to plans to expand mass tourism.

From the information available to IUCN, strong doubts remain as to whether the information basis allows for responsible decision-making at this stage. In IUCN's view, the State Party is well-advised to substantially increase investments in a much more profound understanding of the consequences, costs and risks of the West-East Electricity Transfer Project prior to making final decisions. While it is acknowledged that there is no tangible legal basis for and limited national and international experience as regards to Strategic Environmental Assessments, the State Party is strongly encouraged to consider the development and application of assessment methods beyond conventional EIAs and beyond World Heritage and nature conservation concerns. IUCN can provide and facilitate support within its areas of expertise.

In terms of mining the formal exclusion of controversial mining areas should not distract from the fact that these areas continue to be located between two clusters of the property. Possible risks and impacts, including on landscape connectivity, need to be understood and monitoring is needed to this effect. Furthermore, there is no systematic information on prospecting and mining activities near the property which would be helpful to understanding risks and possible impacts. While increasingly under control, illegal mining is reported to still occur. If so, management responses are urgently needed.

A full assessment of management effectiveness was beyond the scope of the reactive monitoring mission. While the mission could detect and discuss important areas of concern in future management, it is recommended to invest in a comprehensive Management Effectiveness Assessment.

Recommendation 1
Further invest in the quality and depth of Environmental Impact Assessments as a basis for decision-making.

Recommendation 2
Refrain from any further construction of dams in the absence of approved Environmental Impact Assessments.

Recommendation 3
Develop and conduct a Strategic Environmental Assessment for development options in Northwest Yunnan.

Recommendation 4
Avoid the construction of transmission infrastructure within the property and its buffer zones, and minimize the impacts, including visual impacts, of transmission infrastructure through Environmental Impact Assessments and careful planning.

Recommendation 5
Include the issuing of prospecting permits in the formal commitment to refrain from mining in the property and its buffer zone.

Recommendation 6
Document and map prospecting and mining licenses that have already been issued in the vicinity of the property and make the information available to the World Heritage Centre.

Recommendation 7
Establish a monitoring system for all mining and prospecting activities between the Hong Shan and the Haba Snow Mountain components of the property in order to understand risks and impacts, particularly in regards to landscape connectivity and wildlife.

Recommendation 8
Systematically monitor illegal mining and respond to reports of such activities.

Recommendation 9
Develop and conduct a comprehensive Management Effectiveness Assessment for the entire property.

Recommendation 10
Formally submit the exact location and surface area of all national protected areas that make up the property as well as all its buffer zones to the World Heritage Centre to enable updating of the partially inaccurate formal documentation, including the retrospective Statement of Outstanding Universal Value, following the appropriate procedures as stipulated in the *Operational Guidelines*.

ANNEXES

Annex I: Terms of Reference

IUCN Reactive Monitoring Mission
Three Parallel Rivers of Yunnan Protected Areas (China)
20 – 25 April 2013 (proposed dates)

At its 36th session, the World Heritage Committee requested the State Party of China to invite a reactive monitoring mission to Three Parallel Rivers of Yunnan Protected Areas World Heritage Site, to be conducted by IUCN (Decision 36 COM 7B.9). The objective of the monitoring mission is to review the potential impacts of proposed dams, and of mining in the areas adjacent to the property, on the property's Outstanding Universal Value (OUV), and to assess the overall management effectiveness of the property. IUCN will be represented by Tilman Jaeger and Bruce Jefferies.

In particular, the mission should address the following key issues:

1. Assess the status of dam construction on the major rivers in the region, including the Nujiang, Jinsha and Lancang rivers, which are in close proximity to the property and its buffer zone – particularly the Li Yuan, Wunonglong, Lidi, Songta, Maji, Yabiluo, Liuku, and Saige dam sites – and their likely impacts on the property's Outstanding Universal Value;

2. Assess the potential impact from road works that are being undertaken at the Maji, Yabilluo, Liuku and Saige dam sites, regardless of their stated purpose of normal rerouting and maintenance operations, on the Outstanding Universal Value of the property;

3. Review the mining areas adjacent to the property, including those that were excluded from the Hongshan (Red Mountain) Unit through the minor boundary changes approved by the Committee at its 34th session (Brasilia, 2010), as well as the gold mine on Mount Kawagebo, to ensure that these are not having a negative impact on the OUV of the property;

4. Evaluate the overall management effectiveness of the different components of the property, in particular the (implementation of) the adjusted management plans and the revised Master Plan, available staffing and budgets of the management authority and their capacity to effectively conserve the OUV of the property, particularly in light of identified management challenges related to tourism development and the need to mitigate conflicts between local community development and the protection of natural heritage;

5. In line with paragraph 173 of the Operational Guidelines, assess any other relevant conservation issues that may negatively impact on the Outstanding Universal Value of the property, including the conditions of integrity and protection and management;

The State Party should facilitate necessary field visits to key locations, including the Li Yuan dam site on the Jinsha river, the Wunonglong and Lidi dam sites on the Lancang river, and the Songta, Maji, Yabiluo, Liuku and Saige dam sites on the Nujiang river and key mining areas adjacent to the property, including those that were excluded from the Hongshan (Red Mountain) Unit in 2010 and the gold mine on Mount Kawagebo.

