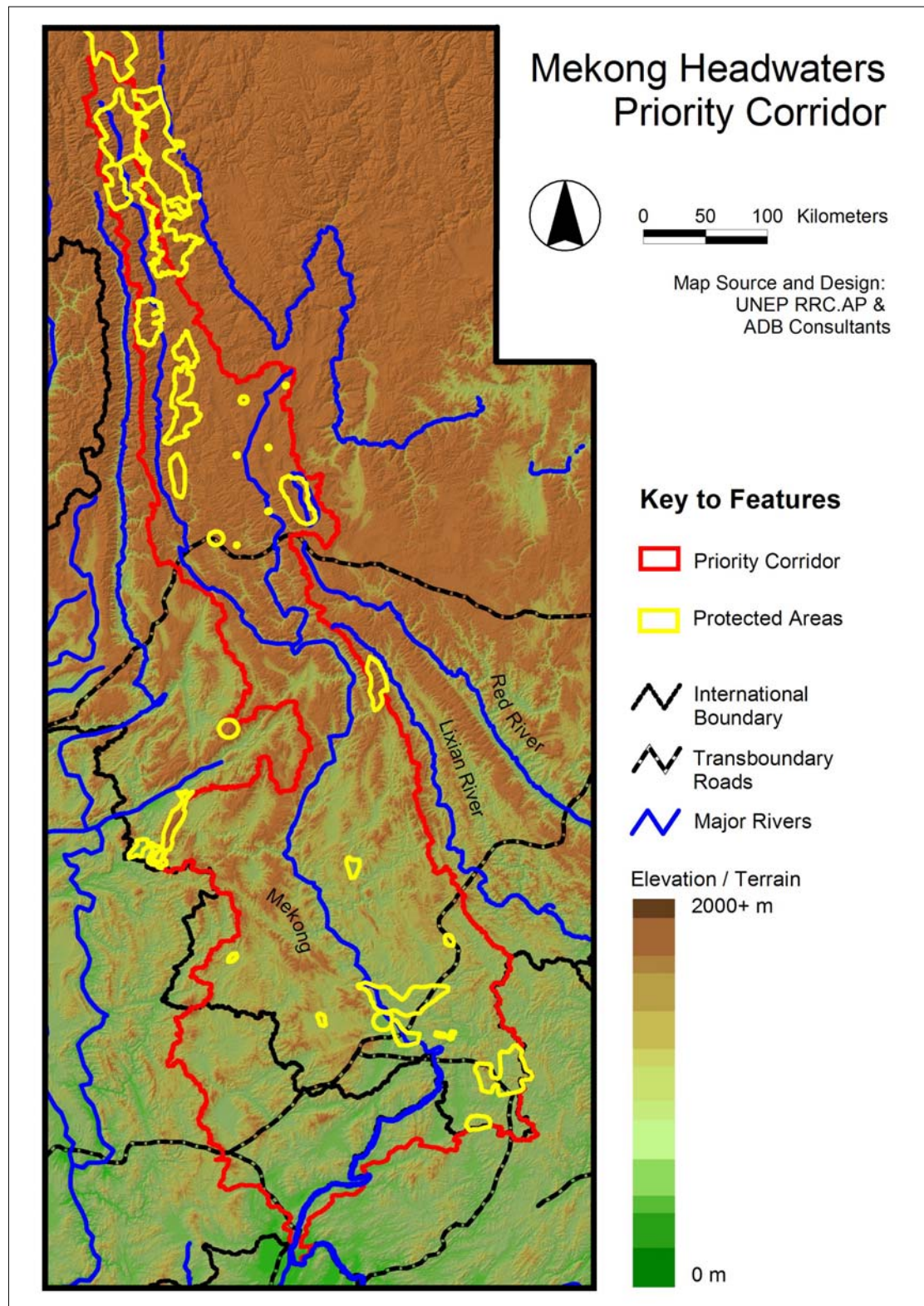


ANNEX 3.9: Description of GMS Priority Biodiversity Conservation Corridors

Figure 1: Mekong Headwaters (Yunnan-PRC, Laos)



## **Mekong Headwaters**

**Countries:** China (Yunnan), Myanmar, Lao PDR

**Provinces:** DiQing, NuJiang, DaLi, Bao Shan, Lin Cang, Si Mao, Xi Shuang Ban Na (China); Luangnamtha, Bokeo, (Lao PDR); Shan State (Myanmar).

