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WILDLIFE CONSERVATION ALONG THE THAI-LAO BORDER

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ABSTRACT

During April 1993, a brief survey was made to examine 1) wildlife conservation near Pha Taem National Park, Ubon Ratchathani Province, 2) along the Thai-Lao border of northern Thailand especially near Nam Poui Nature Reserve in Lao PDR and cross-country wildlife trade between 3) Thailand and northern Lao PDR and 4) Thailand and southern Lao PDR. Very little wildlife is left at Pha Taem National Park and the main objective of the park is for tourism. Widespread slash-and-burn farming by highlanders and a good road built along the Thai-Lao border on the Thai side were seen near Nam Poui. It is possible that a trans-boundary park between Pha Taem and Phou Xiang Thong can be established, while a park between Nam Poui and other protected areas in Thailand is hard to visualize. Wildlife trade along the Thai-Lao border of northern Thailand was less than between Thailand and southern Lao PDR as previously reported by SRIKOSAMATARA et al. (1992). Law enforcement to prevent wildlife trade on the Lao side at Ban Mai opposite to Khong Chiam, Ubon Ratchatani Province, will help a great deal to conserve wildlife in Lao PDR. It is suggested that banteng should be listed under CITES Appendix I as the volume of the trade between Thailand and Lao PDR is very high, and their horns resemble those of kouprey which is classified as an endangered species.

INTRODUCTION

Thailand and Lao PDR are always seen as brotherly countries as they are situated in close proximity and share similar ethnicity, language and culture. Since 1975 relations between Thailand and Lao PDR have not been good due to the differences in political ideology. Lao PDR has followed communist ideology while Thailand has followed constitutional monarchy. The relationship between the countries has improved since 1989, after the border conflict at Ban Rom Klao (see INTAPANTE et al., 1988). In 1994, Thailand will give financial aid of about US\$ 3 million (about 2% of the total foreign development assistance to Lao PDR; STUART-FOX, 1991: 4; TRANKELL, 1993: 6) which has increased from US\$ 0.4 million in 1993 (Bangkok Post Daily newspaper, 5, 7 December 1993). The aid is mainly for agriculture, education and health. One area that Thailand has not considered is to help her younger sister country sustain her natural resources. This will not only help Lao PDR to continue economic development but also help maintain her biodiversity

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for the future generations of Laotian people. Wildlife is a part of natural resources which currently Thailand has a major influence in depleting in Lao PDR. This is because Thailand is one of the major consumers of wildlife resources from Lao PDR (SRIKOSAMATARA et al., 1992; BAIRD, 1993; SALTER, 1993). Thailand is also situated in close proximity to Lao PDR so that some areas could be set aside as transboundary parks. Nam Poui and Phou Xiang Thong are two Nature Reserves along the Thai-Lao border. Nam Poui (1,150 km²) bordering with northern Thailand, will be under management implementation in 1994 while Phou Xiang Thong (995 km²) in southern Lao PDR will be under management implementation in 1998 (BERKMULLER et al., 1993; SOURYYAKANE 1993).

As a part of an ongoing project to supply basic information (see SRIKOSAMATARA et al., 1992) that will be helpful for wildlife conservation and management in Lao PDR, we planned a month-long trip to survey wildlife in Xe Bang Nouane Nature Reserve (1,325 km²) in southern Lao PDR in April 1993. We unfortunately had to change plans due to a car accident near Nakhon Ratchasima in Thailand. After the accident, SS went to Vientiane during April 1-9, 1993 to consult with the National Office for Nature Conservation and Watershed Management of Lao PDR, Forest Resources Conservation Project of Lao-Swedish Forestry Programme and IUCN Laos. We were informed that the Mekong Committee was interested in assessing the feasibility of creating a trans-boundary park along the Mekong River between Pha Taem and Phu Xiang Thong National Parks (W.P. code: 3.4.11/93, MKG/R. 92066). Coincident with our interest in the area due to our brief survey in 1991 (SRIKOSAMATARA et al., 1992), we decided to look more closely at wildlife conservation in Pha Taem National Park in Thailand. We were also able to survey the wildlife trade along the Thai-Lao border in northern Thailand where little information was obtained during our recent study (SRIKOSAMATARA et al., 1992). We also examined the area next to a protected area in Lao PDR, Nam Poui. We report here the results of the survey, and discuss the possibility of cooperation between Thailand and Lao PDR on conservation issues.