The mission should also hold consultations with the Chinese authorities at national and provincial levels, in particular the Three Parallel Rivers of Yunnan Protected Areas management authorities and senior representatives of relevant ministries, including the Ministry of Environmental Protection, the Ministry of Water Resources, and the National Energy Commission. In addition, the mission should hold

consultation with a range of relevant stakeholders, including i) researchers; ii) NGOs (including International Rivers); iii) representatives of key local communities (including those affected by dam developments); and iv) representatives of the hydro power and mining sectors.

In order to enable preparation for the mission, copies in English of the following items should be provided to the World Heritage Centre (copied to IUCN) as soon as possible, and preferably no later than 30 days prior to the mission start date:

a) All Environmental Impact Assessments conducted to date for the various dam development projects, including but not limited to the above-mentioned dams;

b) The report on "Hydroelectric Power Planning on the Middle and Low Reaches of Nu River" and any other available reports on hydroelectric power planning in the region;

c) The (draft) terms of reference for a Strategic Environmental Assessment of the region;

d) The most recent versions of the management plans of all components of the property, as well as the recently revised Master Plan, including details of staff numbers and financial reports.

Based on the results of the above-mentioned assessments and discussions with the State Party representatives and stakeholders, the mission will develop recommendations to the Government of China and the World Heritage Committee to conserve the Outstanding Universal Value of the property and improve its conservation and management. It should be noted that recommendations are made within the mission report (see below), and not while the mission is still on-going.

The mission will prepare a concise report on its findings and recommendations within 2 weeks following the site visits, following the World Heritage Centre reactive monitoring mission report format.

Annex II: Decision 36COM 7B.9

The World Heritage Committee,

1. Having examined Document WHC-12/36.COM/7B,

2. Recalling Decision **35 COM 7B.12** adopted at its 35th session (UNESCO, 2011),

3. Acknowledges the information provided by the State Party on the on-going actions to address conservation issues at the property and urges the State Party to continue these efforts;

4. Welcomes the efforts made by the State Party to ensure those mining areas which were excluded through the boundary modification and are now adjacent to the property and its buffer zone comply with international environmental and health standards;

5. Regrets that comprehensive lists and accompanying maps of proposed dams in areas near to the property and its buffer zone have not yet been provided, and requests the State Party to submit to the World Heritage Centre by **1 December 2012** a detailed list and maps of all proposed dams that could affect the property, and to submit to the World Heritage Centre the Environmental Impact Assessmentsfor any such dam proposals, prior to their approval, in conformity with Paragraph 172 of the *Operational Guidelines*;

6. Also urges the State Party to ensure that active site preparation works for proposed hydroelectric projects do not proceed ahead of an approved Environmental Impact Assessment;

7. Also requests the State Party to invite an IUCN reactive monitoring mission to review the potential impacts of the proposed dams, and of mining in the areas adjacent to the property, on the property's Outstanding Universal Value, and to assess the overall management effectiveness of the property, and further requests the State Party to make available prior to the mission the English documents necessary to this review, including pertinent Environmental Impact Assessments, reports on hydroelectric power planning, and the terms of reference for a possible Strategic Environmental Assessment of all the dam proposals in the region;

8. Requests furthermore the State Party to submit to the World Heritage Centre, by **1 February 2013**, a report on the state of conservation of the property and on the progress made in undertaking a Strategic Environmental Assessment of all the proposed dams and ancillary development that could potentially affect the property's Outstanding Universal Value, for examination by the World Heritage Committee at its 37th session in 2013.

