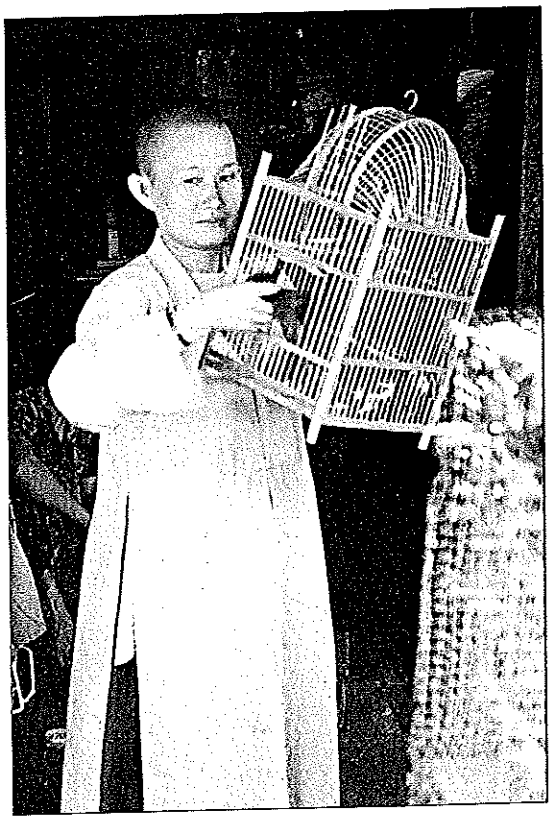
SPECIES IN DANGER

SOLD FOR A SONG

THE TRADE IN SOUTHEAST ASIAN NON-CITES BIRDS

Stephen V Nash

A TRAFFIC NETWORK REPORT



TRAFFIC
— SOUTHEAST ASIA —

This report was published
with the kind support of

WWF

Published by TRAFFIC International,
Cambridge, United Kingdom.

With financial support from WWF UK
(World Wide Fund For Nature).

The *Species in Danger* series is edited by Julie Gray, TRAFFIC International.

ISBN 1 85850 022 2

Front cover photograph: Buddhist monk releasing sand martins and barn swallows in Ho Chi Minh City, see page 45.

Photo credits: front cover and page 45 TRAFFIC Southeast Asia, all other photographs Patrick J Corrigan/TRAFFIC Southeast Asia.

Printed on recycled paper.

SOLD FOR A SONG . . . . THE TRADE IN SOUTHEAST ASIAN NON-CITES BIRDS

Stephen V. Nash[1]

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ACKNOWLEDGEMENTS

The author wishes to thank the many persons who contributed their expertise to the gathering of data in the region: Ian G. Baird, Steven Broad, Patrick J. Corrigan, Le Dien Duc, Glen Hill, Paul Jepson, Christina C. V. Juan, Anne D. Nash, Christi M. Nozawa and Murali Suppayah. The author is grateful to Steven Broad, Nigel Collar, Julie Gray, Tim Inskipp and Jorgen Thomsen for having critically reviewed this document and for their many useful comments and suggestions. Thanks are also due to Mandy Haywood for her help, especially in the painstaking task of preparing the tables in this report for publication.

Special thanks go to David S. Melville for having prepared the section on Hong Kong.[2] He would like to express his gratitude to the Director of Agriculture and Fisheries (Hong Kong) and his staff, especially to Dr. R.B. Bousefield, for permitting access to records of Hong Kong health certificates, 'special permits' and inspection reports; to Amy Lau, for providing invaluable assistance by collecting and analysing all of the Hong Kong trade data, and Clement Ngai, for assisting with the preparation of the section; and to S. Wong, Dr. K.C. Searle and Dr. R.B. Bousefield, for providing comments on the manuscript.

Finally the author wishes to thank Ms. Noorainie Awang Anak for her help in compiling trade information and the many bird breeders and traders who willingly answered the author's endless questions on the trade.

INTRODUCTION

Birds have been kept for their beauty, song and companionship since the earliest times and in certain regions of Southeast Asia bird keeping is firmly entrenched in local culture and tradition. Birds are amongst the most sought-after animals in live trade and over 2 600 of the 9 600 described bird species have been recorded in international trade during the past 20 years. The wild bird trade has been estimated to involve somewhere between two and five million specimens per year and the largely undocumented trade in Chinese songbirds, mainly to east and Southeast Asian destinations, may add another one to three million birds to the total (Inskipp, 1990). The number of birds traded domestically is unknown, but at least in one country, Indonesia, the domestic trade may dwarf even its enormous export trade. Undocumented illegal trade is believed to involve a minimum of tens of thousands of birds (Thomsen and Hemley, 1987). Yet despite the economic and environmental significance of this trade, very little is known about the wild bird trade in Southeast Asia and this is particularly so for species not covered by the Convention on International Trade in Endangered Species of Wild Fauna and Flora, known as CITES. This absence of information prompted TRAFFIC Southeast Asia to investigate the trade in wild birds, primarily concentrating on the trade in non-CITES species.

Southeast Asia is particularly rich in bird species, with approximately 2 400 species so far recorded. Bird Life International (formerly the International Council for Bird Preservation) recognizes 40 areas of significant bird endemism in the region, mainly located in Indonesia and the Philippines (Bibby *et. al.*, 1992). Over 400 species are endemic to specific countries in the region and the number of species endemic to the Southeast Asian region itself would be much higher. Not surprisingly, many Southeast Asian species are in high demand in the international live bird trade.

Southeast Asia is also an area of intense human population and economic growth. Increasing populations and economies based on natural resource exploitation have had a predictable effect on the region's natural habitats, with the result that habitat loss is the primary threat to the conservation of most species. Non-CITES bird species in the region, such as Indonesia's Cerulean Paradise-Flycatcher *Eutrichomyias rowleyi*, are thought to have become extinct as a result of habitat loss. Many species occur in very limited ranges and in certain cases their original habitats have been largely converted to agricultural lands or settlements. Numerous species have not been recorded for decades and several may already be extinct.

The second cause of decline in bird populations in the region is trapping. Birds are caught for food, plumes and the international and local trade in live birds. In most cases, trapping and habitat loss occur concurrently, compounding the impacts of each. At least one species, the Javanese Lapwing *Vanellus macropterus*, has become extinct presumably as a result of trapping (suitable habitat still exists in its original range on Java, where trapping of marsh birds for food is intensive).

The wild bird trade has become the focus of increasing attention and criticism. Most commercial airlines in the region no longer carry consignments of wild birds in response to campaigns led by several animal welfare groups, some of which are aiming for nothing less than the complete cessation of wild bird keeping. Associations of bird traders try to defend the activities of their members as legitimate business enterprises and even beneficial to bird conservation. Each side accuses the other of making unsupported claims and argues that its efforts are in the birds' best interests.

There are traders who view birds simply as a trading commodity, while others (bird fanciers, or keepers) genuinely feel a strong attraction to birds and care for them accordingly. Some traders view keeping in captivity and captive-breeding as a necessity for rare species. Opponents counter that the species' rarity

has been brought about by excessive collecting for the trade. Traders in turn claim the issue of legal trade is wrongly confused with that of illegal trade. The issue, however, is far from being black-and-white, conservationists against traders. Conservationists who believe fervently in using economic development of wild resources as a means to justify the establishment of protected areas in the developing world may view trade in birds as an appropriate activity if carried out sustainably, as these protected areas benefit not only the bird species in trade, but all wildlife. Some feel that economic justifications are the **only** ones which will ensure the conservation of many wild Asian species into the next century. Alternatively, many conservationists are opposed to strategies which subliminally or overtly assign conservation value only to those species which have an immediate monetary value, as this potentially misleads politicians and the public as to the real economic and social worth of all healthy ecosystems.

In Southeast Asia, the bird trade issue is clouded by a lack of basic data on the trade. The importance of maintaining natural habitats is well reflected in the conservation literature while relatively very little has been written specifically on the live bird trade occurring in Southeast Asia, especially for non-CITES birds. It is unfortunately true that local bird traders and their associations will not release verifiable figures on trade, markets, mortality and wild populations. Some feel this would give their competitors some sort of business advantage, while others fear the information may be used against them. Governmental departments responsible for the control of wildlife trade routinely handle a great deal of information on trade, but none in Southeast Asia, other than Hong Kong, are ready to release publicly any but the briefest summary figures for non-CITES species - if these are available at all. Again, there is the belief that such information would be somehow detrimental to their country's trade and some officials have expressed concern that information might be used to criticise government conservation and wildlife trade regulation policies. And there are a few authorities which do not consider any non-CITES species worthy of consideration. In the absence of local information, critics of the bird industry use data and examples from other regions, which may be irrelevant to the situation in Southeast Asia. Whatever side in the discussion one takes, it is important that evaluation of the trade be based on the best available information. Thus, although government bodies and the bird industry itself are rarely under any obligation to collect or provide data on trade in non-CITES birds, their doing so could greatly improve chances of assessing the conservation impact of this business.

When one side claims that a bird is happier in the wild and the other claims a bird is happier in captivity, both may argue with conviction, but this report does not attempt to present an answer as to which is correct. This report does attempt to present accurate information on the trade in Southeast Asian non-CITES birds. This information is far from complete — secrecy on the part of both industry and government on the matter has made an in-depth review and analysis impossible. The information presented in this report is a compilation of existing material and new data collected specifically for this report. While distressingly incomplete in coverage, this information does provide a first overview and a few relatively detailed glimpses of the region's diverse non-CITES bird trade. Undoubtedly, both sides in the current debate will be likely to find information within this report which will support their separate positions.

This report utilizes the results of TRAFFIC Southeast Asia's two-year survey of the region, described below, as a basis for looking at the trade in wild Southeast Asian birds which are not currently included on CITES Appendices I and II, though data from other sources are used when available.

THE BIRD TRADE PROJECT

The TRAFFIC Southeast Asia bird trade project was originally conceived in late 1991 as a regional review of trade in songbirds in Southeast Asia. The main components of the study were to identify songbird species in trade, estimate the volume of the trade, compile information on buyers and sellers, identify trade routes, review regulations and regulatory systems, compile and analyse new and existing trade data and assess the trade's conservation impact.

Project coverage: what is a songbird?

Inevitably, the project required a suitable definition of a songbird. The original plan was to include only passerines, or birds contained in the taxonomic group Passeriformes (perching birds). Indeed, many of the region's best-known songbirds are passerines, such as the White-rumped Shama *Copsychus malabaricus*, the Oriental Magpie-Robin *C. saularis*, the Straw-headed Bulbul *Pycnonotus zeylanicus* and the many laughingthrushes *Garrulax* spp. However, not all passerines are songsters and many birds kept for their calls or songs are not passerines. Few persons would keep broadbills Eurylaimidae, flycatchers (Muscicapidae-Muscicapinae) and munias *Lonchura* spp. for their song - yet these are widely kept as ornamental 'cage birds'. On the other hand, the calls of non-passerines such as junglefowl, barbets (Megalaimidae), pigeons and doves are widely appreciated and these groups are amongst the region's most popular 'songbirds'.

In the bird trade, passerines and other small birds are commonly referred to as 'softbills', while some in the trade refer to finches and other seed-eating birds as 'hardbills'. It was felt that using the industry terms 'softbills' and 'hardbills' would be confusing and that these categories did not have sufficiently distinct definitions to govern the criteria for inclusion in this report. One possibility was to include data on trade in ornamental 'cage birds' only, species which were to be privately kept for their song, beauty or character. But the trade in ornamental 'cage birds' was found to include everything from cassowaries, ducks, geese, hornbills, kingfishers, owls and eagles, to rails, shorebirds, herons and even storks.

Most of what is currently known on the bird trade in Southeast Asia concerns CITES-listed species, for the simple reason that almost all available information on the bird trade has been derived from CITES annual report data. Thus, a natural focus point for this project, based on a need for information, appeared to be the trade in non-CITES species: an artificial dividing line between CITES and non-CITES species appeared to be more appropriate than using passerine, softbill, or cagebird categories. There are very few Asian 'songbirds' listed under CITES, so a review of trade in non-CITES species would fulfill the original aim of the study, while including many species popular in trade which otherwise might not have been included in the review.

For the purposes of this report, a non-CITES species is defined as any species not listed in either Appendix I or II of CITES, but which may or may not be listed in Appendix III. Appendix III is not widely used in the region, owing either to legal or administrative conflicts or to unfamiliarity with the procedures required.

Southeast Asia in this report comprises Myanmar, Thailand, Lao PDR, Cambodia, Viet Nam, Malaysia, Singapore, Indonesia, Brunei and the Philippines. While Irian Jaya, China and Hong Kong are geographically not part of Southeast Asia, the southern Chinese bird trade and that of the other two countries is closely linked with that of Southeast Asia (particularly for non-CITES species) and, where relevant, data from their export trade are included in this analysis. Trade data on birds other than wild and captive-bred Southeast Asian species are generally not included.

Information sources

This report is a compilation of data derived from a wide variety of sources. Published and unpublished conservation reports and papers provided general background material for the work and publications on wildlife trade and trade studies provided useful data. Published CITES data (annual reports) and a limited selection of CITES permit records, quarantine records and customs statistics were obtained for this study and provided some information on the export trade. Several interviews with local bird experts and members of the bird trading community provided useful information on the mechanics of the trade and on the industry's perspectives.

Because of the inherent secrecy of the industry it was impossible to obtain detailed documentation on the activities of wholesalers and exporters and much of the new information in this report focuses on the retail trade. This new information has been primarily obtained through 416 market surveys conducted between December 1991 and May 1993 by TRAFFIC Southeast Asia staff and consultants (see Table 1). A few market surveys were also contributed by ornithologists in the region. Several TRAFFIC consultancy projects contributed information for this report, completed in cooperation with Wildlife Fund Thailand, the Centre for Natural Resources Management and Environmental Studies (CRES) of the University of Hanoi in Viet Nam, the Haribon Foundation of the Philippines and several independent researchers. The section on bird trade in Hong Kong and China was produced by the World Wide Fund for Nature Hong Kong.

Survey methodology

In all cases where investigators asked permission to take notes or photographs at a bird trader or exporter's premises such permission was refused, making it impossible openly to record the contents of a trading establishment. A survey methodology was then developed based on data record sheets and the investigator's ability to memorise species and estimates of numbers. Each data sheet contained a listing of approximately 450 passerine and 85 non-passerine genera, species and subspecies occurring in Southeast Asia which were were most likely to be encountered in trade. This checklist, which was updated periodically, acted as a memory aid in recalling which birds had just seen in a shop or market stall. As most shops and markets are located near tea stalls, the investigator would carefully examine the contents of a bird seller's shop or market stall, then move to the nearest tea stall to fill in the data sheet, adding species names to the list as necessary. If a large number of species was present, or if doubt remained as to identification or numbers, the shop or market stall would be re-visited as many times as necessary until the investigator was satisfied the data sheet represented the shop's or stall's contents accurately. In cases where individual data sheets could not be filled out for each market stall for practical reasons, data sheets were filled out for the entire market. For certain areas where trade was noted to be considerable in volume or species richness, repeat surveys were made. In some cases, these surveys were carried out on subsequent days or weeks, but in most instances repeat surveys were at one- or three-month intervals. Only investigators knowledgeable in the identification of Southeast Asian bird species were involved in the market surveys.

Where possible, birds were identified to the subspecies level, the better to determine their provenance. Identification of captive birds can be quite challenging and not all birds observed could be identified to species or even genus level. All records where identification remained in any way doubtful were expunged from the database. Whereas identification of birds in the wild offers challenges of its own, captive birds often do not provide the points of reference available to field observers, namely intact (and usually adult) plumage, behaviour, song, habitat and geographical location. A bird in a cage may have come from nearby or from several hundred kilometres away, if not from another part of the globe entirely - and species and

subspecies from widely different localities may be combined in one cage. Cages may be overpacked and plumages are often heavily damaged (missing tails, crests and so on). Birds may be wet from rain or bathing, or encrusted with droppings from cages above. Lighting in bird markets can be very dim and many birds will crowd into the darkest corners of their cage. In some cases, birds are artificially coloured to hide their identity (in the case of locally protected species) or for novelty. Overall, however, most birds could be reliably identified and while traders would not allow formal surveys, none objected to the periodic visual inspections carried out by TRAFFIC investigators and several were very helpful in explaining the origins of the birds. Table 1 contains an overview of survey localities.

This report generally follows the taxonomy of Sibley and Monroe (1990) for species and Howard and Moore (1984) for subspecies.

Table 1

TRAFFIC Southeast Asia's bird trade survey localities and trade observations

Country	Cities	Surveys	Shops/stalls	Trade observ.
Cambodia	Poi Pet	1	-	2
Indonesia	Bandung	1	@40	3 037
	Bogor	2	@10	
	Denpasar	2	@60	
	Jakarta	27	340	
	Jogjakarta	1	@64	
	Medan	1	21	
	Palembang	2	@28	
	Surabaya	1	@120	
	Ujung Pandang	1	8	
Lao PDR	Vientiane	2	-	5
Malaysia	Kuala Lumpur	8	3	141
Philippines	Manila	52	@28	245
Singapore	Singapore	252	47	4 280
Thailand	Bangkok	21	@10	291
	Chiang Mai	1	2	
Viet Nam	Ho Chi Minh City	4	@18	236
	Hanoi	4	@13	
	Haiphong	2	-	
	Nha Trang	2	-	
Total		**387**	**>800**	**8 239**

COUNTRY PROFILES

Singapore

Singapore is Southeast Asia's smallest country, an island city-state of just 570 km² in area, located at the southern tip of the Malayan Peninsula. Yet despite the country's small size, Singapore is extremely important as an entrepot for wildlife and as an end-market for birds. Singapore's central position in the region, its excellent transportation links within and outside the region and the Government's open trading policies have contributed towards its position of prominence in all forms of export trade, including bird trade (394 bird species have been recorded in the wild in Singapore but the bird trade mainly involves imported specimens). Singapore is a Party to CITES, having joined the Convention in 1986, the most recent Southeast Asian country to do so. The Primary Production Department of the Ministry of National Development is the designated CITES Management and Scientific Authority for Singapore.

Between January 1992 and May 1993 TRAFFIC investigators conducted 252 surveys in 47 bird trading establishments, involving 45 retail shops and two exporters' premises, finding 247 non-CITES bird species and an additional eight subspecies. TRAFFIC investigators also interviewed several important importers/exporters and bird shop owners for general information on the bird trade in Singapore and for information on the origins and destinations of the birds. Published data on Hong Kong, UK and USA imports provided some information on Singapore exports, Indonesian and Hong Kong export data provided information on Singapore imports and Government and non-Government publications provided information on the regulatory system. Together, these sources at least provide a general overview of the Singapore trade in non-CITES birds.