STUDY SITES AND METHODS

The route of survey in Pha Taem National Park and adjacent areas in Thailand during April 10–17, 1993, can be seen in Figure 1. Our survey route along the Thai-Lao border of northern Thailand from Loei to Amphoe Mae Sai, Chiang Rai Province, during April 23–28, 1993 can be seen in Figure 2. We drove to the area, asked people about wildlife and walked or hiked about if there were any promising signs. We used a road map (scale 1:1,600,000) and topographic maps (from the Royal Survey Department) scale 1:250,000 and 1:50,000 during the survey. Satellite images (scale 1:1,000,000) taken during 1989–1990 from Anon. (1991), and images of Pha Taem National Park, Phou Xiang Thong Nature Reserve and adjacent areas (LANSAT-5 TH, scale 1:250,000, Band 2–3–4, taken in 7 January 1989) were also used.

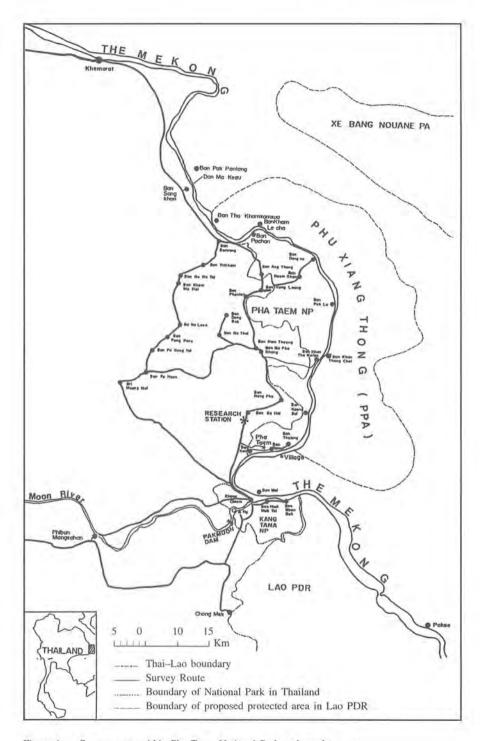


Figure 1. Survey route within Pha Taem National Park and nearby area.

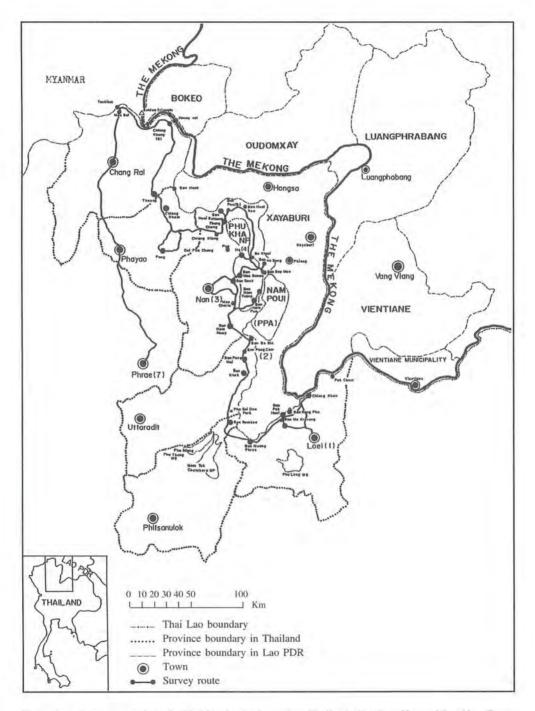


Figure 2. Survey route along the Thai-Lao border in northern Thailand. Ban Rom Kao and Ban Nam Tuang are Hmong villages.

RESULTS

Wildlife Conservation and Management in Pha Taem National Park

Pha Taem was declared as a national park on 31 December 1991. It covers an area of 340 km². From the satellite images (ANON., 1991; Fig. 3) there is less forest in Thailand than in Lao PDR. The main vegetation type in the park is dry deciduous diptercarp forest while mixed deciduous forest dominated by *Lagerstroemia* spp. (Family Lythraceae) can also be seen. In many areas, one can see large areas filled with the bare sandstone rock. Clumps of *Pinus merkusii* Jungh. & De Vriese (Family Pinaceae) can be seen in some areas even at an elevation of about 100 m, which has not been reported in PHENGKLAI (1972, 1973) and WHITMORE (1984). Clumps of pines grow in the dry deciduous diptercarp forest and they are possibly pioneer species growing after the forests are disturbed. There is a Thai-Danish Research Station (10.4 km²) under the Silviculture Division of the Royal Thai Forest Department near Ban Ba Hai.

The park borders with Lao PDR in which the Mekong acts as the barrier. The Mekong there is about 1.2–1.5 km wide during the dry season. The northern boundary with the Mekong is near Ban Samrong while the southern boundary is near Ban Kum. People still use boats to travel along the Mekong in the northern part of the national park, especially between Ban Samrong, Ban Pachan, Ban Dong Na, Ban Pak La and Ban Kham Ta Khwian.