Annex III: Mission Itinerary and Programme (updated and amended by IUCN)

Time			Place	Activities	Transport	Accommodation
14/04/2013				Arrival of IUCN Experts		Kunming
15/04/2013	AM	09:00	Kunming	Symposium		Liuku
	PM	15:30	Kunming to Baoshan		Flight MU5979	
			From Baoshan to Liuku	Field visit to the proposed Saige dam site (Nu River)	Car	
16/04/2013	AM	09:00	Liuku	1.Visit Nujiang Management Center 2. Symposium	Car	Fugong
	PM	13:00	From Liuku to Fugong	3. Field visit to proposed Liuku dam (Nu River) 4.field visit to proposed Yabiluo dam (Nu River)		
17/04/2013	All day	08:30	Fugong	1. Field visit to proposed Maji dam and road expansion project	Car	Fugong
18/04/2013	AM	08:30	Fugong	Visit Fugong Management Center	Car	Shangri-La
		09:30	Gugong to Liuku			
	PM	12:00	Liuku	Lunch		
		13:00	Liuku to Baoshan			
		17:00	Baoshan to Kunming		Flight MU5980	
		20:20	Kunming to Shangri-La		Flight MU5818	
19/04/2013	AM	09:00	Shangri-La	1. Visit Diqing Management Center 2. Symposium		Shangri-La
	PM	15:00	Shangri-La	Visit Shudu Lake Management Station in Haba Snow Mountain Unit	Car	
20/04/2013	All day	09:00	Shangri-la	Visit Shenlong, Shenchuan Mining Groups and Pulang Copper Mine	Car	Shangri-la
21/04/2013	AM	09:30	From		Car	Weixi

Time			Place	Activities	Transport	Accommodation
			Shangri-la to Weixi			
	PM			None (a break)		
22/04/2013	All day	09:00	Weixi	1. Field visit to proposed Lidi dam 2. Field visit to proposed Wunonglong dam 3. Symposium at China Hua Neng Group base	Car	Weixi
23/04/2013	AM	08:30	From Weixi to Liming		Car	Lijiang
	PM	12:00	Liming	Visit Liming scenic spot in Laojunshan Unit		
		15:30	From Liming to Lijiang	Visit of Old Town of Lijiang		
24/04/2013	AM	09:00	Lijiang	1. Visit Laojunshan Management Center 2. Symposium including IUCN experts' feedback	Car	Lijiang / Kunming
	PM			From Lijiang to Kunming	Flight	
25/04/2013				Additional meetings and report drafting		Kunming

Annex IV: List of people met in chronological order

Kunming Symposium

15 April, 2013, 9:00 - 11:30 AM

Name	Institution	Position
Tilman Jaeger	WCPA	IUCN Expert
Bruce Jefferies	SPREP, WCPA	IUCN Expert
SUN Tie	Landscape Bureau of the Urban Construction Department, the Ministry of Housing and Urban-Rural Construction of China	Staff
LIANG Yongning	Kunming University of Science and Technology	Professor
ZHAO Yuzhong	Kunming University of Science and Technology	Professor
LI Rusheng	Urban Construction Department , the Ministry of Housing and Urban-Rural Construction of China	Deputy Chief
ZHAO Zhiyong	Yunnan Provincial Department of Housing and Urban-Rural Construction	Deputy Director
MA Suhong	Yunnan Provincial Department of Housing and Urban-Rural Construction	Chief Economist
LI Jing	Landscape Office of Yunnan Provincial Department of Housing and Urban-Rural Construction	Director
LIU Wen	World Heritage Management Committee Office of Yunnan Province	Director
LING Yan	World Heritage Management Committee Office of Yunnan Province	Deputy Director
YANG Zhihua	Yunnan Provincial Institute of Urban-Rural Planning and Design (YPIURPD)	Chief Planner
LIU Xinyu	Yunnan Provincial Institute of Urban-Rural Planning and Design (YPIURPD)	Section Head
WANG Yue	The Nature Conservancy (TNC)	Project Officer
LONG Yongcheng	The Nature Conservancy (TNC)	Chief Scientist
LU Shugang	Faculty of Social Sciences, Yunnan University	Professor
LIAN Fang	Yunnan Natural and Cultural Heritage Conservation Council (YNCHCC)	