Relevant legislation

The main legislation for non-CITES species is the **Wild Animals and Birds Act of 1965.** This Act provides the Minister for National Development with comprehensive powers to prohibit or control movement of all types of animals and birds into, within, and from Singapore. Import, transshipment, and export requires a licence from the Director of Primary Production. Also, any person who kills, takes or keeps any wild animal or bird (other than the House Crow *Corvus splendens*, Purple-backed Starling *Sturnus sturninus*, Asian Glossy Starling *Aplonis panavensis*, Common Myna *Acridotheres tristis*, Great Myna *Acridotheres grandis* and feral pigeons) without a licence is guilty of an offence and subject, on conviction, to a fine and to the forfeiture of the wild animal or bird. The **Wild Animals (Licensing) Order of 1975** states that licences to keep birds are obligatory.

Chapter 7 of the Act, **Veterinary Regulations for the Importation of Birds (other than Domestic Birds), amended January 1993**, outlines the current quarantine requirements and bird import procedures. Prior issue of an import licence by the Primary Production Department is required for all imports and these licences record the country of origin, scientific and common names of each species, the quantity being imported, and whether the species are listed under CITES. All exports require an export licence, also issued by the Primary Production Department. Applications for export licences must declare the country of destination, scientific and common names of each species, the quantity being exported, and whether the species are listed under CITES.

Singapore's importation procedures require that all incoming consignments of birds be inspected by the Changi Animal and Plant Quarantine Unit (CAPQ) located at Changi Airport, where veterinary officers inspect them to ensure the birds are healthy and free from clinical signs of disease. Consignments accompanied by a veterinary certificate dated within seven days of import and signed by a Government veterinary authority or registered veterinarian of the country of export are exempt from quarantine

requirements. Veterinary certificates must include details on the consignment (consigner, consignee, quantity and species of birds). Personally owned pets, when accompanied by the owners, are also exempt from quarantine. Any consignment of birds arriving without a veterinary health certificate must be quarantined for a minimum of three days at the Primary Production Department's quarantine facilities or at any approved quarantine premises (several importers maintain their own quarantine areas on their premises). For consignments of birds arriving without veterinary health certificates, the total quarantine and veterinary inspection costs are approximately S$48.50 (approximately US$29), per day, per consignment, for the three- or four-day quarantine period.

Several key problems with Singapore's present legislation have been identified:

- While stating that licences to keep birds are obligatory, the **Wild Animals (Licensing) Order of 1975** does not include any provision for the licensing of birds. Legally, it would appear that no one in Singapore is allowed to keep any bird (Lye, 1991). Singaporean authorities are obviously choosing not to enforce the **Wild Animals and Birds Act**, nor to amend the **Wild Animals (Licensing) Order** with regards to the licensing of individual birds.

- Many native species are imported from neighbouring countries for local sale and re-export and there is no way of determining if a specimen for sale was imported, or trapped locally. This allows the sale of locally captured birds to be entirely undetectable.

- While the **Wild Animals and Birds Act** specifically prohibits the taking, killing and keeping of wild (native) birds, the keeping of birds is obviously allowed. This presents a loophole whereby a person who captures or obtains a bird illegally but without being detected may thereafter keep it. A buyer of such a bird would also be able to keep it without infringing the law (Lye, 1991).

- While catching or trapping birds is an offence, selling or owning a trap is not. It is unclear under the law whether setting a trap would constitute an offence under the Act, if no native bird was found in the trap (Lye, 1991). It would appear that under current application of the Act trapping in itself is not necessarily an offence, until such time as a bird is captured. Native species continue to be captured illegally. Hale (1987) describes finding nets containing dead kingfishers and a Yellow Bittern *Ixobrychus sinensis* and encountering a trapper looking for Spotted Doves *Streptopelia chinensis*. Other native species believed to be threatened by illegal trapping include the Red Junglefowl *Gallus gallus*, the Straw-headed Bulbul, the White-rumped Shama and the Oriental Magpie-Robin. The Oriental Magpie-Robin apparently underwent a spectacular decline during the 1970s as a result of trapping (Lim, 1989).

- Any non-CITES specimens may enter Singapore without official documentation from the country of export and within a matter of days the specimens may be legally traded and re-exported. As specimens arriving without documentation are likely to involve specimens which were illegally exported from and possibly illegally obtained in their country of origin, this creates a popular means to 'launder' through Singapore non-CITES species which are protected in their countries of origin. For example, Zebra Doves *Geopelia striata*, Red-whiskered Bulbuls *Pycnonotus jocosus*, leafbirds *Chloropsis* spp. and Hill Mynas *Gracula religiosa* are protected in Thailand and Oriental White-eyes *Zosterops palpebrosus*, Straw-headed Bulbuls and White-rumped Shamas are protected in Malaysia. These species are exported illegally from their countries of origin, accepted in Singapore, and after three days in quarantine are legally sold or re-exported. These species are amongst the most popular species in trade in Singapore and several importers admitted knowing the birds were illegally

obtained in their countries of origin. The Primary Production Department is not concerned about the presence of these birds in Singapore (K. Soh, *in litt.*, 9 June 1993).

- Birds may arrive without having been properly inspected. Two importers of Viet Namese birds commented that health certificates could be purchased directly at Ho Chi Minh City's Tan Son Nhut Airport without necessitating any veterinary inspection, which would exempt the consignment from Singaporean quarantine requirements. Both traders no longer import large quantities of birds from Viet Nam, claiming that the birds are usually badly packed and arrive diseased. The traders claim the value of the birds is too low to invest much time and money into restoring them to health and the risk of passing diseases to the rest of their stock is too great. Apparently inspections of incoming shipments by the Changi Animal and Plant Quarantine Unit (CAPQ) are ineffective in preventing this threat.

The bird trade in Singapore

The bird trade in Singapore is primarily an import and re-export trade involving several important importers/exporters, together with a domestic retail trade involving a number of small shops.

In Singapore, non-CITES species are routinely imported from China, Hong Kong, Indonesia, Malaysia, Thailand and Viet Nam. Birds also arrive from Myanmar (Dr. Soh, *in litt.*, 9 June 1993), despite a total ban in effect on wildlife exports from that country, and Philippine species are also available, judging from local price lists. Singapore does not provide official information on countries of destination for exported non-CITES birds, but several traders indicated that Indonesia, Hong Kong, Taiwan, Japan, Europe and the USA were important buyers of these species. One trader explained Singapore is particularly important in channelling trade between Hong Kong and Taiwan and between Indonesia and Hong Kong/Taiwan.

It is not possible to state the exact number of traders and businesses involved in the trade. Singaporean authorities do not maintain a listing of bird traders (Giam Choo Hoo, pers. comm., 15 January 1992), despite the fact that bird traders are required to be licensed by the Primary Production Department (M. Loh, *in litt.*, May 1993). One trader estimated that 75-100 bird traders were active in Singapore (Chuah Kah Soon, pers. comm., 15 January 1992). There are currently at least nine main importers and exporters of birds in Singapore and at least 35 retail outlets selling birds. Table 2 lists the average number of species observed in each locality. Several of these retail shops are operated by bird importers and exporters, but most are small businesses concerned only with the local songbird trade and stock is usually purchased from the established importers. A few shops specialize in one or more species and these might import their stock directly (for instance Oriental White-eyes and White-rumped Shamas from Malaysia).

Table 2

Average number of non-CITES species and numbers observed in Singapore retail bird shops (sample sizes in parentheses)

Locality	Average no. of species	Average no. of specimens
ABC Birds Centre (7)	13	500
AG Pets Toa Payoh (6)	3	60
Aik Guan Bird Shop (15)	27	1 300
All Breeds Pets (4)	4	12
Ang Mo Kio Pets Centre (4)	9	600
Ann Soon Hong Bird Shop (10)	15	1 400
Bedok Fish and Bird Shop (1)	14	370
Bukit Ho Swee Bird Trading (2)	5	75
Bukit Merah View Birds (5)	3	200
Cheong Fatt Birds Trading (4)	7	170
Chua's Pets Trading (16)	35	1 200
Chuan Pets (4)	11	200
Chuan Yek Hing Pet Shop (6)	7	200
Clementi Birds Centre (6)	4	140
Eng Ban Hock (4)	10	350
FF Supplies (11)	3	70
Fwu Hae Pet Shop (10)	5	200
GJH Trading (4)	5	90
Goodwill Birds Trading (15)	37	1 000
Hassan Bird Shop (6)	8	90
Huat Pets (9)	6	160
Hung Kwang Bird Shop (2)	14	700
Joo Chiat Bird Shop (8)	6	200
J&T Bird Shop (6)	10	400
Kaki Bukit Bird Shop (6)	8	500
Kat Ley Bird Shop (5)	9	500
Lam Ah Bird Shop (7)	5	100
Lee Ah Leng Bird Shop(6)	4	400
Lee Ah Leng Bird Trading (4)	11	600
Lee Weng Sang (1)	4	-
Lian Khiong Trading Co. (3)	1	5
Lye Fauna Supplies (4)	5	500
Nam Tow Birds Shop (11)	15	1 100
Nan Seng Bird Shop Trading (11)	11	1 500
Oriental Birds & Pet Shop (1)	5	350
Que Feng Birds & Pets Trad. (7)	9	200
Rangoon Pet Shop (2)	2	-
Seng Kee Bird Shop (3)	3	5
Sin Chew Bird Shop	10	400
Teo Hai Soon (4)	12	300
Wee's Pets (3)	1	-
Wai Seng Bird Shop (5)	12	350
Yan Ler Bird Trading Ent. (4)	7	500

Source: TRAFFIC Southeast Asia.

Bird specimens are usually re-exported fairly quickly from Singapore. In the surveys, turnover was generally observed to be quite rapid and few recognizable individuals were re-recorded after a few weeks' interval. One trader explained that very often consignments of birds are not even unpacked before being sent out again and in such cases the birds are often sold at the same price at which they were bought, the traders obtaining profit from revolving credit from suppliers and from rebates from carriers. However, some individuals of fairly unusual species were observed to remain in the bird shops for a considerable length of time, suggesting that the market for unusual but relatively plain species is small.

Species in trade

The non-CITES bird trade in Singapore, whether for re-export, export, or for local use, is extremely varied and is likely to be the most species-rich bird trade in Southeast Asia. The TRAFFIC survey identified 247 species and an additional eight subspecies of non-CITES Southeast Asian birds in trade, based on 3 248 observations of at least 128 000 specimens. These data are heavily biased towards local (domestic) trade, as few observations could be made at exporters' premises. Recent price lists from dealers and import/export data from Hong Kong, Indonesia and the USA suggest a further 77 species may have recently been in trade, though the accuracy of species' names in these documents is of varying reliability and should be treated with caution: price lists often include fanciful species as a sales ploy.

Popularity of species in local trade may be indicated by high numbers held in the bird shops and/or the number of surveys in which the species were noted. The 11 most abundant species in the surveys in descending order of numbers seen were the following: Zebra Dove, Scaly-breasted Munia *Lonchura punctulata*, White-headed Munia *L. maja*, Red-whiskered Bulbul, Oriental White-eye, Black-headed Munia *Lonchura malacca*, Hill Myna, White-rumped Shama, White-rumped Munia *Lonchura striata*, Red-billed Leiothrix *Leiothrix lutea* and Pin-tailed Parrotfinch *Erythrura prasina* (Table 3 lists the numbers observed of each of these species). The Zebra Doves were captive-bred, while all others were wild-caught. All of these species were imported from Southeast Asian countries.

Table 3

Composition of 80% of the Singapore retail bird trade, by volume

Species	Source	Numbers observed (est'd)	% of total observed
Geopelia striata	captive-bred	28 950	22.6
Lonchura punctulata	wild	23 350	18.3
Lonchura maja	wild	12 550	9.8
Pycnonotus jocosus	wild	12 050	9.4
Zosterops palpebrosus	wild	10 800	8.4
Lonchura malacca	wild	5 150	4.0
Gracula religiosa	wild	4 750	3.7
Copsychus malabaricus	wild	3 200	2.5
Lonchura striata	wild	2 800	2.2
Leiothrix lutea	wild	2 100	1.6
Erythrura prasina	wild	1 600	1.3

Source: TRAFFIC Southeast Asia.

The 10 most frequently encountered species in the surveys, in descending order, were the following: Red-whiskered Bulbul (85% of survey counts) Oriental White-eye (84%), Zebra Dove (80%), White-rumped Shama (68%), Scaly-breasted Munia (66%), Hill Myna (49%), White-headed Munia (49%), Red-billed Leiothrix (44%), Hwamei *Garrulax canorus* (33%) and Black-headed Munia (33%). Of these, the Zebra Doves are invariably captive-bred (in Thailand and Indonesia), all others are wild-caught. The Red-whiskered Bulbuls arrive from Thailand and Viet Nam; Oriental White-eyes arrive from Malaysia, Indonesia and southern Viet Nam; White-rumped Shamas arrive from Malaysia and Indonesia; Hill Mynas arrive from Thailand, Indonesia, Malaysia and Viet Nam; and the munias arrive mainly from Indonesia and Viet Nam. The Red-billed Leiothrix and Hwamei are imported from China either directly or through Hong Kong (Table 4). The top twenty species in trade in Singapore (excluding munias spp.) are given in Table 5. These species are also included in a listing of species occurring in 10 or more of the 47 localities surveyed (Table 4).

Survey data also indicated that the three main retail shops together accounted for 213 species/subspecies in local (domestic) trade, or 86% of the total number of species/subspecies recorded in the surveys undertaken in Singapore.

Table 4

Species appearing in trade in 10 or more of the 47 localities surveyed in Singapore

Species	Number of trade localities	Probable source
Pycnonotus jocosus	42	Thailand, Viet Nam
Zosterops palpebrosus	41	Malaysia, Indonesia
Geopelia striata	41	captive-bred
Copsychus malabaricus	37	Malaysia, Indonesia
Lonchura punctulata	34	Indonesia, Viet Nam
Lonchura maja	29	Indonesia
Garrulax canorus	29	China
Lonchura malacca	29	Indonesia, Viet Nam
Gracula religiosa	28	Indonesia, Thailand, Viet Nam
Leiothrix lutea	27	China
Copsychus saularis	27	Indonesia, Malaysia
Streptopelia chinensis	26	?
Lonchura striata	16	Indonesia, Viet Nam
Garrulax chinensis	15	China
Leiothrix argentauris	11	China, Indonesia
Lonchura leucogastra	10	Indonesia
Chloropsis cyanopogon	10	Thailand, Indonesia

Source: TRAFFIC Southeast Asia.

Table 5

Ranking of top 20 species in trade in Singapore (by numbers observed), excluding *Lonchura* spp.

Species	Numbers observed (estimated)	Number of trade localities	Probable source
Pycnonotus jocosus	12 050	42	Thailand, Viet Nam
Zosterops palpebrosus	10 800	41	Malaysia, Indonesia
Gracula religiosa	4 750	28	Indonesia, Thailand Viet Nam
Copsychus malabaricus	3 200	37	Indonesia, Malaysia
Leiothrix lutea	2 100	27	China
Erythrura prasina	1 600	3	Indonesia
Streptopelia chinensis	1 100	26	*unknown*
Garrulax canorus	900	29	China
Copsychus saularis	800	27	Indonesia, Malaysia
Padda oryzivora	800	8	Indonesia
Pycnonotus atriceps	750	5	Indonesia
Leiothrix argentauris	700	11	China, Indonesia
Chloropsis aurifrons	650	6	Thailand
Chloropsis cochinchinensis	550	7	Thailand, Indonesia
Calyptomena viridis	550	3	Indonesia, Viet Nam
Acridotheres grandis	550	8	Indonesia
Pycnonotus zeylanicus	500	7	Malaysia
Irena puella	450	8	Indonesia, Thailand, Malaysia
Chloropsis sonnerati	400	7	Thailand, Indonesia
Chalcophaps indica	400	8	Malaysia, Indonesia

Source: TRAFFIC Southeast Asia.

Volume of trade

In terms of volume, 90% or more of the bird trade in Singapore is believed to involve passerines and other 'songbirds' (see Inskipp, 1990). Singaporean authorities do not make available any information on trade in non-CITES species. Without access to complete import and export documents, it is impossible to estimate accurately the volume of non-CITES birds entering and exiting Singapore. Exporters were reluctant to give any idea of the volume of their businesses and the turnover of birds observed in several of the shops could be owing to either local trade or re-export. Some generalisations can nonetheless be made and a few clues extracted from various sources and from observations of individual shipments.

One shop claims to trade 30 000-40 000 Zebra Doves annually. Another claims to import 50-100 White-rumped Shamas from Malaysia every week (approximately 2 500-5 000 annually), presumably in large part for resale to Singaporean dealers. The owner of a third shop admitted importing 150-300 Oriental White-eyes from Malaysia (Johore) every month, while the owner of a fourth shop admitted receiving weekly shipments of birds from Thailand, together with regular shipments from Indonesia and a weekly shipment from Viet Nam. In this shop, in February 1993, a shipment of 15 cardboard crates enclosing approximately 75 Asian Fairy-Bluebirds *Irena puella* from Thailand was observed. On another occasion,

one shipment of Thai leafbirds, which was being prepared for re-export to Hong Kong, consisted of 112 individuals. Part of one consignment from Viet Nam, consisting of 16 boxes arriving from Ho Chi Minh City, was examined by TRAFFIC investigators and found to contain approximately 450 White-crested Laughingthrushes *Garrulax leucolophus* (in three boxes) and over 800 Red Avadavats *Amandava amandava*, Streaked Weavers *Ploceus manyar*, Baya Weavers *Ploceus philippinus*, Scaly-breasted Munias and Black-headed Munias (also in three boxes). Some 200 Red-whiskered Bulbuls were also part of the shipment and the remaining contents of the shipment could not be observed. On one day, in July 1992, over 800 nestling Hill Mynas were observed at a shop, which must have been part of a single shipment. It was not unusual for this shop to have several hundred nestlings on hand.

Other sources of information on the Singaporean bird trade include quarantine and permit records for countries exporting to and/or importing from Singapore. While few countries record any data on transactions of non-CITES species (Malaysia, for example, does not record countries of origin or destination in its non-CITES bird trade records), Indonesia includes non-CITES species data in its annual CITES report, though these data are not usually reliable. Exports to Singapore in 1991 were said to involve at least 22 800 specimens of 38 species. Indonesian permits issued during a five-month period in 1992 indicated that 36 230 specimens of at least 32 species were authorized for export to Singapore. Quarantine records for Jakarta's Soekarno-Hatta International Airport for a 15-week period from mid-October 1991 to the end of January 1992 indicate that imports of non-CITES birds from Singapore totalled over 12 000 birds, composed of eight or more species.

A recent Singaporean newspaper stated that Singapore imported 1 400 000 birds annually (Anon., 1993), which would include both CITES-listed and non-CITES species. TRAFFIC Southeast Asia estimates that a shop's stock would take two to four weeks to be sold and on this basis survey data suggest that an estimated 200 000 to 400 000 non-CITES birds are traded annually in local shops. This does not include the re-export trade which generally does not appear in the retail shops. Data on hand suggest that re-exports to Indonesia alone are likely to be in excess of 50 000 birds per year. Inskipp (1990) estimated Singapore's non-CITES bird exports in 1988 to be in the order of 700 000 birds.

Conservation impact of the Singaporean bird trade

Singapore's role as the main transshipment point for the Southeast Asian bird trade suggests that the conservation impact of its bird trade on wild populations in exporting countries is more important than the impact it may have on its own native avifauna. However, the impact of the bird trade on local populations is still considerable.