At the present time there is no management plan for Pha Taem National Park. There is little emphasis on wildlife conservation and management. This is quite a normal practice in almost all national parks in Thailand, even in Khao Yai National Park which is considered by many to be the best national park in Thailand. In practice, management of national parks in Thailand seems to focus primarily on the management of tourist resources and the crack-down on illegal logging and poaching.

The most attractive sites which bring tourists to Pha Taem National Park are "Pha Taem" (Fig. 4), "Sao Chaliang" and the good view of the Mekong flowing between the hilly areas with good forest of Lao PDR and Thailand (Fig. 5). "Pha Taem" is a 1.5 km long cliff of sandstone created by erosion by the river. From the top of the cliff one obtains a spectacular view over the Mekong to Lao PDR. A 200 m long wall features 2,000 years old rock paintings including elephants, turtles, fish (possibly giant catfish or "Pla Buek"), people, human hands, fishing tools, dogs, man with crossbow, pictures similar to "rainbow snake" which represent water, cattle and buffalo (VALLIBHOTAMA, 1990; HOSKIN & HOPKINS, 1991; SLUITER, 1993). "Sao Chaliang" is a bizzare mushroom shaped rock formation situated by the road to "Pha Taem". Differential erosion of two layers of sandstone has created these wonders.

Other tourist attractions nearby which also help bring people to visit the national park are, for example, the two-color river where the muddy brown Mekong meets with the relatively clear water of the Mun, Soi Sawan Waterfall, Tung Na Muang Waterfall, Saeng Chan Waterfall and Kaeng Tana Rapids which are inside Kaeng Tana National Park.

In 1992 there were 259, 539 people (rank 9) visiting Pha Taem National Park while 121,316 people (Rank 25) visited nearby Kaeng Tana National Park (80 km²). This can be compared with the popular Khao Yai National Park which had 944,940 visitors in 1992 (Source: National Park Division, Royal Thai Forest Department).

There is limited information about wildlife in this area. Most people we interviewed told us that most large and medium-sized mammals had been extirpated. Long-tailed macaque (*Macaca fascicularis*) was reported near Ban Dong Na. Local people told us that elephants were seen to cross the Mekong from Lao PDR to Thailand. This information should be confirmed by a more reliable source. The wildlife reported in Phou Xiang Thong can be seen in SALTER et al. (1991) and BERKMULLER et al. (1993).

DE SCHAUENSEE (1946) listed 123 species of bird collected in 1935–36 (58 years ago) from the nearby area in Chanuman (Amphoe Chanuman, Ubon Ratchathani Province), Khulu and Kemraj (Amphoe Khemarat). DE SCHAUENSEE (1946) described Khulu as an area due north of Ubon (Amphoe Muang, Ubon Ratchathani Province), between that town and Kemraj (Amphoe Khemarat), extreme eastern Siam (15° 35'N, 104° E) but we could not find this place on our maps. Both Chanuman and Khemarat are located at about 100 m elevation. The bird list made by DE SCHAUENSEE (1946) can be obtained from us upon request. DE SCHAUENSEE (1946) concluded that this area supported a fauna closest to that of central Thailand with naturally a strong influence from Indo-China. Virtually no birds from the strongly differentiated southeastern Thailand occur.

The present cooperation between Pha Taem National Park in Thailand and Phou Xiang Thong in Lao PDR is still trivial. In January 1994, the superintendent of Pha Taem National Park visited an area in Phou Xiang Thong along the Mekong in cooperation with Savannakhet Province.

Wildlife Status along the Thai-Lao border of Northern Thailand

In general the wildlife situation in this area is not good, due to the easy access to the area by road (Fig. 6), the widespread slash-and-burn farming and the increasing numbers of highlanders who both farm and hunt.

To obtain a general idea about wildlife habitat in this area, we examined the forest cover on the satellite images. Four images (scale 1:1,000,000) from ANON (1991), taken on 31 January 1990, 14 December 1989, and 5 December 1989, were consulted. Superficially the forest in the area looks good from the satellite, but it was found to be in poor condition from our ground survey.

During our travel from Loei Province to Mae Sai of Chiang Rai Province we saw a dramatic change in the ethnic composition of local people. These ethnic groups are minorities which some may call "highlanders" or "hill tribes" depending on how they are viewed. At Ban Rom Kao we encountered Green Hmong (usually called "Miao" which in Chinese means "the savages", QUINCY, 1988) and then Lua or Lawa who were hired to work at two guard stations of Doi Phu Kha National Park. We also encountered Yao or Mien, Khmu and White Hmong. A tour package to see Mlabri (Yumbri or Phi Tong Luang or Ghosts of the Yellow Leaves) can be arranged in Nan or Phrae Province.