Liuku Symposium

16 April 2013, 10:00 - 11:30 AM

Name	Institution	Position
Tilman Jaeger	WCPA	IUCN Expert
Bruce Jefferies	SPREP, WCPA	IUCN Expert
SUN Tie	Landscape Bureau of the Urban Construction Department, the Ministry of Housing and Urban-Rural Construction of China	Staff
LIANG Yongning	Kunming University of Science and Technology	Professor
ZHAO Yuzhong	Kunming University of Science and Technology	Professor
LI Jing	Landscape Office of Yunnan Provincial Department of Housing and Urban-Rural Construction	Director
LIU Wen	World Heritage Management Committee Office of Yunnan Province	Director
LING Yan	World Heritage Management Committee Office of Yunnan Province	Deputy Director
LU Wenxiang	Nujiang Prefecture Government	Deputy Governor
LI Ruiyun	Nujiang Prefecture Government	Deputy Secretary general
LI Zhihong	Nujinag Prefectural Bureau of Housing and Urban-Rural Construction	Director
YANG Xiuxing	Nujinag Prefectural Bureau of Housing and Urban-Rural Construction	Deputy Director
WANG Xia	Nujiang Management Center of the Three Parallel Rivers	Deputy Chief
ZHANG Yong	Department of Project Management, the Liubing Highway Construction Co., Ltd.	Director
LIU Songhua	3, Yinhe Road, Jiangxi Community, Liuku Township, Nujiang Prefecture	Community Representative
WANG Yuling	88, Xiangyang South Road, Jiangxi Community, Liuku Township, Nujiang Prefecture	Community Representative
JIANG Baoming	76, Bayi Road, Xiangyang Community, Liuku Township, Nujiang Prefecture	Community Representative
HE Quanxiu	The Living Quarters of Nujiang Prefectural Government, Xiangyang Community, Liuku Township, Nujiang Prefecture	Community Representative
HE Lifen	The Liuku Hotel Living Quarters, Chuancheng Road, Chongyang Community, Liuku Township, Nujiang Prefecture	Community Representative

Diqing Symposium

19 April 2013, 09:20 - 12:00 AM

Name	Institution	Position
Tilman Jaeger	WCPA	IUCN Expert
Bruce Jefferies	SPREP, WCPA	IUCN Expert
SUN Tie	Landscape Bureau of the Urban Construction Department, the Ministry of Housing and Urban-Rural Construction of China	Staff
LIANG Yongning	Kunming University of Science and Technology	Professor
ZHAO Yuzhong	Kunming University of Science and Technology	Professor
LI Jing	Landscape Office of Yunnan Provincial Department of Housing and Urban-Rural Construction	Director
LIU Wen	World Heritage Management Committee Office of Yunnan Province	Director
LING Yan	World Heritage Management Committee Office of Yunnan Province	Deputy Director
HUANG Zhenghong	Diqing Prefectural Committee of CCP	Deputy Party Secretary, Governor
A Xizhu	Diqing Prefectural Government	Deputy Secretary General
SHI Chunming	Diqing Management Center of the Three Parallel Rivers	Party Secretary, Bureau Chief, Director
WANG Jianguo	Bureau of Territorial Resources, Diqing Prefecture	Party Secretary, Director
WU Zhengwu	Bureau of Forestry, Diqing Prefecture	Party Secretary, Director
SONG Jiansheng	Bureau of Environmental Protection, Diqing Prefecture	Party Secretary, Director
RENG Yuehua	Bureau of Water Supplies, Diqing Prefecture	Party Secretary, Director
HE Wanxian	Bureau of Planning, Diqing Prefecture	Director
YANG Lihua	Pudacuo National Park Management Bureau	Director
SUN Hongmei	Shangri-la County Government	deputy county mayor
HE Yaowu	Landscape Section, Diqing Prefectural Bureau of Housing and Urban-Rural Construction	Head
LI Limin	Diqing Prefectural Management Office of the Three Parallel Rivers	Deputy Director
LI Zhiyao	Shangri-la County Management Office of the Three Parallel Rivers	Director
ZHU Rongsheng	Shudu Lake Scenic Spot Management Office	Director
GE Rong	Shenchuan Mining Co., Ltd.	Party Secretary
HE Xianghong	Diqing Non-ferrous Metals Co., Ltd of Yunnan Copper Co., Ltd.	Vice General Manager
WANG Haifeng	Hongniu Mining Co., Ltd.	General Manager
LUOSANG Zhaxi	Shenlong Mining Co., Ltd.	Representative
HE Jianying	Gezan Township Government	Head
ZHI Shi	Gecong Production Team, Xiagezan Village,	Community

	Gezan Township	Representative
ZHANG Yuejin	Guwa Production Team, Xiagezan Village, Gezan Township	Community Representative
ZHANG Changshou	Lacong Production Team, Xiagezan Village, Gezan Township	Community Representative