Introduced species/subspecies

In 1991, Indonesia reported exporting 20 000 munias to Singapore (this is almost certainly under-reported, as traders mentioned importing individual consignments of 8 000-10 000 munias from Indonesia in preparation for important Buddhist festivals). Consignments of thousands of munias are regularly imported from Viet Nam. Between 1991 and 1993 Malaysia exported over 275 000 munias, of which a portion is likely to have ended up in Singapore. TRAFFIC's survey counted over 40 000 munias on display and observed that many shops maintained a constant stock of several hundred. It is then of considerable note, in conservation terms, that these birds are destined primarily for release back to the 'wild'. Perhaps the commonest species in this trade is the Scaly-breasted Munia. In Singapore, the native subspecies is *fretensis*, which through release of captive birds is being mixed with the subspecies *topela* from Thailand and Indochina and *nisoria* from Java and Bali. Other Indonesian subspecies may also

occur. Similarly, the native race of the Black-headed Munia *Lonchura malacca sinensis* is being mixed with the subspecies *deignani* from Thailand and Indochina and *ferruginosa* from Thailand and Indochina, among others.

The release of 'unmarketable' singing birds (females, silent males) by shop owners also has an impact on Singapore's native bird populations and in several cases native populations, depleted through trade, are artificially augmented through accidental and intentional release. Examples of this include the return of populations of Oriental Magpie-Robins and Oriental White-eyes (Lim, 1989). However, the native race *musicus* of the Oriental Magpie-Robin may now be mixed with *erimelas* from Thailand and Indochina, *nesiotes* from Sumatra, *problematicus* from Kalimantan and *javensis* and *amoenus* from Java. The native *auriventer* race of the Oriental White-eye is likely to be mixed with releases of *siamensis* from Thailand and Indochina, *williamsoni* from northern peninsular Malaysia and Thailand and *buxtoni* and *melanura* from Sumatra and Java.

Releases have resulted in a number of additions to the number of species in Singapore's avifauna as well. The Hwamei from China, the Red-whiskered Bulbul from Thailand, the Red Collared-Dove *Streptopelia tranquebarica*, Great Myna and Java Sparrow *Padda oryzivora* from Indonesia are now recognized as resident species (Lim, 1989). Non-native subspecies have also been released into Singapore's natural areas, such as an Indonesian race of the Black-naped Oriole *Oriolus chinensis maculatus* (Lim, 1987). Additional non-native species, which have been recorded but have not so far established breeding populations, include the Black-winged Starling *Sturnus melanopterus* (Lim, 1987) and Black-and-white Bulbul *Pycnonotus melanoleucos* (Anon., 1989) from Indonesia, Bank Myna *Acridotheres ginginianus* from India and Pakistan, Collared Myna *A. albocinctus* from Asia, Vinous-breasted Starling *Sturnus burmannicus* from Myanmar and Indochina and Coleto *Sarcops calvus* from the Philippines (Subharaj, 1987).

Local trapping

One of the main concerns expressed by conservationists about the wild bird trade is the perceived negative impact of trapping on wild populations. For instance, the current Singaporean bird trade includes species which are no longer part of Singapore's natural avifauna. Species in local trade which have not been recorded in the wild for the past 30 years include the following: Green Imperial-Pigeon *Ducula aenea*, Black-bellied Malkoha *Phaenicophaeus diardi*, Blue-eared Barbet *Megalaima australis*, Brown Barbet *Calorhamphus fuliginosus*, Black-and-red Broadbill *Cymbirhynchus macrorhynchus*, Green Broadbill *Calyptomena viridis*, Grey-bellied Bulbul *Pycnonotus cyaniventris*, Spectacled Bulbul *P. erythropthalmos*, Bronzed Drongo *Dicrurus aeneus* and Dark-throated Oriole *Oriolus xanthonotus*. Presumably trapping had a significant role in the elimination of these species, although habitat destruction will probably still have been the single most important cause. Whereas Singapore's bird populations are small and easily threatened, the sheer scale of trade in some species, involving tens and hundreds of thousands of individuals, allows serious threats to species and even subspecies in Southeast Asia, as a whole, to enter the realm of possibility.

Weaknesses in the **Wild Animals and Birds Act** and its implementation provide loopholes which facilitate the possibility of local birds entering trade. As Singapore has few natural areas, native populations are already limited in size and any capture could constitute a real threat to a population's survival. If, for example, only a portion of the 1 800 Straw-headed Bulbuls exported to Indonesia in late 1991 and early 1992 originated in Singapore[3], this would pose a significant threat to its dwindling

population. However, the greatest impact of the Singapore bird trade concerns species imported from neighbouring countries.

Bird laundering

Far more serious than local trapping is the situation whereby Singapore's laws and regulations allow species and specimens illegally obtained and exported from their countries of origin to be legally traded in and from Singapore. This permits Singapore traders to 'launder' tens and perhaps hundreds of thousands of birds annually, birds which are often legally protected in their countries of origin. However, the Singaporean Government is unconcerned with trade in non-CITES species and considers the legality of other countries' non-CITES exports irrelevant (Giam Choo Hoo, pers. comm., 10 April 1992).

Species are usually given protection under national laws when trade (or even the threat of trade) is sufficiently great to endanger the survival of natural populations. Ironically, the most popular wild songbirds in the local trade in Singapore are all illegally exported from their countries of origin, where they are protected by law: Zebra Doves and Red-whiskered Bulbuls from Thailand and White-rumped Shamas and Oriental White-eyes from Malaysia. While the same species may be obtained from elsewhere (for instance, bulbuls from Viet Nam, white-eyes and shamas from Indonesia), local buyers insist on Malaysian and Thai birds and traders comply with market demands. Other examples of protected species regularly observed arriving in Singapore include leafbirds from Thailand, Black-banded Barbets *Megalaima javensis*, Orange-fronted Barbets *M. armillaris*, Nias Hill Mynas *Gracula religiosa robusta*, sunbirds and flowerpeckers (Nectariniidae) from Indonesia and Straw-headed Bulbuls from Malaysia (see Table 6).

In addition, birds illegally exported to Singapore are not only for local consumption and a number of species entirely protected in their countries of origin are routinely re-exported from Singapore. Some 1 800 Straw-headed Bulbuls *P. zeylanicus* from Malaysia were re-exported to Indonesia during a 15-week period for which records are available, while Malaysian authorities in turn report only five specimens were legally exported between 1991 and 1993 (A. Razak, *in litt.*, 24 August 1993). Another example involves several species of leafbirds from Thailand, which several shops routinely import and re-export by the hundred.

It is worth noting that the **Veterinary Regulations for the Importation of Birds (other than Domestic Birds), 1993**, are the result of changes proposed in mid-1992 by the Primary Production Department, to reduce the risk of introducing Exotic Newcastle Disease to the island (Dr. Teng, pers. comm., April 1992; *in litt.*, 15 May 1992). Formerly, non-CITES species arriving in Singapore without veterinary health certificates were not subject to quarantine. Under the changes proposed in mid-1992, non-CITES birds arriving with veterinary health certificates would be subjected to 10-30 days of quarantine and shipments arriving without documentation would be subject to a minimum of 30 days of quarantine, at the importer's expense. This longer period in quarantine would probably have eliminated or sharply reduced the trade in specimens illegally exported from their countries of origin, as consumers might have been deterred by the high prices at which the quarantined birds would have to be sold (estimated quarantine charges under the proposed ruling would have added approximately S$1 500 per consignment). However, after protests from traders that this would reduce profitability, the Primary Production Department reduced the quarantine requirement for specimens arriving without documentation to a token three-day period.

Table 6

Examples of species in trade in Singapore which are protected in their countries of origin or are not authorized for export

Species	Country of origin (as identified by traders) where the species are protected or unauthorized for export
Casuarius casuarius	Indonesia
Halcyon smyrnensis	Indonesia
Todirhamphus sancta	Indonesia
Megalaima armillaris	Indonesia
Megalaima javensis	Indonesia
Geopelia striata	Thailand
Entomyzon cyanotis	Indonesia
Chloropsis spp.	Thailand
Rhipidura javanica	Indonesia
Gracula religiosa robusta	Indonesia
Sturnus melanopterus	Indonesia
Pycnonotus zeylanicus	Malaysia
Pycnonotus jocosus	Thailand
Zosterops palpebrosus	Malaysia
Dicaeum trigonostigma	Indonesia
Anthreptes malacensis	Indonesia
Nectarinia sperata	Indonesia

Source: TRAFFIC Southeast Asia.

Inaccessibility of data as a constraint to conservation efforts

As mentioned earlier, the secrecy of the trade is a serious constraint on conservation initiatives. One cause for concern is legal trade which is grossly under-reported in countries of origin. While this is mainly a matter to be dealt with by the respective exporting countries, much of this trade appears to pass through Singapore and without access to Government records this trade is difficult to quantify. An example of the problem is illustrated by exports from Indonesia to Singapore. The 1991 Indonesian export data record exports of 38 non-CITES species to Singapore, while in January 1992 Singapore shops had at least 70 species likely to have originated in Indonesia. Between May and December 1992 Indonesian permits for exports destined for Singapore listed 36 non-CITES species, yet during this time over 100 species from Indonesia were observed in Singapore shops (the Indonesian origin of the birds was confirmed by traders).

Without detailed information on the species and numbers in trade, it is impossible to judge the impact of the trade accurately. A species may be rare and protected in one country and common and legally obtainable in a neighbouring state. In such a case, knowledge of the origin of consignments is vital in assessing the conservation impact of the trade. The trade in Oriental White-eyes may be detrimental to Malaysian populations, while the same species might be sustainably harvested from Indonesia and Viet Nam. Without accurate records, the impact on populations in either country is impossible to determine and without information, significant fluctuations in trade may be unnoticed. For example, Indonesia is a range state for Straw-headed Bulbuls, where it is extremely popular as a cage bird. It now appears that Indonesia

must import birds illegally by exporting them from Malaysia and 'laundering' them in Singapore to meet local demand, as its own populations have been decimated by trapping (see page 35). If Indonesia is able to cause the commercial extirpation of its own populations of this species through trapping, then it is likely that the shift in demand to Malaysian birds and possibly birds from peninsular Thailand as well, will result in a steady decline in populations there, as the species's remaining range in these countries is much smaller in area than its former range in Sumatra, Kalimantan and Java.

While a number of countries simply do not obtain and collate trade data for non-CITES species, Singapore obtains accurate data on the composition, origin and destination of consignments from its export and import licence scheme and from its quarantine procedures. Furthermore, Singapore is very much the bottleneck through which the largest share of trade in Southeast Asian birds passes. Singapore's data would provide the most complete picture of the trade and their availability would certainly facilitate government and non-government conservation efforts in the region by identifying where detrimental trade does or might occur. However, the 'veil of secrecy' imposed by the industry and the Government on non-CITES trade data sharply reduces the likelihood that a damaging trade will be uncovered before it is too late (if it is uncovered at all) and without supporting trade information CITES listing proposals are not likely to be put forward by any government for even the most heavily traded species. In light of this it is ironic that the explanation of why Singaporean authorities are not concerned over trade in non-CITES species is that if a species were actually threatened by trade it would be included in the CITES Appendices. Singapore's refusal to make available its trade data for non-CITES species is a significant factor towards ensuring that detrimental trade is not documented and this policy therefore constitutes a serious constraint to governmental and non-governmental conservation efforts in Southeast Asia.

Box 1

Desirability: why one species and not another?

White a large variety of species are in trade, not all species are equally desirable. Locally, the munias and other seed-eaters are purchased mainly as 'prayer birds' by Buddhists, for release (this fulfils a religious requirement to perform good deeds), while a small amount are sold to children as inexpensive pets. The main songbirds (Zebra Doves, White-rumped Shamas, Red-whiskered Bulbuls, Oriental White-eyes, Hwameis and Oriental Magpie-Robins) are generally those which may be entered into songbird competitions, where birds may win prizes, fame and wealth for their owners. Not all owners use their birds for competition purposes, but the popularity of these competition species remains very strong among Singaporean bird keepers. Other species may be desirable for their plumage (orioles, leafbirds), their character, or for various vocal abilities (Hill Mynas, Straw-headed Bulbuls, barbets).

Usually only the males of the main singing species are in demand and the capture of and trade in singing birds is heavily biased towards the one sex. Females are usually released at the point of capture, but suppliers are known to cheat on orders by including females, especially with species which are not obviously sexually dimorphic. Sexes of Zebra Doves may be difficult to distinguish and prospective buyers will sit in front of cages for hours waiting for a dove to sing with a strong voice, identifying it as a male (serious buyers will wait for several males to sing and choose from among these a possible 'champion'). Several shops accommodate their customers by providing chairs or benches in front of their dove cages. After a time, traders become aware that birds from a certain cage no longer sell, indicating that only females and silent males remain. These 'unmarketable' birds are released to make room for new stock, contributing to Singapore's increasingly peculiar avifauna.

The ears of Singaporean bird fanciers can be quite discerning. The race of the Oriental White-eye occurring on the southern portion of the Malayan peninsula, *Zosterops palpebrosus auriventer*, is the most highly prized white-eye in the region as it is believed to produce the clearest and strongest song.

Box 1 continued

The subspecies *williamsoni* from the upper portion of the Malayan peninsula and the Indonesian subspecies *buxtoni* (from Java) are much less desirable, though it would be near-impossible to tell these apart in a cage. In mid-1992 traders brought in a flood of *Zosterops palpebrosus siamensis* from Viet Nam, as a cheaper and more readily available alternative to Malaysian white-eyes. The Viet Namese birds were spurned in the marketplace as buyers considered their singing ability very poor. Many of these were subsequently released by bird shop owners to make way for more profitable stock. All of these subspecies are nearly identical in appearance.

Ease of feeding has a significant impact on the variety and quantity of species in trade and especially determines the composition of the export trade. Birds that are difficult or costly to keep alive will only be kept by a small number of serious aviculturalists and the demand on these species will be very low. Species (such as flycatchers) which require live food may be kept locally, as live food may be purchased easily from bird shops, but these species are not likely to be exported in large numbers owing to a very limited and specialised consumer demand. Similarly, the demand for fruit-eating species (fruit doves, barbets) in overseas markets such as Japan, Europe and the USA is very limited, as maintaining an adequate year-round supply of food would be expensive. While it is likely that there will always be a ceiling on the demand for insectivores and frugivores, graminivores such as munias and Red Avadavats will continue to be in high demand in overseas markets, as these are amongst the easiest to provide for. Species which adapt to eating commercial pellet food are also in high demand and these include the popular Zebra Doves, Spotted Doves and Emerald Doves.

Indonesia

Indonesia is an archipelagic nation of 13 667 islands covering an area of 1 811 570 km^2. While many of the islands are small, three of the world's largest islands are wholly or in part Indonesian territory: Sumatra (all), Borneo (four-fifths) and New Guinea (one-half). Indonesia contains 40% of all the forests of Southeast Asia and an amazing variety of habitats ranging from coastal swamps and mangroves up to alpine meadows and permanent icefields. Indonesia's avifauna is no less impressive with 1 531 species of which 381 are endemic: 600 species have been recorded on Sumatra, 479 on Kalimantan [Indonesian Borneo], 498 on Java, 380 on Sulawesi [Celebes], 344 in the Moluccas, 398 in the Lesser Sunda Islands and 647 in Irian Jaya [Indonesian New Guinea] (Andrew, 1992). This highly diverse avifauna is a reflection of the country's tropical latitude and its location between the Asian and Australian land masses, where Asian species populate the Greater Sunda Islands of Sumatra, Java and Borneo and Australasian species predominate in Irian Jaya. The transitional region in between, comprising Sulawesi, the Moluccas and the Lesser Sunda Islands (Sumba, Sumbawa, Timor, etc.), contains a unique mixture of faunal elements from both the Asian and Australian realms, together with its own unique species and is commonly known as Wallacea.

In Indonesia, the social and economic demands on the environment exacted by the world's fourth largest human population (approximately 190 million) are enormous and ever-increasing. Traditional agricultural methods, state-sponsored plantations and resettlement schemes and small- and large-scale commercial logging have changed much of Indonesia's landscape. This has had an impact on bird life and at the moment 135 Indonesian bird species are considered globally threatened (WCMC, 1992). It is Government policy to make use of wildlife resources for economic development and Indonesia has long been the source of a large-scale trade in wild birds. While the country is best known for its parrot exports, non-CITES birds are also exported. In addition, Indonesia has a notorious but hardly documented domestic trade which dwarfs the internal trade of other countries in the region and perhaps even its own export trade. This makes Indonesia the most active trader in (including exporter of) its own wild species in Southeast Asia.

Indonesia joined CITES in 1978 and the Directorate General of Forest Protection and Nature Conservation (PHPA) is the wildlife trade management authority for both CITES-listed and non-CITES species and the Centre for Biological Research and Development of the Indonesian Institute of Sciences Research (LIPI) is the country's main scientific authority on wildlife trade matters.

Between December 1991 and May 1993 TRAFFIC investigators conducted 39 surveys in 12 bird markets and one trader's premises, finding 254 species and an additional 16 subspecies of non-CITES birds. Data were recorded by market instead of by market stall, owing to the approximately 700 market stalls being monitored. Some interviews of bird exporters were possible and various published and unpublished reports were reviewed for information on the Indonesian bird trade. A small number of export permits and internal trade documents were also examined for this review. These data provide a first look at a large and an extremely varied trade.

Relevant legislation

In 1990, Indonesia passed the **Act of the Republic of Indonesia on Conservation of Living Resources and Ecosystems (1990)** (also known as the Conservation Act (no. 5) of 1990) and this Act is now used as the legal basis for the control and regulation of wildlife trade. Articles 26-28 of Chapter VI of the Act provide the legal basis for the utilization of unprotected wildlife and Article 36 of Chapter VII provides for the commercial utilization of wild species of plants and animals. Intentional trade in protected species is liable to punishment by imprisonment for up to a maximum of five years and by a fine of up to Rp. 100 000 000 (US$50 000) and trade in protected species through negligence is liable to one year's imprisonment and a Rp. 50 000 000 (US$25 000) fine.

Decree 556 (1989) of the Minister of Forestry provides that protected species may only be captured, possessed, transported, or exported under permit and for limited purposes such as research and zoo exchanges. Such permits would be issued by the Director General of PHPA, following approval of the Minister of Forestry. Permits for the capture, possession and keeping of non-protected species are issued by the Department of Forestry's provincial offices and permits for the domestic transport of non-protected species are issued by the regional and sub-regional offices of PHPA. Permits for export are only issued by the directorate general of PHPA.

The directorate general of PHPA issues an annual capture quota for non-protected species. This quota is established for species and subspecies and for geographical areas (provinces). The quota is adjusted annually, with input from LIPI and the Indonesian Flora and Fauna Traders Association (IFFTA). PHPA occasionally re-issues mid-year updated versions of the quota. The quota decree for 1993 states that all capture, transport and export permits must be within the limits imposed, while prior quota decrees stated that capture of non-quota species could occur in accordance with existing procedure, which involves obtaining prior approval by LIPI. Recent quotas for non-CITES species are listed in Table 7.