Among these minorities, Hmong have been blamed for most of the deforestation by most Thai people (e.g. Chunkao, 1987; Pungprasert, 1989; Santisuk, 1988). However, some anthropologists have a different view (e.g. McKinnon, 1989).

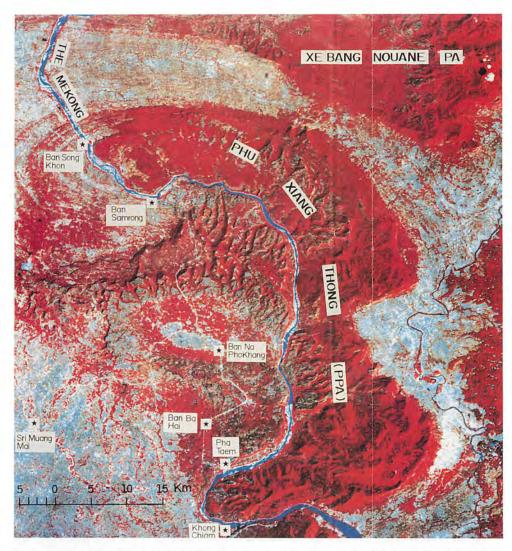


Figure 3. Satellite image (LANSAT-5TH, Band 2-3-4) of Pha Taem National Park and Phu Xiang Thong Nature Reserve taken on 7 January 1989. The red color is the forest while white color is nonforested area. Other reference points and the boundary of national park can be seen in figure 1.

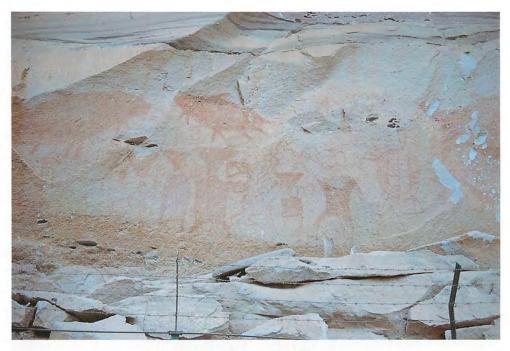


Figure 4. The picture of "Pha Taem" (photo by S. Srikosamatara).



Figure 5. View of the Mekong from "Pha Taem" (photo by S. Srikosamatara).

Doi Phu Kha National Park

This national park has been in the process of being established since 1991. On April 1993, the park had still not been declared but the headquarters was already built. The park will cover the area of about 1,680 km², most at high elevation. Remnants of hill evergreen forest can be seen but the signs of slash-and-burn farming (Fig. 7) by the Hmong (from the refugee camps at Nan) are more commonly seen. Clumps of giant palm (*Caryota urens* Linn.) were also seen. Most visitors came to see the very rare tree called "Chom Poo Phu Kha" (*Bretschneidera sinensis*) of the monotypic family Bretschneideraceae (SANTISUK, 1989). The tree grows at 1,500 m elevation and flowers during February to May. The fresh air at high elevations also attracts tourists. The road's sharp switchbacks running zigzag uphill limit the size of cars that can approach the park, hence the number of tourists is not very high.

Barking deer (Muntiacus muntjak), serow (Capricornis sumatraensis), wild pig (Sus scrofa), pig-tailed macaque (Macaca nemestrina), bay bamboo rat (Cannomys badius) and large bamboo rat (Rhizomys sumatrensis) were reported near the guard station at Doi Dong Ya Wai. Neither gibbons (Hylobates lar) nor gaur (Bos gaurus) have been reported in the area recently. DEIGNAN (1945) reported 60 species of birds at Doi Phu Kha about 50 years ago; 136 species were reported during a recent survey by Mr. James A. Wolstencroft and members of Bangkok Bird Club during 5-9 December 1989 (data stored in the Conservation Database, Mahidol University). 27 species listed by DEIGNAN (1945) have not been since confirmed though recent coverage has been scanty. 10 missing species may be due to either hunting or habitat destruction. The total possible species of bird in the area is at least 153. DEIGNAN's (1945) list can be obtained from us upon request. Russet Bush-Warbler (Bradypterus seebohmi) was misidentified as Kansu Gray-breasted Bush Warbler (B. thoracicus przevalskii (Sushkin) by DEIGNAN (1945) (see DELACOUR, 1952, and ROUND, 1992).