Weixi Symposium

22 April 2013, 14:00 - 16:00 PM

Name	Institution	Position
Tilman Jaeger	WCPA	IUCN Expert
Bruce Jefferies	SPREP, WCPA	IUCN Expert
SUN Tie	Landscape Bureau of the Urban Construction Department, the Ministry of Housing and Urban-Rural Construction of China	Staff
LIANG Yongning	Kunming University of Science and Technology	Professor
ZHAO Yuzhong	Kunming University of Science and Technology	Professor
LI Jing	Landscape Office of Yunnan Provincial Department of Housing and Urban-Rural Construction	Director
LIU Wen	World Heritage Management Committee Office of Yunnan Province	Director
LING Yan	World Heritage Management Committee Office of Yunnan Province	Deputy Director
SHI Chunming	Diqing Management Center of the Three Parallel Rivers	Party Secretary, Bureau Chief, Director
MA Shengchun	The People's Government of Weixi County	Member of the CCP Standing Committee, Executive Vice County Mayor
GAO Yu	Bureau of Water Supplies, Weixi County	Director
HE Yizhong	Bureau of Environmental Protection, Weixi County	Director
ZHAO Xuefei	Bureau of Forestry, Weixi County	Director
ZHAO Zhonghua	Bureau of Housing and Urban-Rural Construction, Weixi County	Director
DONG Shiliang	Bureau of Territorial Resources, Weixi County	Director
ZHANG Chenyi	Bureau of Resettlement, Weixi County	Director
LI Limin	Diqing Prefectural Management Office of the Three Parallel Rivers	Deputy Director
MAO Hua	Department of Construction Project Preparation, China Hua Neng Group	Deputy Director
WANG Hailong	Department of Safety and Environmental Protection, China Hua Neng Group	Deputy Director
CHEN Wenxian	Luodatang Villagers' Group, Luoyi Village, Badi Township	Resettler Representative

YANG Duanchun	Luodatang Villagers' Group, Luoyi Village, Badi Township	Resettler Representative
GAO Guangyuan	Jieyipo Villagers' Group, Jieyi Village, Badi Township	Resettler Representative