Regulations state that the capture of non-protected species requires prior granting of a capture permit. These permits are non-transferable and are valid only for the species, quantities and capture areas named. Transportation of wildlife across provincial boundaries requires prior granting of a domestic transport permit. These permits are also non-transferable and are valid only for the species, quantities and travel route and method listed on the permit. Indonesia currently requires that CITES permits be used for the export of non-CITES species and that annual CITES reports also include trade data on non-CITES species.

In June 1991, the Minister of Forestry issued **Decree 301 (1991)**, which stated that all captive protected wildlife had to be registered with the Department of Forestry by 31 May 1992. The decree outlined that

protected wildlife species are the property of the state and cannot be privately owned. Wildlife not registered after the deadline would be liable to seizure and the owner subject to fines and imprisonment in accordance with the **Act on the Conservation of Living Resources and Ecosystems (1990).** However, PHPA is able to supply annually renewable permits for keeping protected wildlife 'on behalf of the Government'.

Several key problems have been identified with existing laws and regulations:

- While the **Act on the Conservation of Living Resources and Ecosystems (1990)** provides a legal basis for sanctions against persons involved in trade of protected species, the Act does not cover illegal trade in non-protected species. As a result there is at present no legal basis to prosecute anyone not complying with regulations on trade in non-protected species.

- While regulations state that the capture of non-quota species requires LIPI's prior approval, LIPI considers that species not included in the quotas may not be harvested and does not provide approval for the capture of these species. PHPA nevertheless allows the capture of non-quota species, maintaining that these species may be harvested without limits. In addition, there has been a considerable amount of confusion over the purpose of the quotas, as these are routinely surpassed for many species and over the methodology by which the quotas are established (Nash, 1993).

- Capture permits are routinely issued for species which do not exist (e.g. *'Visip pasando'*) or which are not found in the designated capture region (e.g. *Pycnonotus zeylanicus* in Irian Jaya) and transport permits are issued for species and/or quantities in excess of those included in capture permits.

- While CITES permits are used for exporting non-CITES species, importing countries generally do not provide the same verification of documents and consignment contents for non-CITES species as for CITES-listed species and permits are accepted which list fabricated species names (e.g. *'Turdus gallius'*, *'Rufousbillied niltava'*, *'Robertson myna'*), extra-limital species (e.g. *Muscicapa*[*Cyornis*] *rubeculoides*, *Megalaima asiatica*), confused names (e.g. *'Gallicolumba'* for *Chalcophaps*), modified names to disguise protected species (e.g. *'Megalaima armila'* or *'M. armillaria'* for *M. armillaris*) and assorted misspellings.

- The Government's protected species registration programme is essentially a tax scheme, as annually-renewable permits to retain possession of the protected wildlife species are readily provided for a Rp. 7 000 (US$3.50) charge. This essentially legitimizes private holdings of rare and threatened species and creates a loophole allowing the lucrative trade in protected species to continue.

Table 7

Recent capture quotas for non-CITES bird species in Indonesia

(Numbers in italics indicate quotas in effect for only part of the species's range; otherwise harvests are unlimited. Quotas for non-Indonesian species are not included.)

	Quotas						
Species	1987	1988	1989	1990	1991	1992	1993
Acridotheres fuscus	-	-	14 500	17 855	14 850	-	-
Acridotheres tristis	-	-	4 400	5 475	6 400	-	-
Amandava amandava	2 300	2 300	3 000	5 000	5 000	1 000	1 000
Anseranas semipalmata	-	-	-	-	-	500	200
Chloropsis cochinchinensis	-	-	-	-	-	100	100
Chloropsis cyanopogon	450	450	1 000	-	-	250	250
Chloropsis sonnerati	-	-	-	-	-	250	250
Cissa thalassina	-	-	1 500	1 500	1 500	-	-
Copsychus malabaricus	1 000	1 000	1 000	1 255	1 300	-	-
Copsychus saularis	500	500	1 000	840	860	-	-
Cyornis banyumas	-	-	5 000	5 500	10 000	500	500
Dendrocygna arcuata	-	-	-	-	-	1 000	-
Dendrocygna guttata	-	-	3 750	1 000	850	-	-
Ducula aenea	-	-	7 650	4 000	3 250	-	-
Ducula bicolor	-	-	4 100	965	950	300	500
Erythrura hyperythra	2 800	-	15 025	5 050	2 500	500	500
Erythrura prasina	12 000	12 500	2 875	14 100	15 000	10 000	12 000
Gallicolumba tristigmata	-	-	2 000	2 000	2 000	250	250
Gallicrex cinerea	-	-	2 175	2 025	2 000	250	250
Gallus gallus	-	-	300	-	200	-	50
Garrulax leucolophus	100	100	200	150	600	-	-
Geopelia humeralis	-	-	-	-	-	800	-
Geopelia striata	-	-	500	27 670	27 850	-	-
Gracula religiosa	3 100	6 800	4 500	6 300	5 00	3 000	3 000
Lanius schach	-	-	20 000	8 000	8 000	-	-
Leiothrix argentauris	800	-	875	2 000	2 000	-	-
Lonchura leucogastroides	-	-	-	4 105	4 000	-	-
Lonchura maja	-	-	60 000	22 650	22 750	16 000	-
Lonchura malacca	-	-	68 950	55 450	10 000	5 000	5 000
Lonchura punctulata	-	-	31 750	500	500	11 000	-
Lonchura sp.	12 500	12 500	-	-	-	-	-
Macropygia amboinensis	-	-	-	-	-	500	-
Megalaima lineata	600	600	675	425	615	-	-
Mino dumonti	100	500	500	750	750	250	250
Neochmia phaeton	-	-	21 500	20 000	5 000	-	-
Nettapus coromandelianus	-	-	-	-	-	200	-
Oriolus chinensis	1 150	1 150	1 850	1 300	1 200	-	-

Species	Quotas 1987	1988	1989	1990	1991	1992	1993
Padda oryzivora	20 600	20 600	15 000	21 185	20 000	17 000	17 500
Passer montanus	-	-	-	-	-	-	10 000
Ploceus manyar	-	-	4 000	5 200	4 500	-	-
Ptilinopus melanospila	-	-	-	3 800	3 800	500	500
Pycnonotus aurigaster	500	500	800	860	865	500	500
Pycnonotus bimaculatus	1 300	1 300	1 375	1 755	1 000	500	250
Pycnonotus goiavier	-	-	675	585	595	500	500
Pycnonotus zeylanicus	-	-	54 000	71 400	71 550	-	-
Rollulus rouloul	-	-	850	300	100	-	50
Saxicola caprata	5 200	6 000	5 300	3 985	3 625	3 000	3 000
Scissirostrum dubium	200	-	325	435	500	-	50
Streptocitta albicollis	-	-	6 200	6 000	5 500	-	50
Streptopelia bitorquata	-	-	7 000	9 550	9 750	-	-
Streptopelia chinensis	-	-	36 100	15 625	10 000	250	250
Sturnus contra	1 300	1 300	2 600	1 255	1 250	-	-
Taeniopygia guttata	-	-	10 000	16 500	16 500	-	-
Treron curvirostra	-	-	2 000	2 000	2 000	250	250
Turdus obscurus	1 000	1 000	1 075	1 025	1 100	-	-
Turacoena manadensis	-	-	2 100	50	50	-	-
Turnix suscitator	-	-	7 800	5 000	5 000	250	-
Zosterops palpebrosus	250	-	350	325	335	-	-

Source: PHPA records; 1989-1993 quota decrees.

The Indonesian bird trade

Bird keeping is very popular in Indonesia, in particular on Java and to a lesser extent on Sumatra, Bali and other islands. With Java's human population fluctuating around 100 million, this creates a very strong internal market for birds. Indonesia is also a major exporter and importer of birds. While most of Indonesia's exports are psittacines, considerable numbers of some non-CITES species are exported. Indonesia is also a major importer of non-CITES species, which is interesting, considering the wealth of its own avifauna. Certain imported species are in high demand and this demand is an important factor in the export trade of every other Southeast Asian country, together with the export trade of southern China and Hong Kong. While Singapore is the main transshipment point for the Southeast Asian bird trade, Indonesia is by far the largest producer and consumer.

The Indonesian Bird and Birdnest Trade Association currently lists 11 members, of which at least nine are involved in bird imports and/or exports. Little in the way of complete information has been produced on the activities of these traders or on Indonesia's export trade in non-CITES species and most available information only offers a glimpse of the scope and volume of the trade. Between 1985 and 1988, the USA reported imports of 1 261 Indonesian non-CITES birds, among which 24 species were identified (Nilsson, 1989). In 1990, Hong Kong imported 28 175 specimens of 25 non-CITES species and, in 1988, the UK recorded imports of slightly more than 300 individuals, of 29 species (Melville and Lau, 1992; WCMC,

1993). Indonesia's 1991 CITES report includes some information on exports of at least 88 non-CITES species and a review of Indonesian export permits for the period between May and December 1992 indicates that export permits were issued for 48 694 specimens of at least 73 species.

However, these trade figures do not properly represent Indonesia's export trade in non-CITES birds. Much of Indonesia's export trade passes through Singapore and trade between these two countries is poorly documented. TRAFFIC's surveys in Singapore noted at least 150 species and subspecies in trade which possibly or almost certainly originated in Indonesia (while Indonesian permits for exports to Singapore from May to December 1992 listed only 34 species). Furthermore, trade records for Indonesian birds re-exported from Singapore often list Singapore as the country of origin. This explains why Indonesian endemics appear in US imports from Singapore, including species such as the Black-backed Fruit-Dove *Ptilinopus cinctus*, Pink-necked Fruit-Dove *P. porphyreus* and the Black-banded Barbet (Nilsson, 1989, 1990). While it may be possible to trace a certain amount of trade in species or races endemic to Indonesia, most of Indonesia's trade is in species which are also found in other Southeast Asian countries, many of which also re-export Indonesian birds. Until such time as trade records for non-CITES species improve it will be impossible to obtain a clear picture of Indonesia's exports, for both species and numbers. In the meantime it can be said that a significant export trade exists in Hill Mynas, fruit-doves *Ptilinopus* spp., flycatchers, Pied Bushchats *Saxicola caprata*, Java Sparrows, parrotfinches *Erythrura* spp. and munias and that Europe, Japan, Hong Kong, Taiwan and the Middle East appear to be common destinations for Indonesian non-CITES bird exports.

Indonesia's import trade is even more obscure than its exports. The number of species and the quantity involved appears to be low, with a few significant exceptions: Chinese babblers *Garrulax* spp. and *Leiothrix* spp., Malaysian bulbuls *Pycnonotus* spp. and captive-bred Thai Zebra Doves . For example, in 1990, Hong Kong re-exported small numbers of various north Asian finches and larks to Indonesia, together with 34 679 Hwamei, 44 140 Black-throated Laughingthrushes *G. chinensis* and 34 395 Red-billed Leiothrix (Melville and Lau, 1992). Quarantine records from Jakarta's Soekarno-Hatta International Airport for the 15-week period between mid-October 1991 and the end of January 1992 indicate that during this short period alone, non-CITES bird imports were composed of 13 379 Hwamei, 50 White-crested Laughingthrushes, 24 395 assorted laughingthrushes (probably mainly and Black-throated Laughingthrushes), 2 280 birds most likely to be Masked Laughingthrushes *G. perspicillatus*, 240 Silver-eared Mesias *Leiothrix argentauris*, 17 570 Red-billed Leiothrix, 1 805 Straw-headed Bulbuls, 50 unidentified bulbuls and 9 035 Zebra Doves (Table 8).

Zebra Doves are bred in thousands on Java and this production largely satisfies local demands. Purists maintain that Thai-origin captive-bred birds are nevertheless better singers and the fact that significant numbers of this species continue to be imported is not surprising. However, the focus on Chinese babblers is peculiar for a country already rich in singing birds (including a wide variety of its own babblers). Indonesia is also a range state for the Silver-eared Mesia and its resident (north Sumatran) races have a distinctive bright red throat. It is unusual that Indonesian traders would be willing to incur transport charges for the plainer yellow-throated mainland races. What is perhaps most significant is that Indonesia has become a net importer of Straw-headed Bulbuls, despite being the primary range state for this species.

Table 8

Southeast Asian birds imported through Indonesia's Soekarno-Hatta International Airport during the period 17 October 1991 to 31 January 1992

Species	Arriving From	Quantity	Total
Garrulax canorus	China	6 940	
	Hong Kong	4 914	
	Malaysia	1 475	
	Singapore	50	13 379
Garrulax leucolophus	Singapore	50	50
Garrulax perspicillatus (?)	China	510	
	Hong Kong	150	
	Malaysia	1 440	
	Singapore	180	2 280
Garrulax spp.***	China	10 150	
	Hong Kong	8 805	
	Malaysia	4 415	
	Singapore	1 025	24 395
Geopelia striata	Singapore	9 035	9 035
Leiothrix argentauris	China	240	240
Leiothrix lutea	China	9 700	
	Hong Kong	2 400	
	Malaysia	5 470	17 570
Pycnonotus zeylanicus	Singapore	1 805	1 805
Pycnonotus sp.	Singapore	50	50
			68 804

*** Most likely to be *G. chinensis* and *G. leucolophus*

Source: Indonesian quarantine documents.

Indonesia's domestic bird trade

Almost every city and town in Indonesia has a formal bird market or at the very least stalls selling birds in the main market. Even in the few towns where no bird market or market stalls exists, bird sellers carry cages of birds door-to-door in search of customers. Bird keeping is a very popular pastime in Indonesia and birds are kept for their song, their beauty and for the social status they bring (especially true for rare and protected species).

The export and domestic birds trades are usually conducted separately. The export trade is usually in higher-value psittacines and few exporters would go to the expense of maintaining stocks of most non-psittacines. On the other hand, local bird sellers keep few psittacines in stock as their high purchase price represents too high an initial investment. Where the export and domestic trade businesses overlap is when exporters receive requests for non-psittacine (mainly non-CITES) species and fill them by buying from domestic traders, often paying for these with excess psittacines in stock.

Imports however are very much a part of the domestic trade and while the appearance of Chinese birds in trade (e.g. Black-throated Laughingthrush, Hwamei, White-crested Laughingthrush [races other than *bicolor*], Red-billed Leiothrix) in the capital city of Jakarta is not unusual in itself, the wide availability of Chinese and other imported birds in the markets of Medan in northern Sumatra and Ujung Pandang in Sulawesi, for example, indicates that there is a continuous movement of imported birds within the country.

Box 2

Indonesian bird markets

While a few Southeast Asian cities have markets or sections of markets devoted entirely to live animals (for instance Cau Mong Market in Viet Nam's Ho Chi Minh City, Jatujak in Bangkok), Indonesia is the only country in the region where most cities and many towns have a market specifically for wildlife (mainly birds). These are built and licensed by the Government. While some Southeast Asian wildlife markets may have achieved notoriety, most of these are usually smaller in size than a typical Indonesian wildlife market. Indonesia's markets primarily deal in non-CITES species and as a result have so far elicited little attention. The following are brief descriptions of the markets surveyed:

- Pramuka Street Bird Market (Jakarta)
  This is Indonesia's (and Southeast Asia's) largest wildlife market, located in the north-east corner of the city. This market was orginally opened in 1975 with a building occupying 3 200m^2 and housing 124 stalls. In the late 1980s the Jakarta Market Authority added a four-storey building on 1 700m^2 of adjacent land, containing 200 stalls. Not all stalls are occupied and currently 254 stalls are actively involved in bird selling. Readily recognisable protected species are offered for sale by touts and are displayed in the corner of the market farthest away from the main entrance, adjacent to the parking area. Protected species were observed on every visit (12 days), as was an average of 88 Southeast Asian non-CITES bird species. Not only birds are offered for sale and Leopard Cats *Felis bengalensis*, civets Viverridae, primates (such as macaques *Macaca* spp., gibbons *Hylobates* spp. and Slow Lorises *Nycticebus coucang*, otters Lutrinae and various lizards and snakes were usually observed. Occasionally touts offer to take buyers to purchase species such as Sun Bears *Helarctos malayanus* and young Tigers *Panthera tigris*.

- Barito Street Bird Market, Jakarta (Java)
  This market is located near the Blok M shopping district and is made up of approximately 80 permanent stalls along one side of the street and one area which is occupied daily by sellers bringing their cages. Diversity of species is high and an average of 65 non-CITES species were observed on each survey (14 days). Interestingly, the species composition of this market is slightly but consistently different with that of the Pramuka Market, suggesting different suppliers are involved.

- Kelapa Gading Bird Market, Jakarta (Java)
  This small bird market is found in Jakarta's east end and is composed of five permanent shops selling wild birds and three shops selling only domestic pigeons *Columba livia*, alongside the premises of CV. Gading Jaya, a large bird exporter/importer. A well-known trader commented that while this market was very small, quite unusual and rare species often appeared here. A single survey noted 23 species of non-CITES birds.

- Ramayana Bird Market, Bogor (Java)
  This small bird market is composed of approximately 10 permanent stalls and two surveys noted 25 and 24 species. While very small, this market is well known among local ornithologists as a place where unusual species might be seen. A second bird market known for its trade in munias is said to be located near the Red Bridge, but was not visited during the surveys.

Box 2 continued

- Bratang Bird Market, Surabaya (Java)
  This bird market is the largest in eastern Java and is composed of approximately 120 permanent stalls in a two-storey building. One survey yielded 74 non-CITES bird species, including many local East Javan endemic species and races.
- Situ Gunting Bird Market, Bandung (Java)
  Approximately 40 stalls are mainly involved in selling birds caught in nearby montane areas. One survey found 49 non-CITES bird species for sale.
- Ngasem Bird Market, Jogjakarta (Java)
  This market is made up of 64 permanent stalls (including a few just outside the main market area) selling mainly Javan and Central Javan species. One visit revealed 58 species of non-CITES birds.
- Sapria Bird Market, Denpasar (Bali)
  This market is made up of more than 60 permanent shops along two parallel lanes and is characterized by the presence of species from islands east of Bali (Lombok, Sumba, Timor). Two visits noted 52 and 72 non-CITES species for sale.
- New Market/Soepratman Street Bird Market, Ujung Pandang (Sulawesi)
  This small bird market is attached to the city's main New Market and is made up of only eight permanent shops. This market had an approximately even mixture of Chinese, Javan and local Sulawesi species, with 27 non-CITES species noted on one survey.
- Dr. F. L. Tobing Street Market, Medan (Sumatra)
  This bird market is composed of 19 permanent shops along one side of the street and two roadside stalls along the other side. Species were mainly locally caught Sumatran birds or imported species. One visit noted 58 non-CITES species for sale.
- Bird and Aquarium Fish Market, Palembang (Sumatra)
  This market is composed of 22 stalls selling wild birds, mostly Sumatran and imported species. One survey noted 41 non-CITES bird species.
- Karet Street Bird Market
  Approximately six transient bird sellers gather every day at a section of Karet Street, near the main food market. One survey noted 22 non-CITES bird species for sale.