Wildlife Trade along the Thai-Lao Border of Northern Thailand and Northern Lao PDR

In general the cross-country trade in wildlife and wildlife products is not as high that found in areas bordering southern Lao PDR (SRIKOSAMATARA et al., 1992; BAIRD, 1993). This generalization is, however, not true for Tachilek on the Thai-Myanmar border. Most of the inter-country trade is still limited. News about trade negotiations between different provinces in Thailand and Lao PDR have appeared regularly in Thai newspapers. Most of the trade has occurred at a semi-official border crossing or "Jud Pon Pron (JPP)" and only on a certain days of the month and there is no customs control. More information about the general trade in different border crossings can be seen in MALAPHETCH (1992).

Tachilek, Myanmar, opposite Amphoe Mae Sai, Chiang Rai Province: An official border crossing, open since 1982 (Bangkok Post Daily newspaper, 7 October 1992). This is not the Golden Triangle as named by SRIKOSAMATARA et al., 1992 (see Fig. 2). Some people understand that the Golden Triangle is located at the border between Thailand, Lao PDR and Myanmar about 25 km away from Mae Sai on the Mekong River. McCoy (1972) defined the Golden Triangle Region as roughly 400,000 km² of rugged mountain

terrain comprising the Kachin and Shan Hills of northeastern Burma, the serpentine ridges of northern Thailand, and the highlands of northern Lao PDR. The mountain farmers of this region harvest roughly 70% of the world's illicit opium supply, and its processing plants produce large quantities of high-grade heroin.

Information on wildlife trade in this locality was gathered from secondary sources and reported by SRIKOSAMATARA et al. (1992). Pictures and story about wildlife trade at this locality were also published as a special feature in the Thai daily newspaper, *Siam Post* on 28 February 1993 and it was also televised again on "Chao Wannee" or "This Morning" of the television Channel 5 at about 0700h on 13 May 1993. We report more information obtained from our visit at this site on 28 April 1993.

We witnessed the largest scale of wildlife trade we have ever seen along the Thai border (SRIKOSAMATARA et al., 1992, Fig. 8, 9). We did not try to quantify the amount of the trade. On the Myanmar side there were 10 vendors selling wildlife products including all kinds of horns and antlers (wild water buffalo, gaur, banteng, takin or goat antelope, serow, goral, Eld's deer, sambar deer, barking deer), big and small cat skins, dried tiger penises, monkey skulls. Fewer gaur and banteng horns were on sale in this site than we saw at Ban Mai on the Lao side opposite to Amphoe Khong Chiam, Ubon Ratchathani Province. Trade in big cat skins and dried tiger testicles and penises was the most we have ever seen. This was the first time we had seen takin horns or the horns of goat antelopes for sale. We could not tell whether they were Mishmi takin, Szechwan takin or Shensi takin, the three subspecies of *Budorcas taxicolor* reported to occur in Myanmar (YIN, 1967). Szechwan takin (B. taxicolor tibetana) is classified as indeterminate while Shensi takin (B. taxicolor bedfordi) is classified as rare by IUCN (WCMC, 1990). Some goral horns are associated with bright foxy-red colour of the forehead skin and possibly belong to red goral (Nemorhaedus baileyi or N. cranbrooki, following YIN, 1967; CORBET & HILL, 1986, 1992) which is classified as vulnerable by IUCN (WCMC, 1990). Wildlife trade in this area is expected to increase when a new economic cooperation zone called "the Golden Growth Quadrangle" between Thailand, China, Myanmar and Lao PDR materializes. This new economic zone is designed to focus on the development of a transport network and basic infrastructure to create smooth accessibility between the four participating nations, which will facilitate future cross-border trading and tourism (The Nation's Yearend Report 1993).

Amphoe Chiang Khong, Chiang Rai Province: An official border crossing we visited on April 27–28 (Tues.–Wed.), 1993. Antlers of sambar deer were commonly seen decorating the walls in houses, restaurants and hotels. Very few wildlife was seen on sale at the market, as the Laotians usually come to trade every Friday. Information on wildlife trade at this site was also reported by SRIKOSAMATARA et al. (1992).

Ban Huak, Amphoe Chiang Kham, Phayao Province: We did not visit the place. It was reported that it was a semi-official border crossing or "Jud Pon Pron (JPP)" in 1993 and there was an attempt by a member of the parliament from Phayao make this location an official border crossing in April 1993 (*Matichon Daily Newspaper*, 15 April 1993). The purpose of that attempt was to attract Thai tourists to visit Amphoe Chiang Kham and have a chance to visit Lao PDR as well. We did not expect any significant Thai-Lao trade at this site in 1993.

Ban Huai Sataeng, Amphoe Thung Chang, Nan Province: This JPP was opened on 29 March 1993. The location was visited on 27 April 1993. Trade between Thai and



Figure 6. The newly-cut road near Ban Huai Kon of the Thai-Lao border of northern Thailand (photo by S. Srikosamatara).