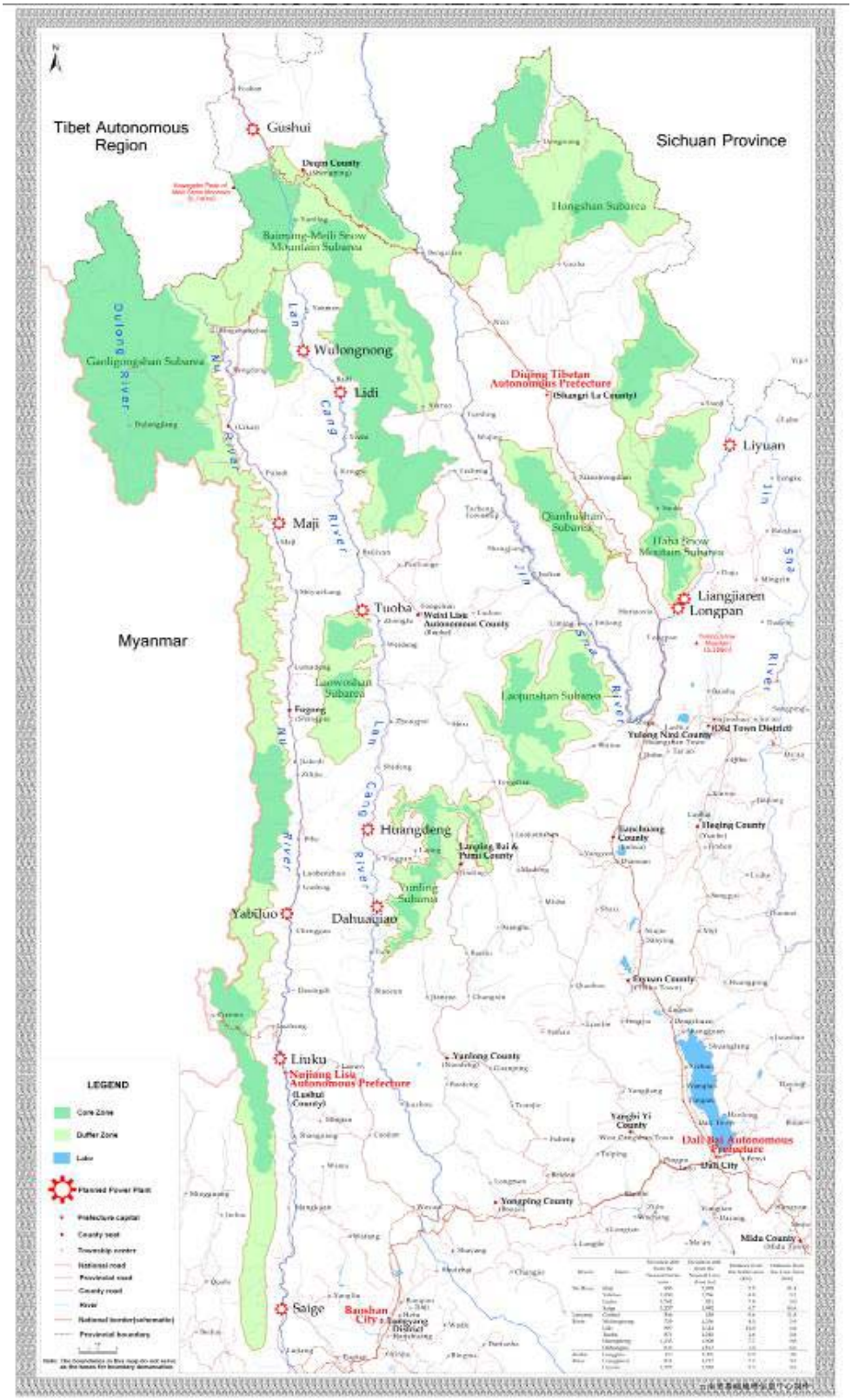
Lijiang Symposium

24 April 2013, 9:30 - 11:30 AM

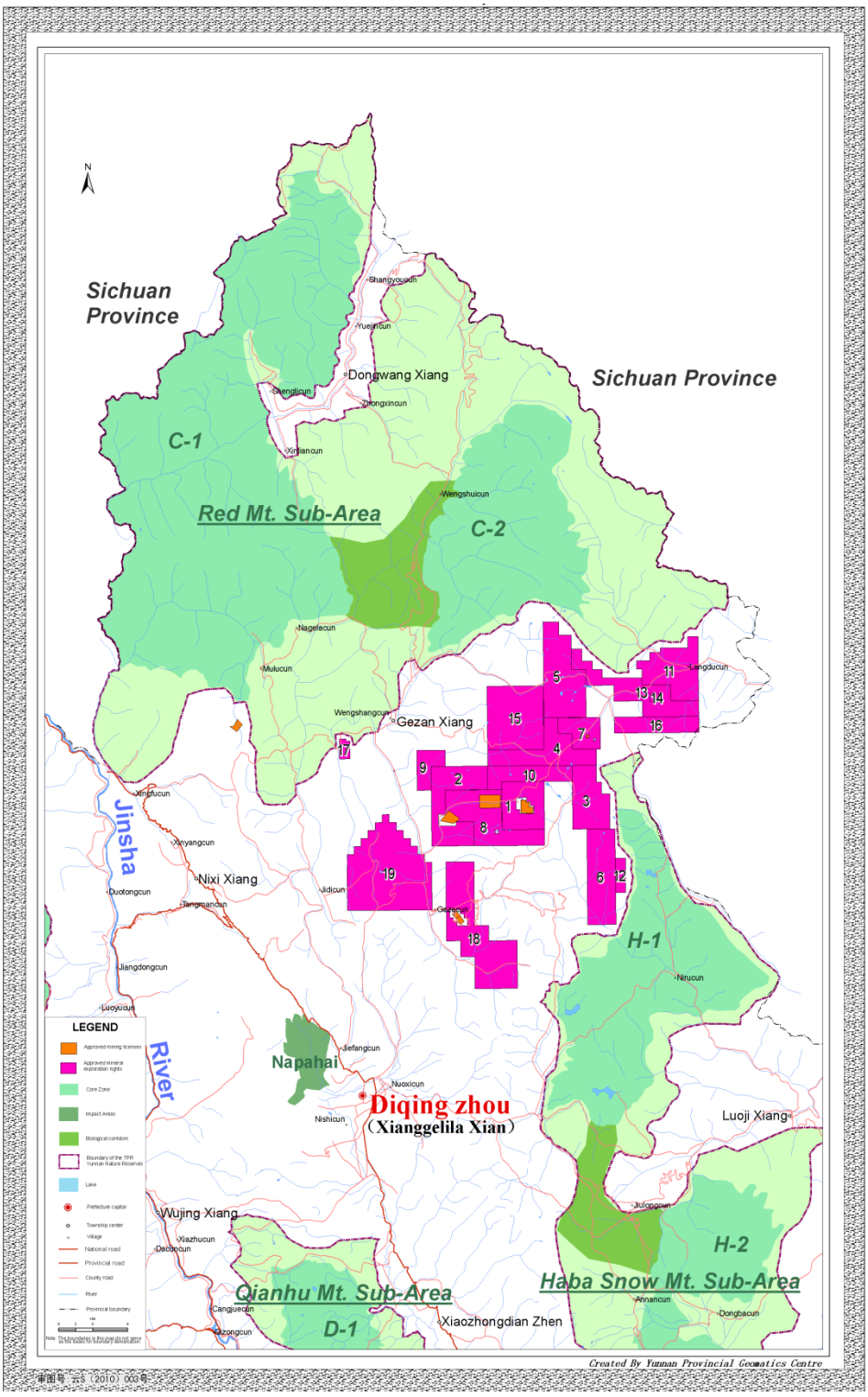
Name	Institution	Position
Tilman Jaeger	WCPA	IUCN Expert
Bruce Jefferies	SPREP, WCPA	IUCN Expert
ZUO Xiaoping	Landscape Bureau of the Urban Construction Department, the Ministry of Housing and Urban-Rural Construction of China	Director
SUN Tie	Landscape Bureau of the Urban Construction Department, the Ministry of Housing and Urban-Rural Construction of China	Staff
LIANG Yongning	Kunming University of Science and Technology	Professor
ZHAO Yuzhong	Kunming University of Science and Technology	Professor
LI Jing	Landscape Office of Yunnan Provincial Department of Housing and Urban-Rural Construction	Director
LIU Wen	World Heritage Management Committee Office of Yunnan Province	Director
LING Yan	World Heritage Management Committee Office of Yunnan Province	Deputy Director
RAO Wenfu	World Heritage Management Committee Office of Yunnan Province	Chief Adviser
ZHANG Tao	World Heritage Management Committee Office of Yunnan Province	
LI Honglin	The People's Government of Lijiang Municipality	Deputy Mayor
YANG Wencai	The People's Government of Lijiang Municipality	Deputy Secretary General
ZHOU Xuelu	The Planning Bureau of Lijiang Municipality	Director
ZHANG Xuemin	Laojunshan Management Bureau of Lijiang Municipality	Director
LI Honggui	The Reception Office of Lijiang Municipality	Deputy Director
HE Jiafeng	The Planning Bureau of Lijiang Municipality	Chief Engineer
WANG Shihong	Laojunshan Management Bureau of Lijiang Municipality	Deputy Director
ZHANG Xuejun	World Heritage Management Committee Office of Lijiang Municipality	Director