Species in the domestic trade

There are few existing records of which bird species are in trade in Indonesia's markets. The TRAFFIC surveys recorded 255 non-CITES species and an additional 15 subspecies in 12 local markets on Java, Bali, Sumatra and Sulawesi. This number of species is far from conclusive as each survey noted species not recorded in previous surveys (including surveys conducted on successive days). This suggests that the number of species in trade may be much higher. Table 9 provides an overview of the number of species observed in each market.

Table 9

Numbers of non-CITES species observed in Indonesian markets

Locality	Number of stalls	Number of species	Number of visits
Tobing St. Bird Market (Medan)	21	58	1
Karet St. Bird Market (Palembang)	@ 6	22	1
Palembang Market (Palembang)	22	41	1
Pramuka St. Bird Market (Jakarta)	254	88 (average)	12
Barito St. Bird Market (Jakarta)	@ 80	65 (average)	14
Kelapa Gading Bird Market (Jakarta)	5	23	1
Bogor Bird Market (Bogor)	@ 10	25 (average)	2
Ngasem Bird Market (Jogjakarta)	64	58	1
Situ Gunting Bird Market (Bandung)	@ 40	49	1
Bratang Bird Market (Surabaya)	@ 120	74	1
Sapria Bird Market (Denpasar)	@ 60	62 (average)	2
New Market (Ujung Pandang)	8	27	1

Source: TRAFFIC Southeast Asia.

The bulk of the trade is made up of a number of very popular species, with more unusual or rarely-encountered species appearing according to their availability. Unusual species in trade (such as White-crowned Forktails *Enicurus leschenaulti*, Large Wren-Babblers *Napothera macrodactyla*, pittas *Pitta* spp., etc.) may command a higher price owing to attractive or unusual plumage patterns. Unusual species which have nondescript plumages, or are very similar in size and shape to more common species are often sold at 'regular' prices. One example of this is that in May 1992 a specimen of the Javan Scops Owl *Otus angelinae* (a CITES Appendix II-listed species) was observed for sale in Jakarta's Pramuka Bird Market, together with specimens of Collared Scops Owls *O. lempiji* and other small owls. The seller was unaware his specimen of Javan Scops Owl represented one of the few sightings of the species in the last 50 years.

Generally, the persons selling birds on the domestic market are not very knowledgeable about the species they sell. This is no doubt a function of the high number of species in trade, together with the unpredictable availability of many of them. Different species which are similar in appearance are often offered in pairs, with the seller maintaining the difference is due to sexual dimorphism (e.g. different species of blue-flycatchers *Cyornis* spp.). In contrast, pairs of females or pairs of males of some highly sexually dimorphic species (e.g. minivets *Pericrocotus* spp.) are sometimes sold as 'breeding pairs'. Sellers were found to be often unaware of the origins of the birds for sale. Imported birds might have been obtained through an importer/distributor and many imported species are automatically described as arriving from 'Taiwan' or 'Hong Kong'. Birds might also have been exchanged with other sellers, further obscuring their origins (exchanging birds between traders is a popular practice in the larger markets when a seller does not have in stock what a buyer is interested in). The sellers also routinely and intentionally misinform prospective buyers as to the origin of local birds in order to make their birds seem more exotic. If a buyer displays an interest in imported species, the sellers will often claim local species are 'imported'. Western Indonesian species such as Racket-tailed Treepies *Crypsirina temia* and Fire-tufted Barbets *Psilopogon pyrolophus* are often offered in western Indonesian markets as 'birds from Irian Jaya', as this

is believed to increase their desirability. In one notable instance in Jakarta's Pramuka Bird Market a local Red-billed Malkoha *Phaenicophaeus javanicus* was offered to TRAFFIC investigators as a 'bird of paradise from Irian Jaya'.

One peculiar selling tactic is to describe attractively coloured species as 'antique birds' *[burung antik]*. This is not a derivation of the Indonesian word *cantik* (meaning pretty), but an anglicism understood to denote desirability (i.e. antiques are much sought after). Another selling tactic is to colour the birds artificially. One popular method is to dye the underparts of Sooty-headed Bulbuls *Pycnonotus aurigaster* a bright pink. Another variation on this theme is colouring the underparts of Scaly-breasted Munias a bright grass-green.

Unlike the higher-cost singing species (such as laughingthrushes), many species are sold as novelties and as inexpensive toys for children. For the latter, young fledgling bulbuls and adult munias are popular. Species sold as novelties include herons, egrets Ardeidae, kingfishers, woodpeckers Picidae and shrikes Laniidae. These birds are purchased for a short period and few birds survive beyond a few weeks' time. Not many sellers are sufficiently knowledgeable in bird-keeping to be able to maintain novelty species in good health and these are often sold at relatively low prices in order to dispose of them quickly. Birds are also sold for the social status they are perceived to impart, though this mainly involves CITES-listed species and species widely recognized to be protected (see Box 3).

Box 3

Trade in Indonesian protected species

Ownership of rare and protected species in Indonesia is a popular way of showing that one is sufficiently important and powerful to be immune from prosecution over wildlife infractions. In fact, most of the highly desired birds in local trade are the country's few protected psittacines (for instance the CITES Appendix II-listed Sulphur-crested Cockatoos *Cacatua galerita*, Black-capped Lories *Lorius lory*, Purple-naped Lories *L. domicellus* and Eclectus Parrots *Eclectus roratus*), while many more psittacine species are legally available. Amongst protected non-CITES species the most popular are young cassowaries *Casuarius* spp., the Nias Island race of the Hill Myna *Gracula religiosa robusta* and Black-winged Starlings *Sturnus melanopterus*, which resemble the CITES Appendix I-listed Bali Myna *Leucopsar rothschildi*.

Other protected non-CITES species regularly observed in trade include various kingfishers, including the endemic Javan Kingfisher, the endemic Black-banded Barbet and Orange-fronted Barbet, pittas, the endemic Red-fronted Laughingthrush *Garrulax rufifrons* and Crescent-chested Babbler *Stachyris melanothorax*, Pied Fantails *Rhipidura javanica*, various flowerpeckers, sunbirds and spiderhunters (Nectariniidae) and the endemic Javan Grey-throated White-eye *Lophozosterops javanicus*. Few, if any, of these species are popularly recognized as being legally protected and as a result are not in any particular demand.

Not all of Indonesia's protected species are rare and threatened and the reasons for listing a number of species remain unclear. Some species have been listed for look-alike reasons (such as the Black-winged Starling which resembles the rare Bali Myna) and some protected endemics have very restricted habitats and ranges, such as the Red-fronted Laughingthrush, Nias Hill Myna, Javan Fulvetta *Alcippe pyrrhoptera* and the Spotted Sibia *Crocias albonotatus*. Their protection status is easily explained, as is the Sumatran Rueck's Blue-Flycatcher *Cyornis ruckii*, known only from two museum specimens. However, the Blue-wattled Bulbul *Pycnonotus nieuwenhuisii*, also known only from two specimens, one Sumatran and one Bornean, is not protected, while common species such as Pied Fantails *Rhipidura javanica*, Black-banded Barbets and Orange-fronted Barbets are provided legal protection.

Whereas a large number of species are in trade, much of the trade involves a few very popular species which are desired for their song, coloration and/or character, as is the case in Singapore and elsewhere in the region. In common with Singapore, Zebra Doves and Spotted Doves *Streptopelia chinensis*, White-rumped Shamas and Oriental Magpie-Robins, Hill Mynas, Hwamei and other laughingthrushes are all very popular. Also very popular is the Orange-headed Thrush *Zoothera citrina* and the Asian Pied Starling *Sturnus contra*, as well as the Straw-headed Bulbuls, Silver-eared Mesias and a variety of barbets. Twenty species were noted in 10 or more survey localities (that is in 75% of surveys) and can be considered widely traded (Table 10). Forty-seven species were observed 20 times or more (i.e. present on more than 50% of survey counts), though this is heavily weighted towards Jakarta's bird markets, where 27 of the 39 surveys were conducted (Table 11).

Table 10

The 20 most widely traded non-CITES species (observed in more than 75% of localities surveyed)

Species	Localities	Species	Localities
Gracula religiosa	14	*Leiothrix lutea*	12
Copsychus malabaricus	13	*Oriolus chinensis*	12
Garrulax chinensis	13	*Pycnonotus bimaculatus*	12
Garrulax leucolophus	13	*Streptopelia chinensis*	12
Geopelia striata	13	*Sturnus contra*	12
Pycnonotus aurigaster	13	*Garrulax canorus*	11
Pycnonotus goiavier	13	*Garrulax palliatus*	11
Pycnonotus zeylanicus	13	*Garrulax perspicillatus*	11
Copsychus saularis	12	*Sturnus melanopterus*	10
Leiothrix argentauris	12	*Zoothera citrina*	10

Source: TRAFFIC Southeast Asia.

Table 11

Non-CITES species observed in more than 50% of Indonesian surveys

Species	Surveys	Species	Surveys
Copsychus malabaricus	37	*Crypsirina temia*	29
Garrulax chinensis	37	*Lonchura maja*	29
Garrulax leucolophus	37	*Lonchura punctulata*	29
Geopelia striata	37	*Chloropsis cyanopogon*	28
Leiothrix argentauris	37	*Aplonis panayensis*	27
Leiothrix lutea	37	*Irena puella*	27
Pycnonotus zeylanicus	37	*Mirafra javanica*	27
Gracula religiosa	36	*Pycnonotus melanicterus*	26
Pycnonotus aurigaster	36	*Saxicola caprata*	26
Pycnonotus bimaculatus	36	*Chloropsis cochinchinensis*	25
Streptopelia chinensis	36	*Cissa thalassina*	25
Sturnus contra	36	*Pomatorhinus montanus*	25
Copsychus saularis	35	*Psilopogon pyrolophus*	25
Garrulax canorus	35	*Erythrura prasina*	24
Oriolus chinensis	35	*Dicrurus remifer*	23
Zoothera citrina	35	*Garrulax mitratus*	23
Pycnonotus goiavier	34	*Platylophus galericulatus*	23
Garrulax palliatus	33	*Dicrurus macrocercus*	21
Acridotheres grandis	32	*Megalaima armillaris*	21
Padda oryzivora	32	*Prinia familiaris*	21
Sturnus melanopterus	31	*Timalia pileata*	21
Chloropsis sonnerati	30	*Acridotheres tristis*	20
Garrulax perspicillatus	30	*Sturnus sturninus*	20
Pycnonotus atriceps	30		

Source: TRAFFIC Southeast Asia.

In both tables Chinese imports appear (Masked Laughingthrush, Black-throated Laughingthrush, Hwamei and Red-billed Leiothrix). Two more are almost entirely Chinese imports, though some local races were identified (White-crested Laughingthrush and Silver-eared Mesia). While Indonesia is a range state, the Straw-headed Bulbul occurs mainly as an import from Malaysia. Several species in the tables are Indonesian endemics (Orange-fronted Barbet, Black-winged Starling, Orange-spotted Bulbul *Pycnonotus bimaculatus*, Bar-winged Prinia *Prinia familiaris* and Java Sparrow.). One species, the Zebra Dove, is primarily captive-bred. The remaining species are ones which were almost certainly caught in Indonesia, but which also occur in other Southeast Asian countries. It is worthy of note that amongst the most widely traded and frequently observed species are two which are fully protected, the Orange-fronted Barbet and the Black-winged Starling.

From the 39 survey counts, 500 or more individuals were counted in total from among 40 species (Table 12). While there is much coincidence with the 47 most frequently observed species (Table 11), there are some important differences, suggesting that while these species are not necessarily widespread in local

trade, they are traded in significant numbers when they are. These are the Oriental White-eye, White-crested Laughingthrush *bicolor* (Sumatran subspecies), Mongolian Lark *Melanocorypha mongolica* (an import), Streaked Weaver, White-rumped Munia, Javan Munia *L. leucogastroides*, White-bellied Munia *L. leucogastra*, Black-headed Munia and the endemic White-capped Munia *L. ferruginosa*.

Table 12

Non-CITES species for which more than 500 individuals were noted in the Indonesian survey (in alphabetical order)

Species	Species
Acridotheres grandis	*Lonchura ferruginosa*
Chloropsis cyanopogon	*Lonchura punctulata*
Chloropsis sonnerati	*Lonchura striata*
Copsychus malabaricus	*Melanocorypha mongolica*
Copsychus saularis	*Mirafra javanica*
Crypsirina temia	*Oriolus chinensis*
Erythrura prasina	*Padda oryzivora*
Garrulax canorus	*Ploceus manyar*
Carrulax chinensis	*Prinia familiaris*
Garrulax leucolophus	*Psilopogon pyrolophus*
Garrulax leucolophus bicolor	*Pycnonotus atriceps*
Garrulax palliatus	*Pycnonotus aurigaster*
Garrulax perspicillatus	*Pycnonotus bimaculatus*
Gracula religiosa	*Pycnonotus goiavier*
Leiothrix argentauris	*Pycnonotus melanicterus*
Leiothrix lutea	*Pycnonotus zeylanicus*
Lonchura leucogastra	*Sturnus contra*
Lonchura leucogastroides	*Sturnus melanopterus*
Lonchura maja	*Zoothera citrina*
Lonchura malacca	*Zosterops palpebrosus*

Source: TRAFFIC Southeast Asia.

Volume of the domestic trade

The data obtained from the surveys allow a very rough estimation of the volume of trade to be made. Choosing a typical day in Jakarta's Pramuka Bird Market (12 September 1992), TRAFFIC investigators counted approximately 20 500 wild-caught specimens of 77 non-CITES species, with each active stall having an average of 80 birds. Conversations with bird sellers indicated that stock was usually cleared within two weeks. This, in turn, suggests that the monthly turnover of the Pramuka Bird Market is in the order of 40 000 wild-caught birds, or an annual turn-over of almost half a million wild-caught birds. Each stall operator in the Pramuka Market would only need to average slightly more than five birds sold a day to achieve this figure. Even assuming conservatively that stalls in other markets keep fewer birds (40 on average instead of 80), this would still mean that a typical city bird market of 50-100 stalls would be selling at least between 5 000 and 10 000 wild-caught birds a month. This output would only require each stall

keeper to sell fewer than three birds per day. Just the 15 well-known bird markets in Medan, Palembang, Padang, Jakarta (three markets), Bogor, Bandung, Jogjakarta, Surabaya, Malang, Semarang, Denpasar, Banjarmasin and Ujung Pandang probably represent an annual internal retail trade of at least 1 300 000 wild-caught non-CITES birds.

The trade in birds for food

The commercial capture of marsh birds for food in Java and possibly elsewhere deserves a special mention. This trade involves the netting and trapping of migrant and resident wetland birds in several communities along Java's northern coast and is described in detail by Milton and Marhadi (1985) for the Indramayu-Cirebon region of West Java province. In a nine-month period between September 1984 and May 1985 the researchers documented the capture of almost 150 000 specimens, which included at least 56 species of non-CITES birds (mainly Rallidae, Scolopacidae, Charadriidae and Ardeidae). Milton and Marhadi believed the annual catch was below 300 000 birds.

The conservation impact of the Indonesian bird trade

The conservation impact of the Indonesian bird trade is a function of regional harvesting, imports, exports and domestic trade. Not all birds are actively traded and those which enter trade are not evenly distributed within the country. Imports may have an impact on the species in their countries of origin and birds hardly traded locally may be exported in significant numbers. In addition, local trade can have a considerable impact on local populations. Whether for local consumption or for export, all utilization has in common the fact that specimens are removed from the wild. In very broad strokes, the impact of the Indonesian trade in non-CITES bird species can be subdivided into several components:

Significant exports of open-country birds:

- Indonesia is a major supplier of open-country and forest-edge birds, notably a variety of munias, Pin-tailed Parrotfinches, Tawny-breasted Parrotfinches *E. hyperythra*, Java Sparrows, Hill Mynas and Pied Bushchats. The main munia species in trade are abundant and widespread within their range and some are recognized as agricultural pests. However, both parrotfinches and the Java Sparrow are now considered rare or scarce owing to trapping (MacKinnon, 1988). Similarly, as a result of trapping the Hill Myna is now rare in Java (MacKinnon, 1988) and recognized as diminishing in Sumatra (van Marle and Voous, 1988).

Significant exports of forest birds:

- There is no available information by which the impact of the export trade in forest birds can be measured. However, data on exports and other countries' imports suggest that the export trade may have an impact on wild populations. For instance, Hong Kong imported over 13 000 Indonesian flycatchers in 1988; in 1991 Indonesia reported exporting over 5 000 flycatchers; and Indonesian export permits issued between May and December 1992 allowed the export of 1 740 flycatchers. This drop in numbers may be indicative of declining populations, or may simply be due to declining markets.

Significant exports of Irian Jaya species:

- Irian Jaya is Indonesia's largest and easternmost province and contains mainly pristine habitats ranging from tropical mangrove to permanent icefields (at 4 884 m above sea level). The province holds many of the most sought-after Indonesian psittacines and as a result the bird trapping business

is quite widespread. Non-psittacine non-CITES species are caught for the trade, but mainly for export and relatively few species/specimens enter the local trade. As a result it is far easier to find Irian Jayan species in trade in Singapore than it is in Indonesia's bird markets. Irian Jayan birds noted in trade in Singapore and elsewhere usually include a variety of fruit pigeons (such as Wompoo Fruit-Doves *Ptilinopus magnificus*, Pink-spotted Fruit-Doves *P. perlatus*, Ornate Fruit-Doves *Ptilinopus ornatus*, Coroneted Fruit-doves *P. coronulatus*, Beautiful Fruit-Doves *P. pulchellus* and Orange-bellied Fruit-Doves *P. iozonus*), imperial pigeons (such as Pinyon Imperial-Pigeon *Ducula pinon* and Banded Imperial-Pigeon *D. zoeae*) and mynas (Yellow-faced Myna *Mino dumonti* and Golden Myna *M. anais*). While many species are to be found (and caught) in Irian Jaya, the lack of local transportation infrastructure and the distance from Jakarta appears to limit the trade to relatively few hardy and easy-to-maintain species which can be marketed overseas.

Table 13

Indonesian non-CITES birds authorized for export to Singapore between August and December 1992

Species	Quantity
Amandava amandava	400
Aplonis minor	30
Cissa thalassina	320
Ducula chalconota	10
Ducula pinon	30
Ducula zoeae	20
Erythrura prasina	10 900
Erythrura tricolor	1 600
Gallicrex cinerea	60
Gallus gallus	20
Gracula religiosa	1 230
Irena puella	50
Leiothrix argentauris	200
Lonchura maja	11 100
Megalaima asiatica	300
Mino anais	300
Mino dumonti	360
Padda fuscata	2 300
Padda oryzivora	5 850
Phaenicophaeus javanicus	20
Platylophus galericulatus	130
Ptilinopus aurantiifrons	30
Ptilinopus iozonus	10
Ptilinopus magnificus	10
Ptilinopus perlatus	20
Ptilinopus pulchellus	20
Ptilinopus rivoli	25
Ptilinopus wallacei	10
Pycnonotus aurigaster	400
Sturnus contra	280
Treron sp.	150
Turdus obscurus	45
Total	**36 230**

Source: Indonesian CITES permits.