Figure 7. Slash-and-burn farming near the road from Bo Klaui to the headquaters of Phu Kha National Park. This area is in the national park (photo by S. Srikosamatara).



Figures 8,9. Wildlife trade at Tachilek, Myanmar (photos by Paul Handley).



Lao at this location occurs only on the 1st and 15th of the month. Limited trade is expected.

Another semi-official border crossing (JPP) is located nearby at Ban Huey Kohn where the trade is limited to 3,500 baht (US\$140) per person. There has been an effort to change this to a permanent official crossing so that the trade of lignite and timber from Lao PDR can be made easier (*The Manager Daily Newspaper*, 19 March 1993; *Bangkok Post*, 4 January 1994).

Ban Khok, Uttaradit Province: We checked the site on 23 April 1993 while we heard from Thai TV Channel 9 on 19 January 1992 that there is a semi-official border crossing (JPP) for Thai-Lao trade. BURUTPATANA (1988) reported many incidents of Thai-Lao conflict in this locality during 1984–1985. We also drove to Ban Baw Bea which is very close to the Thai-Lao border. The border police did not allow us to go to the border. Villagers from Ban Pang Com told us that there was almost no trade between their village and people from Lao PDR.

Phitsanulok Province: This province shares a very short border with Lao PDR. We did not hear of any semi-official border crossing between this province and Lao PDR. The famous Ban Rom Klao near the site of border conflict between Thailand and Lao PDR in 1987–1988 is situated in this province.

Ban Pak Huai, Loei Province: We visited this village on 23 April 1993. It has an official border crossing with both Thai and Lao customs and immigration offices. This border crossing had been closed for 18 years (since 1975) but was opened again on 18 March 1993. A small Heung stream which one can walk across during the dry season acts as a Thai-Lao boundary. It was open every day. We did not see any tourists on the day we visited. We saw timber from Lao PDR piled up in a village not very far from Ban Pak Huai. The timber trade between Thailand and Sayabouri of Lao PDR passes through this border crossing.

Other border crossings in Loei Province: They exist at Ban Nong Phu (Amphoe Tha Li), Ban Na Kraseng (Amphoe Tha Li), Amphoe Chiang Khan, Ban Kok Pai (Amphoe Pak Chom) and Bang Muang Phrae (Amphoe Tha Li). Most of them are JPP except Chiang Khan which is an official border crossing. We visited both Ban Nong Phu and Ban Muang Phrae on 23 April 1993. Limited trade between Thai and Laotians across the Heung stream was noted. All of these JPP are open for cross country trade 1–2 days a week. Limited trade including wildlife is expected. The volume of wildlife trade at Amphoe Chiang Khan during 1992–1993 reported by ROBINSON (1994) was small compared with the trade found in Vientiane (SRIKOSAMATARA et al., 1992). No trophy was seen on sale.

Wildlife Trade along the Thai-Lao Border of Northeast Thailand and Southern Lao PDR

After we circulated out report on wildlife trade (SRIKOSAMATARA et al., 1992) to Laotian officials in Vientiane, we tried to monitor the trade whenever we had a chance. Wildlife trade was re-surveyed at 1) Amphoe Muang, Nong Khai Province, 2) Amphoe Muang, Mukdahan Province, 3) Ban Mai which is opposite to Amphoe Khong Chiam, Ubon Ratchathani Province and 4) Chong Mek Border Crossing, Ubon Ratchathani Province.

Additional information about wildlife trade not found by us was reported elsewhere, for example in SLUITER (1992: 98–99) which mentioned the wildlife trade at 1) Amphoe Bung Kan, Nong Khai Province and 2) Amphoe Khemmarat, Ubon Ratchathani Province. BAIRD (1993) surveyed wildlife trade at Khong Chiam, Ban Mai and Chong Mek in July–August 1993 which was about 3 months after our survey. Information about general trade between Thailand and Lao PDR can be seen in MALAPHETCH (1992).

No wildlife trade was found in Amphoe Muang, Nong Khai Province in April 1993, which was as in 1991. A large-scale wildlife trade used to be seen at Amphoe Muang, Mukdahan Province in 1991 but only green peafowl feathers were seen on April 16, 1993. Wildlife trade at this location is expected to go underground. Wildlife trade was still found in both Ban Mai and Chong Mek Border Crossing in 1993 as it was reported in 1991.