Annex V: Maps

Map 1. Overall property design and location of proposed dam sites



Map 2: Mining and prospecting licenses between the Hong Shan and Haba Snow Mountain components.



Annex VI: Photographic documentation

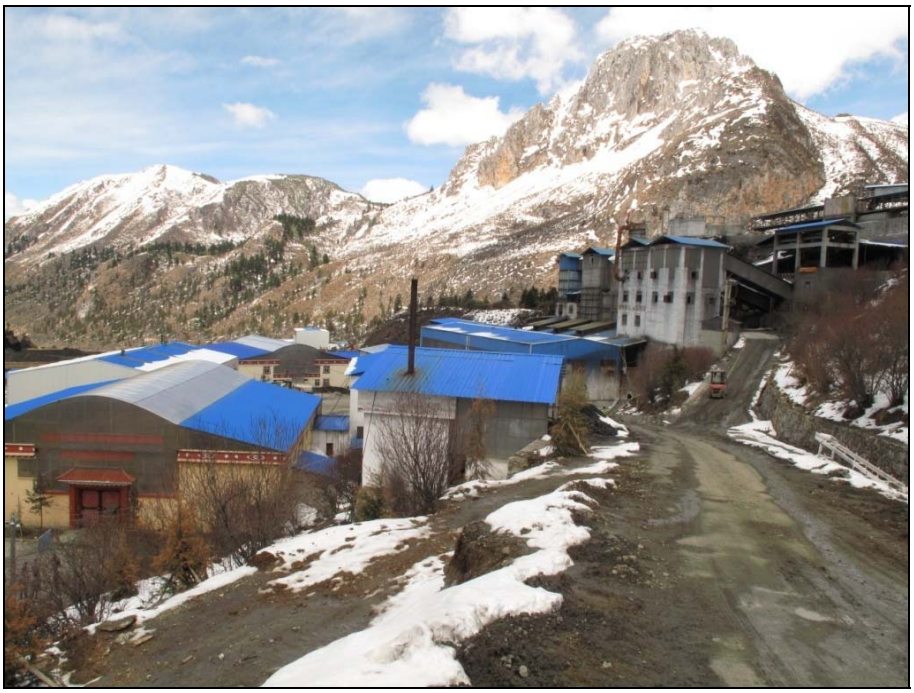
Photograph 1. Construction at the Lidi proposed dam site on the Lan Cang River (Upper Mekong River). Photo taken on 22 April 2013.