Significant imports of Chinese birds:

- Indonesia appears to be a major buyer of Chinese birds, at least partly solving the mystery of the destination of exported Chinese birds (see Inskipp, 1990). Laughingthrushes and Red-billed Leiothrix of Chinese origin are immensely popular in Indonesia and may be found in distant markets. In 1990, Hong Kong alone reported re-exporting approximately 79 000 Hwameis and about 34 000 Black-throated Laughingthrushes to Jakarta. In a 15-week period between late 1991 and early 1992 Indonesian quarantine records document the arrival of 40 104 laughingthrushes, together with 17 570 Red-billed Leiothrix. Considering that birds are imported directly from China as well as from Hong Kong, the total number being imported is certainly large. If the 15-week period for which quarantine data are available is representative of the normal level of imports, then some 140 000 Chinese-origin laughingthrushes (primarily Hwameis, White-crested Laughingthrushes, Masked Laughingthrushes and Black-throated Laughingthrushes) and 60 000 Red-billed Leiothrix arrive in Jakarta annually direct from China and via Hong Kong, Singapore and possibly Taiwan.

Significant imports of Malaysian Straw-headed Bulbuls

- The range of Straw-headed Bulbuls is the Malayan peninsula (southern Thailand, Peninsular Malaysia and Singapore), Sumatra and Borneo (Kalimantan, the eastern Malaysian states of Sarawak and Sabah and Brunei). Within this range the species is protected in Thailand (as a native species), in Peninsular Malaysia (as a scheduled species) and in Singapore (as a native species). While not protected in Sabah or Sarawak, this species has not been exported by either state during the past three years, nor has any local trade in this species occurred during this time in Sabah (T.P. Malim, *in litt.*, 2 September 1993).

  Indonesia, on the other hand, has had a thriving trade in this popular songbird. During 1989, 1990 and 1991, the annual capture quota was unlimited, though with some limits (54 000 71 400 and 71 550 birds respectively) applying to certain provinces for those years. No regional restrictions have applied to capture during 1992 and 1993. The result of continuous trapping is that the species has been largely eliminated from Sumatra and Java. Nash and Nash (1985) noted that ornithological studies carried out between 1983 and 1985 in the Way Kambas, Padang-Sugihan and Berbak swamp forest reserves in southeastern Sumatra failed to find a single individual. While the Straw-headed Bulbul is said to be an abundant lowland resident in Borneo (Smythies, 1981), Nash and Nash (1986) nevertheless failed to locate a single individual in the Tanjung Puting National Park during several months of field investigations. MacKinnon (1988) considered the Straw-headed Bulbul to be very rare on Java as a result of trapping. Yet despite the results of these scientific studies, this species is still widely found in bird markets (37 out of 39 TRAFFIC market surveys noted it and some 1 100 individuals were counted).

  A possible answer to this discrepancy has been found. The regular presence of the species in Singapore was first taken to be the result of exports from Indonesia. However, the quarantine data from Jakarta's main airport tell another story, where Indonesia imports rather than exports Straw-headed Bulbuls. One Singapore trader confirmed that birds arrive from Malaysia and are sent to Indonesia. This indicates that at least a portion (if not the majority) of Straw-headed Bulbuls seen in Indonesian markets are Malaysian birds, trapped and exported illegally from Peninsular Malaysia (where it is a fully protected species), 'laundered' in Singapore through loopholes in their legislation and legally re-exported to Indonesia. Straw-headed Bulbuls arriving from southern Thailand or from

Sabah/Sarawak would also be illegal exports, as exports from these areas have not been authorized in recent years.

A significant trade in local endemic species:

- Indonesia's bird trade primarily involves imported native species and species which are also found in other countries in Asia/Australasia. While Indonesia might contribute towards impacts on populations of these species, its bird trade is not the only factor. Trade in endemics is another matter and the Indonesian bird trade includes a number of quite localized endemic species. At the moment there are no population data for endemic non-CITES species which would help determine the impact of trapping on these species. Species which may be particularly affected by the bird trade are endemics from southern Sumatra and Java and Bali, where human population pressures are highest and where natural habitats are decreasing (for example, only 10% of Java is under natural vegetation, in mostly montane habitats (MacKinnon, 1988)). Endemic species in trade which are known to be naturally uncommon include Pink-necked Fruit-Dove, Black-backed Fruit-Dove, Sunda Coucal *Centropus nigrorufus*, Javan Kingfisher *Halcyon cyanoventris*, Crescent-chested Babbler *Stachyris melanothorax* and the White-bibbed Babbler *S. thoracica* (status from MacKinnon, 1988). Only one endemic species, the Java Sparrow, is widely recognized to have declined in numbers significantly since the 1950s owing to trapping (van Helvoort, 1981; MacKinnon, 1988).

A significant trade in recognized and unrecognized protected species:

- Species which are fully protected from capture and trade are in high demand for the status they are perceived to bring to the owner. Despite the Conservation Act (no. 5) of 1990 and the possible penalties, widespread trade in protected species is conducted very openly. During the surveys protected species were found in most markets on most days and in Jakarta's markets protected species were observed for sale in each of the 27 TRAFFIC surveys. While not all trade in currently protected species may be detrimental, the lack of enforcement of the **Conservation Act (no. 5) of 1990** (together with the lack of implementation of protected species 'registration' schemes) eliminates any disincentives towards trading in protected species, which in turn may seriously affect populations of endemic species which are deserving of legal protection.

Large total numbers of specimens in trade:

- Indonesia's domestic annual trade of at least a million wild-caught birds for ornamental purposes can be expected to have an overall downward effect on many of the species concerned. However, an overall decline in numbers and a clear conservation threat are two different matters. Presently the only non-CITES species for which evidence exists of serious threat as a result of trade is the Straw-headed Bulbul. Java Sparrow, Pin-tailed Parrotfinch and Tawny-breasted Parrotfinch are known to have declined in numbers owing to trapping, though trade in some of these species still involves tens of thousands of individuals annually.

  The domestic Indonesian trade is unaffected by global declines in the wild bird trade and any changes in the level or composition of this trade is probably a reflection of the state of the natural environment. Unfortunately, there are no comprehensive base-line studies of the domestic bird trade in Indonesia with which this review may be compared and as such there is no way to measure or quantify the decline of any species.

The wasteful nature of the domestic trade:

- A substantial portion of Indonesia's domestic bird trade involves a large number of forest species which will not receive adequate food and care in captivity and which usually do not survive very long. Thus much of Indonesia's domestic trade in native species is a wasteful 'cut-flower' industry, requiring the constant collection of short-lived commodities.

The trade in wetland birds for food:

- The large commercial trade in wetland birds (mostly migrants) for food which occurs on Java is of serious concern. In conservation terms there is no difference between a bird which is caught to be eaten, locally traded, or sent across national borders - a species removed from its environment no longer contributes to its ecosystem and is ecologically 'dead'. The on-going capture of wetland species in Java is unregulated and is in large part illegal (herons, egrets, terns, storks and several wading bird species are protected) under the **Conservation Act (no. 5) of 1990**. However, data are not available on the known impact of this trade on native and migrant populations.

Overall, it may be said that the Indonesian bird trade has had a serious and perhaps even devastating impact on certain species (such as the Straw-headed Bulbul), a moderate impact on certain species (for example Tawny-breasted Parrotfinches and Java Sparrows and Hill Mynas), which may eventually threaten populations, a lesser impact on many species which are still common (for instance most munias) and a totally unknown but possibly significant impact on lesser-known forest species (such as Orange-headed Thrush, Fire-tufted Barbet, Sumatran White-crested Laughingthrush *Garrulax leucolophus bicolor*, Black-naped Oriole *Oriolus chinensis*, leafbirds and the Orange-spotted Bulbul).

In the case of local endemics, even a small off-take may have an impact, if the species' range and habitats are restricted. The fact that only a few surveys in Jakarta's Pramuka Bird Market were enough to observe one of Java's rarest species, the Javan Scops Owl, suggests that few areas if any are safe from harvesting. The total lack of implementation of the **Conservation Act (no. 5) of 1990** for domestic infractions and the regular occurrence of protected species in trade for food or pets demonstrates that insufficient controls are in place on Indonesia's domestic bird trade.

Thailand

Thailand occupies 511 770 km^2 on the Southeast Asian mainland, surrounded by Myanmar, Lao PDR and Cambodia on its western, northern and eastern borders and Peninsular Malaysia to the south. Thailand has had a long history of wildlife trading and has previously been referred to as the world's 'wildlife supermarket'. The most notorious of Southeast Asia's wildlife markets is the Jatujak Market in Bangkok, also known as the `Weekend Market' or `Sunday Market'. As recently as two years ago many of the country's 616 native bird species could be obtained there, as traders took advantage of loopholes in the wildlife protection legislation. However, recent changes in Thai laws and a crackdown on illegal trade by Government authorities have changed the situation across the country and much less illegal wildlife trade is now openly conducted in Bangkok and elsewhere.

Thailand joined CITES in 1983 and wildlife trade is monitored and regulated by the Royal Forestry Department.

Bird trade legislation in Thailand

The **Wild Animals Reservation and Protection Act, B.E. 2535 (1992)**, is the current legislation providing the legal framework for investigation, seizure and so on, relating to wildlife species in Thailand.

Under the Act, animal species are divided into 'protected species' and 'endangered wildlife'. Protected species include all CITES listings for animals and a list of Thai protected species. Endangered wildlife mainly includes species previously listed under the **Wild Animals Reservation and Protection Act of 1960** (amended 1972) and there are no non-CITES bird species included on this latter list. Penalties for infractions of the Act are limited to imprisonment not exceeding four years and/or a fine of Baht equal to approximately US$1 600).

The new Act states that no trade in wildlife is permissible unless the wildlife is derived from captive-breeding operations. At the moment, non-CITES (Appendix I and II) species for which captive-breeding is authorized include the following: Lesser Whistling-Duck *Dendrocygna javanica*, Kalij Pheasant *Lophura leucomelanos*, Silver Pheasant *L. nycthemera*, Crested Fireback *L. ignita* (CITES Appendix III), Siamese Fireback *L. diardi*, Red Junglefowl *Gallus gallus*, Grey Peacock-Pheasant *Polyplectron bicalcaratum*, Crested Partridge *Rollulus rouloul* (CITES Appendix III), Chinese Francolin *Francolinus pintadeanus*, all *Arborophila* spp. partridges, Red-whiskered Bulbul, Black-collared Starling *Sturnus nigricollis*, Common Myna, Great Myna, Zebra Dove and Spotted Dove.

International trade (import and export) of birds is allowed only by permission of the Royal Forestry Department and no imports and exports of wild-caught non-CITES birds have been authorized since 1991 (M. Lauprasert, *in litt.*, 27 August 1993). Legal exports include only captive-bred species, though no exports have been authorized in recent years, even for such species as the Zebra Dove (M. Lauprasert, pers. comm., 19 October 1993).

Bird trade in Thailand

The live animal section of the Jatujak Market, where McClure and Chaiyaphun (1971) noted 370 bird species for sale and where Round (1990) noted 225 native species (201 non-CITES species) is now mainly occupied by traders dealing in cats, dogs and captive-bred birds. A total of 22 surveys conducted between January 1992 and March 1993 revealed only 36 Southeast Asian non-CITES bird species (including four imported species) and one additional subspecies and by March 1993 almost all were gone from the market.

A small pet market adjacent to the Jatujak Market contains approximately five shops which sell birds, mostly CITES Appendix II- and Appendix I-listed species. Here, a few individuals of Asian Glossy Starling, Lesser Green Leafbird *Chloropsis cyanopogon*, White-rumped Shama, Asian Koel *Eudynamys scolopacea*, White-crested Laughingthrush, Black-naped Oriole and Java Sparrow were recorded from four surveys. Surveys in other localities turned up even fewer species. Overall, the market in Southeast Asian non-CITES birds in Thailand has either mostly disappeared or has gone 'underground'. While the latter may have occurred, TRAFFIC could find no evidence of this.

Some illegal export trade persists (for instance the protected Red-whiskered Bulbul and protected leafbirds to Singapore), while overall the situation has changed from widespread illegal trade to almost no trade. While this reduction in trapping pressure is welcome, it is nonetheless appropriate to mention that trapping of native non-CITES species for the wild bird trade has had a measurable impact from which certain populations may never recover. Round (1988) mentions a number of species threatened in Thailand by trapping, including Long-billed Partridge *Rhizothera longirostris*, Crested Partridge, Chestnut-necklaced Partridge *Arborophila charltonii*, Chestnut-headed Partridge *A. cambodiana*, Rufous-throated Partridge *A. rufogularis*, Crested Fireback, Coral-billed Ground-Cuckoo *Carpococcyx renauldi*, Blue-winged Pitta *Pitta moluccensis*, Straw-headed Bulbul, Green Magpie *Cissa chinensis*, Blue Magpie *Urocissa erythrorhyncha*, Dark-throated Oriole, Hill Myna and weavers *Ploceus* spp. These species remain in

demand in all parts of their range and while much of the threat of trapping for the live bird trade is now reduced, other factors at play, such as habitat conversion and continued hunting for food, may seriously diminish any chances of recovery.

Thailand's current impact on the region's bird trade is as its primary producer of captive-bred Zebra Doves. Perhaps only in Indonesia is the production of, and trade in Zebra Doves as large as in Thailand, but Thai birds are more highly regarded for their song and stamina. The following sections describe the Zebra Dove trade and its associated sub-culture in Thailand. It should be noted, however, that as Thai authorities have not permitted exports of wild or captive-bred Zebra Doves during the past two years, all export trade in this species is technically illegal.

The Zebra Dove trade of southern Thailand[4]

Raising Zebra Doves in Thailand began hundreds of years ago, when doves were first captured and kept as pets because of their attractive call and the belief that doves brought good luck. A perfect Zebra Dove call or 'song' is said to end with a note resembling the sound of a bronze drum when struck with a cloth-wrapped mallet. These drums have a special significance in Thai culture as they are used for religious events and cultural festivals. With the evolution of larger, more sonorous drums the depth and range of tone increased, as did the value of the doves whose call resembled these larger drums. During the Ayudhya Period, over 250 years ago, doves were already looked upon as valuable possessions. The first written reference to doves in official (royal) Thai history comes from the Rama III Period, about 150 years ago, when King Rama III made reference to the raising of doves and to the good luck they were purported to bring. Thirty years ago doves were still being captured in the wild but nowadays, while the Zebra Dove may still bring luck to believers, the birds are no longer taken from the wild and are captive-bred in large numbers.

Dove breeding

Breeding of Zebra Doves in Thailand has evolved over the past thirty years into an industry worth millions of dollars annually, involving anything from household-level operations to large-volume 'farms' owned by wealthy individuals. No competition-grade birds come from wild stock, as wild birds do not call as clearly nor as long as captive-bred birds. Doves are bred as a hobby, as a way to supplement income, or as a full-scale business.

Most Zebra Dove breeding operations can be considered small-scale efforts, though entire villages may be involved. Large-scale breeding operations remove the eggs as soon as they are laid to free the breeding pair for producing more eggs. The eggs are moved to surrogate parents, usually Red Turtle-Doves *Streptopelia tranquebarica*. Twenty-one days after hatching the young Zebra Doves are ready to start eating their own special food and are moved to larger cages. By this method one male is said to be able to father thirty pairs of eggs. One breeder claimed that his birds start fighting after producing the tenth pair of eggs, because of the stress of producing so many.

A breeding pair is chosen for its lineage. All birds raised at the larger, export-oriented farms have documented 'pedigrees'. Birds are often banded with colour-coded leg rings that match the colour of their parents' ring colour, in order to keep track of lineages and a guaranteed pedigree raises the prices of the birds for sale. Different birds are produced for different markets: for example, birds whose calls stress the middle notes are reserved for the Indonesian market. Producers of birds with very clear calls usually have long waiting lists of customers and it is not unusual for birds to be reserved by a buyer before they are even conceived.

Dove breeding is of considerable economic importance to southern Thailand. Mr. Sama-ae Thong, a well-known producer in Songkla, claims to make US$400 000 a year from the sale of 70 to 80 000 birds. Prices range from US$200-2 000 a pair. Most of these birds go as hatchlings to middlemen, who then choose the best of the batch and sell them again, making a healthy profit. A bird that sells for US$200 as a hatchling in Songkla could sell for US$400 in Bangkok. Most hatchlings, however, are sold from US$1-40. A hatchling with a good pedigree and which shows promise can be sold for US$800-2 000. If bought by a middleman, the bird could be sold a year later, after a good competition, for US$12 000. Songkla Province, with its three breeding hubs of Hat Yai, Songkla and Chana, and where approximately 80% of all villages are involved in small-scale breeding for a supplementary income, is estimated to earn approximately US$1.5 million from the breeding of doves. A roughly estimated annual income generated in the seven southernmost provinces of Thailand by the sale of captive-bred Zebra Doves is US$3 900 000.

Zebra Doves in cages on "singing" poles in the competition field, Nakorn Pathom, southern Thailand.

International trade in Thai Zebra Doves

Most international buyers come from Indonesia, Malaysia and Singapore. Birds are obtained in Bangkok or directly from southern Thailand, where serious buyers visit on a monthly basis. The output is impressive: there are at least five large farms in southern Thailand producing tens of thousands of birds annually, at least 100 medium-sized farms producing about 5 000 birds each and an estimated 500 small farms producing about 200 birds each annually. Together, these produce an estimated 785 000 birds annually. The Bangkok area is also reported to have several large breeding operations, which suggests that over one million captive-bred doves are produced each year.

Apparently at least a quarter of the southern birds in trade are sold to foreigners, representing exports of almost 200 000 birds annually. Many foreign buyers are selective purchasers, paying an average price of US$40 per bird. These buyers purchase only a few birds at a time (10-20) and hand-carry them back to their countries.

Box 4

Zebra Dove competition in Thailand

Bird singing competitions are part of the bird keeping subculture in Southeast Asia. Birds are carefully chosen, reared, trained and entered in competitions. Competitions are social events where participants share their affection for Zebra Doves and where champion birds can bring wealth and increased social standing to their owners.

Only male doves compete, as their mating call is considered to be much stronger and sustained than the females'. Doves in cages are raised up on 5m poles, spaced about 4-5m apart, where they will not be bothered by the presence of the judges walking around listening to their calls (only the judges are allowed on the field during competition). Being at this height might also simulate being in a tall tree and competition birds have been conditioned from an early age to call when they are raised up on the poles. There is an average of one judge for each thirty doves and all judges must evaluate all the birds over the

Cage-maker, Khun Pee Waesalae at work.

Khun Gong Sing at his Zebra Dove breeding farm in Krabi, Thailand.

family might build 20 cages a year in this way and earn approximately US$280 per year in supplementary income.