Large scale wildlife trade still occured at Ban Mai of Champasak Province, Lao PDR, even though SS was informed by a wildlife officer in Vientiane in April 1993 that there was no more trade at this site. Four vendors selling wildlife products were seen. The horns and antlers on sale at Ban Mai during our survey comparing with BAIRD's (1993) survey are listed in Table 1. A vendor told us that he sold a pair of female kouprey horns to a Thai 2 years ago for \$800. He told us that he still had two pairs of horn of old male kouprey which he offered for sale for \$2800 and \$12,000. A fresh leopard skin was also offered for sale.

Three vendors offered wildlife products at Chong Mek on the Thai side on 12 April 1993. A hand skeleton of a bear was seen at the first vendor. There were 2 skins of clouded leopard, 1 of leopard, 1 of crocodile, 1 of python and 1 of monitor lizard on sale at the second vendor. The third vendor offered antlers of barking deer and oil from serow.

Table 1.	The trade in wildlife and their products in four vendors at Ban Mai found in
	April 11, 1993. The number in brackets are found by BAIRD (1993) in July
	1993 or 3 months later.

Species	Number of pairs on sale each vendor				Total
	1	2	3	4	
Kouprey	-	T -	1	-	1 (-)
Gaur and Banteng	_	5	31	-	36 (41)
Siamese Eld's Deer	-	-	4		4 (-)
Sambar Deer	5	-	15	2	22 (10)
Serow	-	-	-	-	- (3)

Current Cooperation between Lao PDR and Thailand on Wildlife Trade Issues

The CITES' unit of the Wildlife Conservation Wing, Bureau of Conservation of Natural Resources of the Royal Thai Forest Department, set up two meetings along the Thai-Lao border at Amphoe Chiang Khan, Loei Province and at Kaeng Tana National Park, Ubon Ratchathani Province, during 24–26 October 1993 and 17–18 January 1994, respec-

tively. The meeting was to inform provincial foresters along the Thai-Lao border about CITES and related issues in the Wild Animals Reservation and Protection Act (WARPA) B.E. 2535. The Lao officials from Muang Sanakham and Champasak Province were also involved. Information in SRIKOSAMATARA et al. (1992) and this paper was presented at the meeting in Kaeng Tana National Park.

DISCUSSION

From this brief survey, one can see a few possibilities for Thailand and Lao PDR to help one another in protected area management and wildlife conservation. These possibilities include (1) having integrated management plans for trans-boundary parks. (2) As Thailand has a longer history of setting up protected areas, she may be in a position to assist Lao PDR in training protected area management personal. (3) As Thai are good customers for wildlife and wildlife products from Lao PDR, Thailand is in a good position to be able to control her citizens to reduce the demand.

Pha Taem National Park in Thailand and Phou Xiang Thong Nature Reserve in Lao PDR seem to be the best option for creation of a trans-boundary park between Thailand and Lao PDR. To create the trans-boundary park between Nam Poui and other protected areas in Thailand, the countries would have to overcome (1) security problems; (2) border disputes between Thailand and Lao PDR; and (3) a high level of slash-and-burn farming and hunting by highlanders. There have been also reports about Laotian rebels backed up by former CIA-trained anti-communist Hmong army leader General Vang Pao in this area (Bangkok Post Daily newspaper 21, 22 October 1992, 24 February 1994). A trans-boundary park between Pha Taem and Phou Xiang Thong, however, will not increase the gene flow of large mammals between Thailand and Lao PDR as the Mekong, with a width of 1.2–1.5 km, acts as a barrier. This may not be true for elephants if the report by the local villagers near Pha Taem about the crossing of the Mekong by the elephant from Lao PDR to Thailand is true. The trans-boundary park will, however, benefit wildlife conservation in Phou Xiang Thong. More information on experiences of managing trans-boundary parks in other parts of the world is reported by THORSELL (1990).

The wildlife trade between Thailand and northern Lao PDR is lower than between Thailand and southern Lao PDR, mainly due to transportation problems. Transportation between northern Lao PDR and Thailand is much more difficult than between southern Lao PDR and Thailand. The southern part of Lao PDR has the Mekong and a better road system than northern Lao PDR.

Regulation of wildlife trade between Lao PDR and Thailand is not an easy job, as the countries share a very long border (about 1600 km). Most wildlife trade along the border is illegal and is probably carried out through the unofficial crossings ("Jud Pon Pron" or JPP) where there are no customs offices. Two locations require special attention in order to suppress the trade: Amphoe Muang, Mukdahan Province and Ban Mai on the Lao side opposite Amphoe Khong Chiam, Ubon Ratchathani Province. Laotian authorities can use the Decree of the Council of Ministers No. 185/CCM in Relation to the Prohibition of Wildlife Trade of 21 October 1986 (SALTER, 1993) to stop this trade. Responsibility for implementation and enforcement of the decree is given to both central and provincial

forestry authorities. In the case of Ban Mai, both central authorities in Vientiane and the provincial forestry authority in Champasak Province, 50–60 km away from Ban Mai, have known about the trade.