Photograph 2. Construction at the Wulongnong proposed dam site on the Lan Cang River (Upper Mekong River). Photo taken on 22 April 2013.

Photograph 3. Upper valley of the Nu River (Salween River) near Moon Mountain.

Photograph 4. Site of the proposed Maji dam on the Nu River (Salween River).

Photograph 5. Tailings of the copper mine operated by Shenchuan Mining Group in the area excluded from the World Heritage property in 2010, now located between the Hong Shan and the Haba Snow Mountain components of the serial property. Photo taken on 20 April 2013.



Photograph 6. Copper mine operated by Shenchuan Mining Group in the area excluded from the World Heritage property in 2010, now located between the Hong Shan and the Haba Snow Mountain components of the serial property. Photo taken on 20 April 2013.

Annex VII: Overview table of dams planned near the property: selected characteristics and status

Made available to the mission on 22 April 2013 upon request. Note that the table does not constitute a formal submission by the State Party.

River System	Name of dam location	Elevation Difference from Nearest Buffer Zone Boundary (m)	Elevation Difference from Nearest Core Area Boundary (m)	Distance from Buffer Zone Boundary (km)	Distance from nearest Core Zone boundary (km)	Height of the dam above existing river level (m)	Length of reservoir lake (km)	Estimated number of displaced (persons)	EIA Status	Current Status of the Dam Construction (ToR Para 1)	Current Status of roadworks (ToR Para 2)
Nu River	Maji	893.00	2,059.00	2.5	31.4	270	100.00	6,000	started	not started	not started
	Yabiluo	1,058.00	1,786.00	4.8	9.1	152	37.00	6,200	started	not started	not started
	Liuku	1,741.00	821.00	7.8	5.0	35	10.00	800	started	not started	not started
	Saige	1,257.00	1,992.00	4.7	44.6	85	45.00	4,709	started	not started	not started
Lan Cang	Gushui	546.00	438.00	9.6	11.8	242	58.00	3,549	not formulated	not started	not started
	Wulongnong	729.00	1,336.00	4.0	3.9	137.5	40.00	549	not completed	started	completed
	Lidi	997.00	1,124.00	14.0	4.6	75	18.90	244	MEP approval in August 2011	Started	completed
	Tuoba	871.00	1,330.00	4.0	3.9	158	70.00	13,625	not completed	Started	started
	Huangdeng	1,233.00	1,908.00	7.7	9.8	203	86.00	8,866	MEP approval in February 2013	Started	completed
	Dahuaqiao	835.00	1,812.00	3.0	4.6	106	41.40	3,813	not completed	started	started
Jinsha	Longpan	157.00	1,395.00	0.9	3.0	276	265.00	193,900	not formulated	not started	not started
	Liangjiaren	811.00	1,717.00	1.7	3.5	93	2.00	0	not formulated	not started	not started
	Liyuan	1,772.00	1,930.00	7.3	9.6	155	58.00	1,115	MEP approval in January 2013	started	completed

Annex VIII: Comparison between EIA and SEA

Source: OECD, 2006. DAC Applying Strategic Environmental Assessment. Good Practice for Development Co-operation. Guidelines and Reference Series, full text available at: www.oecd.org/environment/environment-development/37353858.pdf

EIA	SEA
Applied to specific and relatively short-term (life-cycle) projects and their specifications.	Applied to policies, plans and programmes with a broad and long-term strategic perspective.
Takes place at early stage of project planning once parameters are set.	Ideally, takes place at an early stage in strategic planning.
Considers limited range of project alternatives.	Considers a broad range of alternative scenarios.
Usually prepared and/or funded by the project proponents.	Conducted independently of any specific project proponent.
Focus on obtaining project permission, and rarely with feedback to policy, plan or programme consideration.	Focus on decision on policy, plan and programme implications for future lower-level decisions.
Well-defined, linear process with clear beginning and end (e.g. from feasibility to project approval).	Multi-stage, iterative process with feedback loops.
Preparation of an EIA document with prescribed format and contents is usually mandatory. This document provides a baseline reference for monitoring.	May not be formally documented.
Emphasis on mitigating environmental and social impacts of a specific project, but with identification of some project opportunities, off-sets, etc.	Emphasis on meeting balanced environmental, social and economic objectives in policies, plans and programmes. Includes identifying macro-level development outcomes.
Limited review of cumulative impacts, often limited to phases of a specific project. Does not cover regional-scale developments or multiple projects.	Inherently incorporates consideration of cumulative impacts.