The builders of expensive cages work at their trade full-time and become famous by word of mouth as the breeder of a good bird may do. The current generation of famous builders had teachers like Mr. Go-Yee from Pattani (one Go-Yee cage was seen on sale for US$4 800). Mr. Pee Waesalae, also from from Pattani, earns his living from making cages and sells unadorned cages for US$1 000 apiece. Each cage takes about 45 days to complete. Accessories chosen for such a cage would be likely to double the cost of the cage and one of Mr. Waesalae's cages has been placed in a Japanese museum of Southeast Asian culture. Often a cage, like an expensive bird, is given as a present to someone who might one day be in a position to return a favour, such as an employer or a rising politician. Cages like the birds are kept and collected as status symbols, displaying the wealth and good taste of the owner.

- Food Production

Most breeders buy the various components in dove food and mix their own. Major ingredients might include hand-crushed corn, black sticky-rice, small-grain rice, black and white millet, mung beans, cooked termite-hill earth and sand and crushed sea shells. The earth, sand and shells in the food mix are said to provide necessary vitamins and minerals and to aid digestion. Mung beans are high in protein (mung beans are also the exclusive diet of nestling doves). Millet and rice are natural foods of the doves and corn is said to make the doves strong. Packaged ready-mixed foods are also available, prepared by large animal-food companies in the Bangkok area.

Box 4 continued

space of three hours. Birds are identified by registration cards on each pole, for which a registration fee of US$8-16 is usually levied from the owners. A competition usually lasts two days, with an average of 300-500 birds registered. On the first day the birds are divided by their sound category - large, middle and small. On the second day the competition is open. Owners frequently enter three or four doves in each competition and many will bring them to the area of the competition a few days beforehand in order to 'acclimatise' the birds.

Birds are judged on six points. The first four involve the quality of the dove's voice:

- the quality of the first step;
- the quality of the middle steps and their tempo;
- the quality of the ending step (bronze drum note);
- the quality of the tone.

These four encompass one phrase. A phrase has a first step, a number of middle steps and an ending step. A competitive bird must have at least four steps - five and six are becoming fairly common. Steps are very important in Indonesian competition, while they are less so in Thailand. The last two points concern the competition regulations: a competing bird must sing 30 phrases. In these 30 phrases, 50% of the phrases must have clearly and fully enunciated 'kong' sounds. The competition must last three hours (in Thailand competitions start at 8.30 a.m. and end at 11.30 a.m.; in Singapore and Malaysia competions start earlier).

Competitions are now held in fifty provinces of Thailand. All southern provinces have at least one large competition field in the provincial capital and many smaller fields are found throughout Thailand. Important annual Zebra Dove competitions include the King's Cup held in Nakorn Pathom and the ASEAN Barred Ground Dove Competition in Yala Province. Those involved in competition are quick to point out that competing erases social, religious and cultural boundaries. Competitions are also places to buy cages, hooks, food, medicine and taped bird songs (the last for those who aspire to become judges).

Young birds, pictured here, are not entered into the competition, but are brought along to "get used" to the competition atmosphere. Zebra Dove cages have a distinctive shape.

Associated Zebra Dove Industries

The breeding of doves for sale and for competition has led to the growth of a number of complementary industries. The two most obvious ones are those of cage building and food production.

- Cage building

In a completed cage there are five different components that employ at least five different people to complete. These are the cages themselves, the porcelain or glass water and food cups, glass ornaments, the hook from which the cage is hung and the perches and the stock between the hook and the cage. Just as there are levels of breeding and levels of competition, so there are levels of cage building. Chana village in Songkla Province is famous for its mass-produced cages. These cages usually sell for US$8-20 each while some cages sell for as much as US$200. There are at least 200 families in the south which build inexpensive cages to supplement their incomes. These cages take a few weeks of on-and-off work to complete and are built in the dry season when agricultural activities are less labour-intensive. One

Conservation impact of the Zebra Dove trade

The dove industry in Thailand is widespread, legal, profitable, environmentally non-destructive and growing in popularity. The dove industry provides supplementary income to a substantial section of southern Thailand's population, particularly in Pattani and Songkla Provinces, where profits from the breeding and cage-making are in the millions of US dollars. The Zebra Dove is one of the most recently domesticated wild bird species.

The Zebra Dove industry also lessens the demand for wild-caught species, as captive-bred individuals are readily available to supply a demand for cage birds. In the case of the Zebra Dove, wild individuals offer no advantage and every disadvantage, including the fact that wild birds call much too rapidly for popular taste. Captive-breeding has largely eliminated the catching of wild specimens of this species. This may well set a suitable example for other highly sought-after species in Southeast Asia, such as Malaysian Oriental White-eyes and Straw-headed Bulbuls and various Chinese laughingthrushes. The level of demand for singing birds is high enough that captive-breeding of these species may be profitable, especially if all current wild sources of supply are steadily depleted.

Viet Nam

The Socialist Republic of Viet Nam occupies 325 360 km^2 along the southeastern margin of the Indochinese peninsula, with a 3 200 km coastline on the Gulf of Tonkin and the South China Sea. Most of the country is hilly or mountainous, with two very fertile plains of the Red River in the north and the Mekong River delta in the south. Some 638 bird species have been recorded in Viet Nam, of which 34 species are recognized as globally theatened (WCMC, 1992).

The recent Indochinese war has had an enormous impact on Viet Nam's natural habitats, in the form of intensive aerial bombing and the use of chemical defoliants. Since hostilities ceased in 1975, habitat conversion has continued, fuelled by a growing demand for agricultural products, resources for industry and exportable commodities. In recent years, trade in Viet Namese wildlife and wildlife products has emerged as a new export business catering to foreign middlemen and tourists, involving a number of private and semi-private concerns. Viet Nam is not yet a member of CITES.

Investigators from the University of Hanoi's Centre for Natural Resources Management and Environmental Studies and TRAFFIC conducted 14 surveys in live-animal markets in Ho Chi Minh City, Hanoi, Haiphong and Nha Trang between December 1992 and May 1993, recording 53 non-CITES species and two additional subspecies in trade. Additional information sources for this report include recently published observations by Eames and Robson (1992) and unpublished observations by Baird and Sly (1992) and Parsons (1993).

Relevant legislation

The main legislation used for regulating trade is the **Decree of the Council of Ministers No. 18 HDBT Determining the List of Rare and Precious Forest Flora and Fauna and Regulations for their Management and Protection**, dated 17 January 1992. This Decree establishes two lists of species, one for species which may not be traded or utilized and the second list for species whose use and trade must be restricted. Wild animals in the second list may only be captured for establishing captive-breeding populations, for scientific exchange and other 'essential purposes'. Permission for such utilization must be obtained from the Ministry of Forestry. The only non-CITES bird species included in the first list (totally protected species) is the Siamese Fireback. No non-CITES bird species are included in the second list (protected species).

In mid-March 1993, the Viet Namese Government issued **Instructions of the Prime Minister Regarding the Management and Protection of Rare and Precious Flora and Fauna**, which reiterated the main points of the Decree No. 18 and which instructed related authorities to 'place maximum restrictions on the exploitation for sale in foreign countries of all animals used in speciality dishes such as snakes, turtles, crabs, frogs and other flora and fauna, which even though neither rare nor precious, are in danger of depletion and thereby inducing a loss of ecological balance'. Unfortunately, this means that unless an unprotected species is consumed, there is no possible limit to capture and/or utilization. In real terms, trade in non-CITES species, with the exception of the Siamese Fireback, is not subject to any legal controls.

One impact of of the Instructions has been to drive part of Viet Nam's wildlife trade underground, particularly in Ho Chi Minh City where trading in threatened species has been openly conducted. More of the traders' stock is now sold from their homes and less is displayed in the markets. Fewer wildlife products are displayed in curio shops, though the availability of wildlife and wildlife products has not necessarily diminished (Le Dien Duc, pers. comm., April 1993).

The Viet Namese bird trade

Commercial trade in non-CITES bird species is a recent development in Vietnam and despite Viet Nam's very long history of trading wildlife with China and other neighbouring countries there is no historical record of a significant trade in birds. Current economic conditions have encouraged a number of traders and semi-private trading companies to become involved in wildlife trade (especially in the more trade-focused south) and during the past few years Viet Namese birds have been appearing in Southeast Asian markets in increasing numbers. Many species found in Viet Nam have traditionally been obtained by Southeast Asian traders from elsewhere in the region, such as Oriental White-eyes (Malaysia), Red-whiskered Bulbuls (Thailand), Black-throated Laughingthrushes (China) and Red Avadavats (Indonesia). As new legislation and regulations are imposed in various countries and as the availability of birds decreases and their price increases, Viet Nam has provided an attractive alternative source and an eagerness to attract foreign buyers has resulted in lower selling prices than in other countries.

Import/export trade

The existing bird trade is largely in local species destined for export and there is no evidence of importation of significant numbers of non-CITES species from neighbouring countries for local use and/or re-export. While traders in Singapore readily admit to the importation of Viet Namese birds, no official data on Viet Namese exports are available and Singapore does not declare its non-CITES imports. Thus the composition and extent of the Viet Namese export trade remain largely unknown. From interviews with Singaporean importers, the main non-CITES species exported from Viet Nam include Red-whiskered Bulbuls, Oriental White-eyes, Hill Mynas, White-crested Laughingthrushes, Black-chinned Laughingthrushes (including the black-cheeked form, *Garrulax chinensis lugens*), Red Avadavats and various munias and weavers. Other species observed in Singapore which originated in Viet Nam include the Black-headed Sibia *Heterophasia melanoleuca* and the Large Scimitar-Babbler *Pomatorhinus hypoleucos*. One Singaporean trader admitted receiving trogons *Harpactes* spp. from Viet Nam, though none was observed in the TRAFFIC surveys (this trader provided his Viet Namese supplier with a copy of a popular field guide and ordered birds by referring to the illustrations and page numbers).

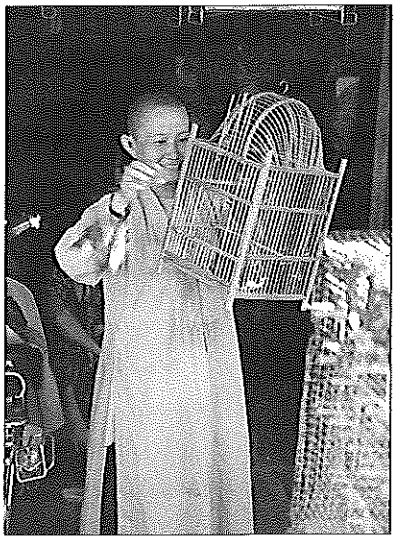
There is a cross-border trade with China and interviews with Viet Namese traders identified Black-chinned Laughingthrushes and Silver Pheasants as two species traded across to China (Le Dien Duc, pers. comm., April 1993).

Domestic trade

A domestic trade in non-CITES bird species exists, but it is often difficult to distinguish between trade supplying local demand and trade supplying the export market. Markets in small communities may sell non-CITES birds such as munias, weavers, Red Avadavats and various swallows *Hirundo* spp. and Sand Martins *Riparia riparia*, but these are sold mainly for food and for release by Buddhists and there appears to be a very limited local demand for singing birds. Birds in larger markets in Hanoi and especially Ho Chi Minh City may be for local use, or may serve as advertisement for species available in larger numbers for export. TRAFFIC surveys in these markets provide some information on local trade, but these data may not differentiate between domestic and export trade.

Ho Chi Minh's Cau Mong Market

The largest live-animal market in Viet Nam is located beside the Mong Bridge (*Cau Mong*) in the centre of Ho Chi Minh City and several recent publications on wildlife trade in Viet Nam have identified the Cau Mong market as being a major centre for wildlife trade (Anon., 1992; EII, 1993). In terms of the bird trade, however, Cau Mong market is actually quite small and of little regional significance. Eames and Robson (1992) counted 15 stalls offering birds at Cau Mong and their three surveys in 1991 resulted in records of 36 non-CITES bird species in trade. TRAFFIC surveys conducted between December 1992 and May 1993 counted 12 stalls (out of the market total of 18) offering a total of 52 species of wild non-CITES birds. In terms of numbers, surveys by Eames and Robson (1992) and TRAFFIC noted that species from the family Passeridae (such as munias, weavers etc.) were predominant. These birds are most likely to be destined for release, or will be eaten (one Singaporean importer mentioned that Viet Nam was another source of 'prayer' birds obtained for Buddhist festivals in Singapore and so a proportion is exported). Other species were usually in very small numbers (one to three specimens), though these may simply have served as advertisement for larger numbers held in stock elsewhere.



The monk liberates birds from a small cage which the shop-keeper may replenish from his often plentiful supply of birds for this purpose.

The conservation impact of the Viet Namese bird trade

There is insufficient information from which an assessment of the conservation impact of the Viet Namese bird trade may be made. Available data suggest that commercial trade in most non-CITES bird species is not at a level which may threaten species at this time. However, it is worth noting that of the region's main bird-trading countries, Viet Nam is the only country with a totally unrestricted trade in non-CITES bird species. Southeast Asian traders' taking advantage of the lack of regulations in Viet Nam as well as of its lower prices for bird exports suggest that the trade in birds both inside and out of Viet Nam should be closely monitored, especially for birds in high demand which are increasingly difficult to obtain elsewhere.

The Philippines

The Philippine Archipelago lies northeast of Borneo and south of Taiwan, on the western edge of the Pacific Ocean. It is a collection of over 7 000 islands, with the large islands of Luzon and Mindanao accounting for approximately two-thirds of the country's 298 170 km^2 land area. The avifauna of the Philippines combines Malaysian, Papuasian, Palearctic and endemic faunal elements and altogether contains 395 species of which 172 are endemic (WCMC, 1992).

Habitat destruction is by far the most important hazard threatening the Philippine avifauna, the result of broad socio-economic problems facing the Philippine Government, the logging industry, slash-and-burn farmers and landowners residing near forested areas. One non-CITES bird species, the Cebu Flowerpecker *Dicaeum quadricolor*, was thought to have disappeared as a result of forest clearing (but was recently rediscovered in a tiny remnant forest patch) and uncontrolled hunting for the live-bird trade is recognized as an added threat to the country's avifauna (Kennedy, 1991). Collar and Andrew (1988) recognize 41 Philippine non-CITES bird species (29 endemic) to be globally threatened, with a further 33 non-CITES species (25 endemic) considered to be near-threatened. The Philippines joined CITES in 1981 and wildlife trade is regulated and administered by the Department of Environment and Natural Resources (DENR).

In gathering information for this review investigators from TRAFFIC and the Haribon Foundation conducted surveys in 61 metropolitain Manila pet shops (including those in Pasay City's Cartimar Market), two Cebu City shops and four shops in Davao City, between June 1992 and April 1993, finding 35 non-CITES bird species in trade.

Relevant legislation

Philippine wildlife legislation is made up of an overlapping array of overlapping Acts, Administrative Orders, Executive Orders, Presidential Decrees and Guidelines which amend and re-amend earlier versions. The basic Philippine legislation relevant to bird trade is **Act No. 2590, An Act for the Protection of Game and Fish** (1916), amended by **Acts No. 3730 (1930)** and **4005 (1936)** and the **Commonwealth Act No. 491 (1939)**. Under Act 2590 it is unlawful to possess, purchase, offer or expose for sale, transport, ship or export any protected bird, alive or dead. 'Protected birds' generally includes all wild non-CITES birds, while 'crows, house sparrows, herons, mynas and such other species as determined by the Secretary of Agriculture and Commerce may be destroyed by property owners whenever they become injurious to their property'. 'Game birds' are only protected during closed seasons. Under Act No. 2590, **Presidential Decree No. 705** and **Executive Order No. 192 (1987)**, the DENR has established annual species-specific quotas for collection under permit of wild fauna for commercial purposes. The DENR **Administrative Order No. 9 (1988)** establishes that trade in wild Philippine birds will gradually be phased out entirely, with 1994 scheduled to be the last year in which capture of and trade in Philippine wild birds may occur (from Nichols *et. al.*, 1991).

Bird trade in the Philippines

The Philippine bird trade primarily involves CITES-listed species, including native protected species, imported wild species and captive-bred species. There is a significant trade in protected native CITES-listed species (such as Philippine Cockatoo *Cacatua haematuropygia*, Blue-naped Parrot *Tanygnathus lucionensis*, Nicobar Pigeon *Caloenas nicobarica*, Palawan Peacock-Pheasant *Polyplectron emphanum* and so on), but more than 50 TRAFFIC surveys conducted in 67 localities in metropolitan Manila, Cebu City and Davao City recorded only 35 non-CITES bird species in trade. Of these, 26 are resident and/or introduced species in the Philippines and nine are definitely imported (possibly from Singapore or Indonesia). However, all may in fact be imported, with the exception of several protected Palawan Hill Mynas *Gracula religiosa palawanensis*, observed in Pasay City's Cartimar Market (within metropolitan Manila).

Conservation impact of the Philippine bird trade

The legal trade in imported non-CITES birds in the Philippines is fairly small in scope and volume and appears to present no threat to the conservation of those species. An illegal trade in local species undoubtedly exists, though there are no complete data on the level of illegal trade in non-CITES species.

In Palawan, a typical bird-catcher obtains approximately 175 Palawan Hill Mynas in a year (Juan, 1993). Considering the existing consumer demand and the ease with which such cavity-nesting birds may be collected from the nests and considering the recognized decline in populations of the Philippine Cockatoo, another local cavity-nesting species, it may be expected that Palawan Hill Mynas will suffer a significant decline, despite their protected status. One factor making protection laws difficult to implement is the fact that trade in this species can easily be hidden as trade in 'imported' species, as the Palawan race is very similar to the imported races.

Other than in the case of the Hill Myna, the conservation threat posed by trade at this time seems limited to higher-value CITES-listed species.

Malaysia

Malaysia consists of 11 states and a Federal Territory on the Malayan peninsula and the Bornean states of Sabah and Sarawak. Covering 131 598 km^2 on the Malayan peninsula and 198 209 km^2 on Borneo, Malaysia has 501 resident bird species, of which 35 are considered globally threatened (WCMC, 1992). Much of Peninsular Malaysia has long been converted to plantation agriculture, while habitats in the less developed eastern states of Sabah and Sarawak are currently under considerable pressure from loggers and developers. While bird keeping is extremely popular in Thailand, Singapore and Indonesia, it is markedly less so in Malaysia and this lack of interest, together with fairly strict wildlife trade regulations and a strict wildlife import/export taxation scheme, has contributed towards a very limited bird trade occurring in Malaysia. Malaysia joined CITES in January 1978 and the Federal Government, Sabah and Sarawak each maintain their own CITES Management and Scientific authorities.

Malaysia's capital city, Kuala Lumpur, has only two main bird shops with much smaller pet shops located in the city and its suburbs. TRAFFIC investigators conducted eight surveys in Kuala Lumpur's two main bird shops, noting 33 non-CITES bird species in trade. State and federal authorities provided some data on imports and exports, while import data from several countries provided additional information on Malaysia's trade in non-CITES birds.

Relevant legislation

Wildlife trade is under the jurisdiction of state governments and wildlife trade legislation is different for the three regions of the peninsular states, Sabah and Sarawak.