This large GMS BCC represents the Yunnan Plateau Subtropical Evergreen Forests and the Northern Indochina Subtropical Forests ecoregions. It also represents a priority 'Hotspot' in the GMS (SEF 2002<sup>1</sup>). The network of hills and river valleys that extend south of the plateau include the upper catchments of the Mekong River.

The region represents the transition between the Palearctic and Indo-Malayan Zoogeographical Realms, and includes fauna from both. The vegetation in the Plateau is primarily subtropical broadleaf evergreen forest adapted to wet summers and a cool dry season that lasts from November to April. Temperate cloud forests occur in the high elevations. Overall, the vegetation has floristic affinities to the Eastern Himalayas, being dominated by Fagaceae (*Quercus*, *Castanopsis*, *Lithocarpus*, *Cyclobalanopsis*) and Lauraceae (*Lindera*, *Persea*).

Taxa from Theaceae (*Schima*) and Magnoliaceae (*Michelia*, *Magnolia*) are added to the subtropical floristic associations in the southern part of the landscape. Open canopy pine forests are also present in the higher elevations, while forests with more tropical affinities grow in the low, moist valleys.

The original evergreen broadleaf forests of the Yunnan Plateau are thought to have been cleared and replaced by thin forests of Yunnan pine (*Pinus yunnanensis*) which may co-occur with *Michelia yunnanensis* (Magnoliaceae) and various species of *Rhododendron* spp. Thus, today, the *P. yunnanensis* dominated forests are the most widespread vegetation-type on the plateau. But relict stands of subtropical evergreen broadleaf forest still occur in the West Hills near Kunming, on the slopes of Jizu Mountain near Dali, and in small temple forests throughout the region

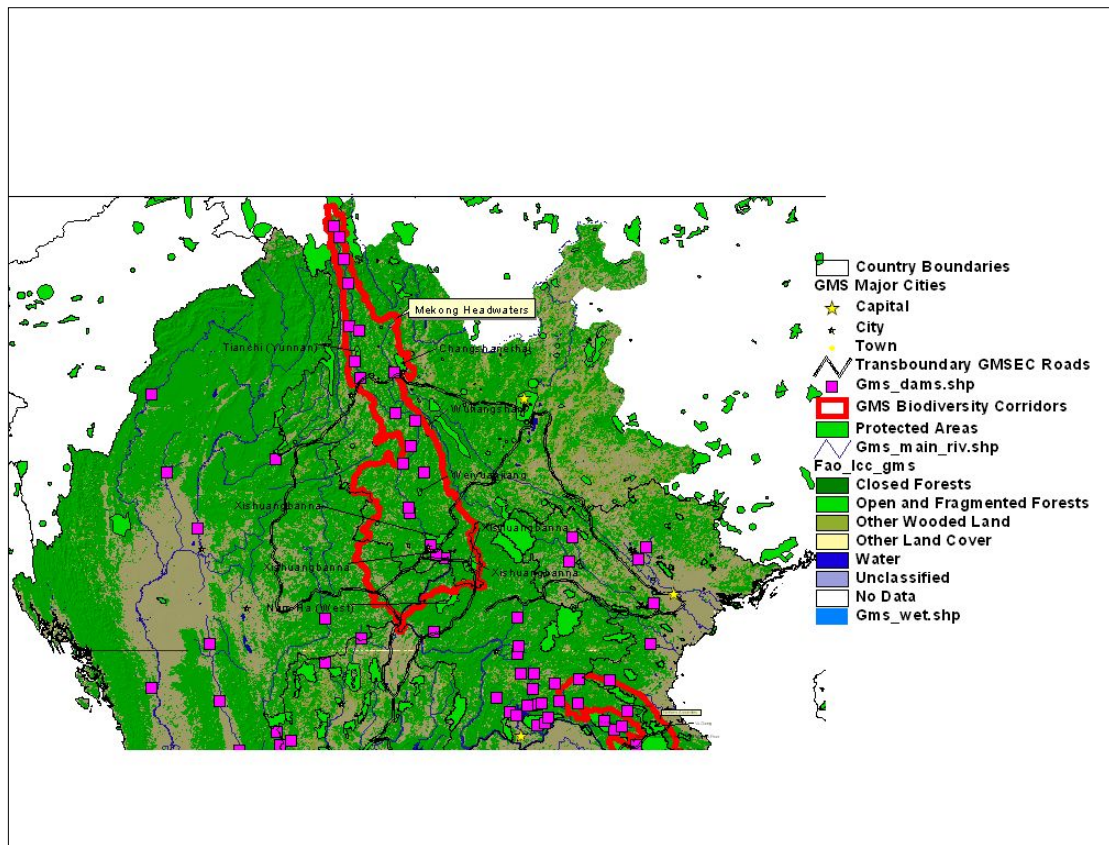
Biodiversity conservation—including the ecological processes and services—is important in this GMSBCC because it captures the headwaters of the Mekong River. Widespread forest conversion has left only a few isolated patches of forests. Therefore, conservation efforts should focus on restoration of the forests to maintain and restore watershed integrity of the Mekong headwater region.