One may argue that to stop wildlife loss from Lao PDR we must also stop the demand of wildlife and wildlife products in consumer countries, primarily Thailand in this case. Buying of wildlife along the Thai-Lao border is also illegal according to the present Thai wildlife law (WARPA B.E. 2535). There is very little enforcement, however, because many Thai officials consider the wildlife trade issue as trivial.

Although Lao PDR has not yet become a member of the Convention on International Trade on Endangered Species of Wild Flora and Fauna (CITES) it is considering signing (NASH & BROAD, 1993). Thailand has been a member of CITES since 1983 and has updated her wildlife law in 1992 to implement the rules and regulations of CITES after the CITES-led sanctions to ban all trade in wildlife products with Thailand during April 1991 – April 1992. The new law does not differentiate between export and re-export (Section 4, 23, 24 of WARPA B.E. 2535) which will be a problem for law enforcement in regulating inter-country trade. CITES defines "re-export" as export of any specimen that has previously been imported (BRAUTIGAM, 1991).

Important species seen in the trade along the Thai-Lao border were summarized in Table 2. It should be noted that banteng is not listed in any CITES category (CORBET & HILL, 1992; SALTER, 1993) even though the volume of the trade between Lao PDR and Thailand is very high. SRIKOSAMATARA et al. (1992) reported at least 100 horns of gaur and banteng seen in trade during the survey. This amount of trade possibly constitutes a high portion of the population of gaur and banteng in Lao PDR. There are no population

Table 2. Important species seen on sale along the Thai-Lao border. Conservation category of IUCN, CITES and Lao PDR. can be seen in WCMC (1990) and SALTER (1993). Thai conservation category follows Wild Animals Reservation and Protection Act B.E. 2535.

Species	Conservation Category			
	IUCN	CITES	Lao	Thai
Kouprey	Е	I	I	R
Wild Water Buffalo	E	-	I	R
Gaur	V	I	I	P
Banteng	V	_	I	P
Eld's deer	E	I	I	R
Green peafowl	V	II	I	P
Siamese Crocodile	Е	I	I	P

E = Endangered, V = Vulnerable; I, II under CITES conservation category are Appendix I and II, respectively; I in Lao conservation category is Prohibited category including species of which hunting and trapping are banned in all seasons; R and P under Thai conservation category are reserved and protected category.

estimates of gaur and banteng in Lao PDR but the populations are probably declining (SALTER, 1993). SRIKOSAMATARA & SUTEETHORN (in preparation) estimate the populations of gaur and banteng in Thailand at about 800 and 500, respectively and the populations are declining. Banteng horns are also similar to those of kouprey which is listed under CITES Appendix I and as an endangered species by WCMC (1990). We recommend that banteng be listed under CITES Appendix I. A proposal following "format for proposals to amend Appendix I or II" in BRAUTIGAM (1991, p. 26–27) should be prepared and submitted to CITES after Lao PDR becomes a member.

The current natural resource development initiatives of Thailand in the neighboring countries of Indochina have been criticized as excessively exploitative (INNES-BROWN & VALENCIA, 1993). This can be seen even at the most recent visit by Thai government officials to Vientiane in June 1993, when agreements were made only on economic cooperation, electricity development and border demarcation. It is, however, not too late for Thailand to consider cooperation with Lao PDR on conservation issues.

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Notes added in proof:

- 1. Some dried tiger penises for sale at Tachilek of Myanmar may be fake. McNEELY & WACHTEL (1988: 220) described that they may be made from ox and deer tendons (McNEELY, J.A. and P.S. WACHTEL. 1989. *Soul of the Tiger: Searching for Nature's Answers to Exotic Southeast Asia.* Doubleday, New York. 390 pp.).
- 2. During 18–24 August 1994, the First International Congress on Science and Technology for Indochina will take place in Bangkok, organized by Thailand's National Science and Technology Development Agency (NASTDA), Ministry of Science, Technology and Environment, and the Committee on Science and Technology of the House of Representatives of Thailand. The target participants are high level government officials and policy makers, executives of both public and private sectors, scientists and technologists of the five countries in Indochina. Approximately 400 participants from the four countries (Cambodia, Laos, Myanmar and Vietnam) will be invited by the Royal Thai Government. The Congress is expected to attract 2,000 participants. Four major topics will be discussed including agriculture and agro-industry, health, energy and environment, and education and human resource development. Again there is no discussion about nature conservation.