There are 12 protected areas in this landscape (Figure 1 above). However, with the exception of Xishuangbanna and Xishuangbanna nabanhe, which are close together, the others are isolated from each other. Because the forests are highly fragmented, connectivity can only be achieved through large-scale reforestation and habitat restoration.

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<sup>1</sup> Strategic Environmental Framework for the Greater Mekong Subregion: Integrating Development and Environment in the Transport and Water Resource Sectors Volume III: GMS Hotspot Profiles March 2002

**Figure 2: Mekong Headwaters, Forest Cover, Proposed Dams, Roads**



Despite the highly fragmented habitat, the region harbors several Endangered species that are of high conservation significance, including the critically Endangered Tonkin snub-nosed monkey. The region used to support a small, but important population of tigers, although the current status of the population is unknown. Other mammals of conservation significance are the Asian elephant, red panda, and black gibbons. The important birds include several pheasants, including Blyth's tragopan, Temminck's tragopan, Ring-necked pheasant, Lady Amherst's pheasant, Blood pheasant, Silver pheasant, and Siamese fireback. There is a diverse assemblage of hornbills in these forests, including the Plain-pouched hornbill, Rufous-necked hornbill, Great hornbill, and Brown hornbill. Because these species require intact, mature forests and are intolerant of human disturbance, conservation efforts can be focused on these species, and treat them as indicators of habitat integrity and to measure habitat restoration success.

### ***Conservation Issues and Threats to Biodiversity***

Much of the natural habitat in this region had been converted to farmland and agriculture centuries ago. Thus, the forests have become highly fragmented, although a few small patches of intact habitat lie scattered throughout the large landscape.

Hunting has eradicated most of the fauna, especially the large mammals and birds. The few refuge populations in the mountain-top protected areas are likely not inhabiting optimal or preferred habitats, and the long-term viability of these isolated populations are likely low.

Conservation in this GMSBCC is a salvage operation. Any pockets of forests remaining should be conserved and extensive restoration efforts will be required to attempt to link existing protected areas. But restoration efforts are essential, not merely for conserving the species, but also to restore the watershed and maintain critical hydrological processes and services in this Mekong headwater region.

**Impact of the GMSEC**

The North-South 2 GMSEC intersects the southern part of this landscape. The R3 transnational road cuts through the southern part of the landscape, while the R4 road bisects the northern section (Figure 2 above).

Nineteen dams have been mooted within the landscape.