- Peninsular Malaysia

The Protection of Wild Life Act of 1972 (Act 76) applies only to Peninsular (West) Malaysia and provides the legal framework for investigation, seizure and trade control relating to wildlife species listed in its five schedules of protected wildlife species. International trade (import and export) is allowed only under licence and wildlife species listed in Schedules Two and Four of the Act may be traded under permit. The Act was amended in 1991 to include all CITES Appendix I and II species within the existing schedules. Penalties for contravention of the Act are set by the courts and the minimum penalty is RM300 (approximately US$115) and/or one month's imprisonment. The penalty for illegally possessing wildlife is a fine not exceeding RM1 000 (approximately US$380) and/or six months' imprisonment. Wildlife trade is also covered under the **Malaysian Customs Act of 1967** (Act 235) and **Customs Regulations, 1977**. The penalty under this Act for making an incorrect declaration is a minimum RM5 000 (approximately US$1 900) and/or 12 months' imprisonment.

Furthermore, the Federal Government collects a RM5 tax (approximately US$1.90) on each specimen of 'protected' wildlife entering/exiting the country. As many species in trade are considered protected in Malaysia, this generally serves as a disincentive towards Malaysia's acting as a transit point for most wildlife, since merely passing through the country would add to the cost of each bird an amount which would be difficult to recoup in a competitive international market. On the other hand, this tax may act as an incentive towards smuggling, in order to evade the tax.

- Sabah

The eastern Malaysian state of Sabah established the **Fauna Conservation Ordinance of 1963** (No. 11), which provides the legal framework for investigation, seizure and trade control relating to wildlife listed in its First Schedule (protected species). The minimum penalty under the 1963 Ordinance for illegal trade is a fine of RM500 (approximately US$190) or one-half the maximum fine prescribed for the offence, whichever is less. If no penalty is prescribed, then an offender is liable to imprisonment for six months and a fine of RM1 000 (approximately US$380). Wildlife trade is also covered under the **Customs Act of 1967 (Act 235)** and **Customs Regulations, 1977.** In 1982, the First Schedule was amended to include additional species on the protected list. The Sabah Wildlife Department is currently working to revise the state's wildlife legislation.

- Sarawak

Sarawak established the **Wildlife Protection Ordinance** (1990) as its legal mechanism for protecting wildlife and regulating the utilization of species. Protected species are listed in the Ordinance's First (animals) and Second (plants) Schedules. The penalty for illegal wildlife trade is imprisonment for three months and a fine of RM1 000 (approximately US$380). Wildlife trade in Sarawak is also covered by the **Malaysian Customs Act of 1967 (Act 235)** and **Customs Regulations, 1977.**

Bird trade in Malaysia

Neither the Federal Government nor the State Governments of Sabah and Sarawak maintain detailed records of non-CITES species in trade. TRAFFIC surveys noted only small quantities of 35 non-CITES species in trade in Kuala Lumpur, which included imported species (White-crested Laughingthrush, Hwamei, Black-throated Laughingthrush, Red-tailed Laughingthrush *G. milnei*, Masked Laughingthrush, Red-billed Leiothrix) and several species protected in Peninsular Malaysia (White-rumped Shama, Black Laughingthrush, Chestnut-capped Laughingthrush *Garrulax mitratus*, Hill Myna, Red-whiskered Bulbul). As the shops in Kuala Lumpur are fairly small and the imported species noted in these shops are readily found in Singapore, it is likely that birds are mainly brought in via Singapore, rather than imported directly from China or Hong Kong.

Significant imports into Malaysia during the period 1991-1993 include 53 779 Zebra Doves and 6 310 Red-whiskered Bulbuls. The main species exported from Malaysia during 1991-1993 were Black-headed Munias, Scaly-breasted Munias and White-headed Munias, 278 932 of these birds being recorded as exports (but 2 580 Black-headed Munias were reported as imports during this period); Common Mynas (45 866 birds); Hill Mynas (43 180 birds); Oriental Magpie-Robins (14 018 birds) and Asian Glossy Starlings (4 032 birds). Malaysia reports the export of 19 380 non-native Red-billed Leiothrix, while no imports were recorded (A. Razak, *in litt.*, 24 August 1993).

No exports from Sabah were recorded between 1991 and 1993. Sabah reported issuing licences for small numbers of 11 non-CITES species in domestic trade, of which nine are protected within that state (Crested

Fireback, White-breasted Waterhen *Amaurornis phoenicurus*, Emerald Dove *Chalcophaps indica*, Green Imperial-Pigeon, Spotted Dove, Oriental Magpie-Robin, White-crowned Shama *Copsychus stricklandii*, White-rumped Shama and Hill Myna) (T. P. Malim, *in litt.*, 2 September 1993).

The conservation impact of the Malaysian bird trade

From available information it does not seem that Malaysia's legal bird trade is sufficiently large to have an impact on its native bird fauna, with the possible exception of trade in munias. However, there exist no data which could establish whether any munia species are threatened in Malaysia.

Malaysia's illegal trade is another matter altogether, especially in Peninsular Malaysia. Some 118 non-CITES species protected in Peninsular Malaysia were observed in trade in Singapore and it is a fair assumption that specimens of at least some of these species have been taken in Malaysia and smuggled into Singapore. Examples of where this certainly occurs (as confirmed by Singaporean traders) include Malaysian Straw-headed Bulbuls, Oriental White-eyes and White-rumped Shamas, which are found in large numbers in Singapore's shops (see Box 1). The Straw-headed Bulbuls appear mainly to be re-exported from Singapore to Indonesia, where the demand for this species has apparently depleted local populations severely and it is possible that the continued demand will similarly deplete Malaysian populations, which are already widely acknowledged to be in decline.

Box 5

Illegal trade in Malaysian bulbuls, white-eyes and shamas

While the legal Malaysian bird trade is relatively small, an uncontrolled illegal trade in Malaysian birds regularly occurs.

The Straw-headed Bulbul is reported as being rare as a result of intensive trapping in Indonesia. There are no recent sight records from Java and recent surveys in Aceh and Riau provinces of Sumatra did not locate any birds (van Balen *in litt.*, 16 September 1993; MacKinnon, 1990). Various ornithological surveys of the Berbak, Padang-Sugihan and Way Kambas swampforest reserves in southern Sumatra did not find a single specimen in what should have been ideal habitat (Nash and Nash, 1985). While native Indonesian populations appear to have been extirpated through trapping, this species is widely available in Indonesian bird markets (a discrepancy which has caused considerable confusion amongst local ornithologists). TRAFFIC's investigations have found that the source of these birds is in fact Peninsular Malaysia. Birds are illegally trapped and exported in Malaysia, laundered in Singapore and re-exported (legally) to Indonesia, a practice which involves an estimated 6 000 birds annually.

Oriental White-eyes from the Peninsular Malaysian state of Johore are illegally trapped and exported to Singapore, where this species is one of the most popular and widely sold songbirds in Singapore, (tens of thousands are sold annually), and where Malaysian white-eyes are in specific demand.

White-rumped Shamas are extremely popular songsters and shamas are judged for their song and their shape. The most popular shamas in Singapore are those found along the Thai-Malaysian border, as these are large in size, have long tails and are considered graceful (Layton, 1991). Malaysian authorities of the border state of Kedah have expressed concern that White-rumped Shamas are facing extirpation, noting that until recently the only birds left were in forest reserves and that now even these have been taken for the songbird trade (*New Straits Times*, 1992).

All three species mentioned above are protected by law in Malaysia.

Lao People's Democratic Republic

Lao PDR is Southeast Asia's only land-locked country, covering 230 800 km² and surrounded by Myanmar, China, Viet Nam, Cambodia and Thailand. Lao PDR has 481 recorded bird species, of which 18 are considered under threat globally (WCMC, 1992). Lao PDR is not yet a Party to CITES.

In December 1992 and April 1993 TRAFFIC conducted surveys in Vientiane's markets (only three of four surveys found live birds in trade) and interviewed Government officials and foreign conservationists. A TRAFFIC wildlife trade survey in southern Lao PDR, commissioned in mid-1993, contributed information for this section and several published sources provided additional information.

Relevant legislation

The Government agency currently responsible for regulations and controls on import, export and local use of wildlife is the Department of Forestry, Ministry of Agriculture and Forestry. The Department of Forestry is responsible for monitoring and issuing permits for harvesting and issuing certificates of origin and health control certificates for wild animals and for seizing evidence, applying fines and carrying out legal proceedings against persons who violate the Ministry of Agriculture and Forestry rules and laws. The division within the Department of Forestry which deals with wildlife trade matters at present is the National Office for Nature Conservation & Watershed Management.

Several Government decrees have been issued which regulate the protection and/or management of wild resources:

- Legal wildlife trade was abolished in 1986 by the **Decree in Relation to the Prohibition of Wildlife Trade No. 185/CCM** (1986), which prohibited trade in wildlife species whether alive, dead, or as derivatives. The possibility of legal trade was re-opened with the issuance of the **Decree on Management and Protection of Aquatic Animals and Wild Animals and on Hunting and Fishing No. 118/CCM** (1989), which states that the import or export of wildlife (living or dead) or parts thereof requires specified forms of documentation. Sanctions for violations include warnings, penalties, confiscations and further prosecution, but none of these is explained in detail. Two schedule lists of species are attached to this Decree, for Totally Protected and for Controlled species.

- The **Decree on the State Tax System No. 47/CCM** (1989) outlines an extraction tax and an export tax for 13 species or species groups of non-CITES birds or their derivatives. An annex to Decree No. 47/CCM was published, which establishes an import tax on wildlife and wildlife products.

- The **Provision of the Vientiane Municipality on Wildlife Protection No. 098/VT** (1988) states that capture of wildlife on migration and during the Buddhist fasting month is prohibited.

- The **Penal Code of Lao PDR** (1990) specifies certain penalties relevant to wildlife trade. Hunting in violation of regulations is punishable by three months' to two years' imprisonment, or by a fine in accordance with standing regulations. The Penal Code provides for fines of US$7-70 for illegal exploitation of natural resources. Illegal trade in commodities belonging to the State (which includes wildlife and aquatic fauna) is punishable by six months to two years of imprisonment. Transgressions of State tax regulations are punishable by three months to three years of imprisonment or by fines, according to tax regulations.

In addition, a draft Nature Conservation Act was proposed by Madar and Salter (1990), which included sections on the regulation of wildlife trade. A proposed Central Authority for Nature Conservation would be responsible for issuing permits for the import, export or re-export of wildlife. It is unclear whether this proposed legislation will be approved by the Lao PDR Government.

Bird trade in Lao PDR

In 1990, there was a Governmental decision to stop all exports of wildlife from Lao PDR and this ban has been in effect ever since. The present view expressed by Government officials is that legal exports of wildlife will not resume until more is known of the state of wildlife populations in Lao PDR. Wildlife trade in Lao PDR at this time appears to be largely an internal trade for food. For instance, Srikosamatara *et al.*, (1992) documented 33 bird species for sale in Vientiane's That Luang food market during the dry season (November-June). Srikosamatara *et al.*, estimated roughly that some 6 000-7 000 birds are traded every year at the That Luang market. Chazée, in Martin (1992), noted that in the north a large proportion of meat consumed is from wild animals and that mountain peoples earn some of their cash income by supplying products from hunting and gathering to various markets in Lao PDR. Species noted for sale as food items by various authors include Lesser Whistling-Ducks *Dendrocygna javanica*, Red Junglefowl, Thick-billed Green-Pigeons *Treron curvirostra*, Scaly-breasted Munias, White-rumped Munias and Pin-tailed Parrotfinches. There is currently no legal export trade in non-CITES birds, although there is an export trade in Hill Mynas (CITES Appendix III) in some areas (TRAFFIC Southeast Asia, 1993). While the non-CITES bird trade in Lao PDR is for local consumption, the country borders China, Myanmar, Viet Nam, Thailand and Cambodia and wildlife trade in some form occurs across each of these borders.

The four TRAFFIC surveys conducted in Vientiane's That Luang and Tong Khoun Thum markets noted only five species of live birds in trade: White-rumped Munia, Scaly-breasted Munia, Pin-tailed Parrotfinch, Lesser Whistling-Duck and Thick-billed Green-Pigeon. The munias and parrotfinches may be destined for release (Buddhist ritual) or as food and the others are food species. The Thick-billed Green-Pigeon, in particular, is a food species in high demand and is caught using traps, snares and tree resins (TRAFFIC Southeast Asia, 1993). Only one non-CITES species, the Hill Myna, is captured for the pet trade and specimens are illegally exported to Thailand and Viet Nam.

Conservation impact of the Laotian bird trade

Data are insuffient to determine whether harvesting for food or for the pet trade is having any detrimental impact on native populations. Existing data suggest that the impact may be fairly low and limited to areas in proximity with main settlements.

Cambodia

Cambodia occupies 176 520 km^2 of the Indochinese peninsula and is bordered by Thailand to the west, Lao PDR to the north, Viet Nam to the east and south and the Gulf of Thailand to the south-west. Cambodia has 305 bird species, of which 13 are recognized as globally threatened (WCMC, 1992).

TRAFFIC surveys in Cambodian markets (Phnom Penh, Poi Pet) did not reveal any evidence of trade in live non-CITES birds. There is however a significant trade in local munias and other species of the family Passeridae for food. Sold by roadside vendors, these are skinned and deep-fried whole and are a popular delicacy.

There is presently no legislation regulating wildlife trade in Cambodia.

Brunei

The small kingdom of Brunei (5 765 km^2) is located on Borneo's north-western coast, surrounded on three sides by the Malaysian state of Sarawak. Despite its small area, Brunei boasts an avifauna comprising 359 species, of which 10 species are recognized as globally threatened (WCMC, 1992). No TRAFFIC surveys were undertaken in Brunei and no recent trade data for non-CITES birds were obtained for this report. No

evidence was obtained that birds in trade in Singapore and elsewhere originated from Brunei. There is apparently a limited export trade of Chinese species from Hong Kong to Brunei (D.S. Melville, pers. comm., November 1993).

Relevant Legislation

The **Wild Life Protection Act** of 1981 prohibits hunting, killing, or capturing any protected animal other than for scientific purposes in accordance with a licence issued under the Act. Export of protected species also requires a licence. The Act also prohibits the sale, offer for sale, or possession of any protected animal not lawfully acquired. Violations of the licensing requirements are punishable by imprisonment and fines (Nichols *et. al.* 1991). Non-CITES bird species protected in Brunei are the Cattle Egret *Bubulcus ibis*, Pacific Reef-Egret *Egretta sacra*, Storm's Stork *Ciconia stormi*, Lesser Adjutant *Leptoptilos javanicus*, Bulwer's Pheasant *Lophura bulweri*, Black-naped Tern *Sterna sumatrana*, Bridled Tern *S. anaethetus*, Pied Imperial-Pigeon *Ducula bicolor*, Ruddy Kingfisher *Halcyon coromanda*, Black-capped Kingfisher *H. pileata* and Stork-billed Kingfisher *Pelargopsis capensis*.

Myanmar

Myanmar is Southeast Asia's second-largest country (657 740 km²), bordering Thailand, Lao PDR and China to the east, Tibet to the north, and India, Bangladesh and the Indian Ocean to the west. Some 867 bird species have been recorded in Myanmar, with 42 species recognized as globally threatened (WCMC, 1992).

A TRAFFIC survey in a market at Tachileik near the Thai and Laotian border did not reveal any live non-CITES birds in trade and a TRAFFIC investigation into the wildlife trade in the Karen-controlled region of Kawthoolei found very little in the way of a live-bird trade. No other recent live-trade data were obtained for this report. The Myanmar wild bird trade (and its conservation impact) remains virtually undocumented. Export trade in non-CITES bird species appears to be minimal, from the lack of clearly recognizable Myanmar species or subspecies in trade in Singapore. One Singaporean trader commented that it was now extremely difficult to obtain export permits for birds in Myanmar.

Relevant legislation

The **Wildlife Protection Act** of 1936 is the main wildlife protection and trade legislation in Myanmar. For non-CITES bird species this Act prohibits hunting, buying, selling or possessing the Masked Finfoot *Heliopais personata* and prohibits the possession and trade of species killed outside specified hunting seasons for species of the following families: Phasianidae, Anatidae/Dendrocygnidae, Scolopacidae and Ardeidae. An offence under the Act is punishable by imprisonment for up to six months and fines of double the assessed damage (from Nichols *et. al.*, 1991; Swe, 1992).

Kawthoolei (Karen Free State)

Kawthoolei is the name given to the area of Myanmar currently under the control of Karen seccessionist groups, located along Thailand's western border. The Karen people in Kawthoolei maintain their own governmental structure, including a Forestry Department, as well as their own trade laws. Currently all sale or transport of any wildlife or wildlife parts out of Kawthoolei is prohibited and the Kawthoolei Government also forbids catching of birds with nets. Hunting of the Kalij Pheasant, Red Junglefowl and wild ducks (Anatidae) is, however, allowed between 15 March and 30 September, except in protected areas, where no hunting may occur. Penalties for infractions of wildlife laws range from a US$40 fine to 20 years' imprisonment and a US$4000 fine (Hill, 1993).

Birds are captured either by Karen villagers trying to earn an extra income, or by visiting Thai nationals. Hill (1993) reports that many Thai villagers visit the Mergui-Tavoi region of Kawthoolei to capture White-breasted Waterhens *Amaurornis phoenicurus* between November and February and also notes that Hill Mynas are commonly encountered in cages in the Karen area. Common overland wildlife trade routes between the Mergui-Tavoi region and Thailand are from Amoe to Pong Dee, from Tee Kee to Ban Khao and from Mawtah and Kaemata to Suan Phung District (Hill, 1993).

Hong Kong (with special reference to China)[5]

The keeping of cage-birds in China is a long-established pastime, as indicated by a bronze bird-cage dating from the Warring States period, 481-221 BC (Layton, 1991). Hong Kong has long been a centre for trade in live birds and over 100 years ago the naturalist, Robert Swinhoe, remarked on trade in Red-billed Leiothrix, Black-throated Laughingthrushes and other species in Hong Kong (Swinhoe, 1862, 1864, 1865).

In the 1970s, the great majority of birds exported from China came to Hong Kong, where much of it was eaten or kept as cage-birds, but a very substantial re-export trade also flourished. Early reports on the trade in wildlife from China through Hong Kong concentrated on the barbaric cruelty associated with it (Webster, 1975a, 1975b, 1975c; Penn, 1973) and unfortunately very little trade data were recorded at the time. Although the **Public Health (Animals and Birds) Ordinance (1935)** and other regulations, introduced later, required detailed record-keeping by traders, this was not (and still is not) fully enforced. However, some indication of trade levels is available from import figures for countries, such as the USA (Clapp, 1975; Clapp and Banks, 1973a, 1973b) and Inskipp and Thomas (1976) reported that the Hong Kong Agriculture and Fisheries Department estimated imports in 1975 to be about 695 000 birds, although it is uncertain how this figure was derived. Melville (1982) reported that in 1979, 298 146 wild 'food birds' were imported from China and he estimated, based on health certificates issued for re-exports, that an absolute minimum of 540 000 cage-birds were imported from China. It is probable that at least 1 000 000 birds were imported from China in 1979, placing China amongst the largest exporters of birds in the world.

Chinese scientists were already expressing alarm at the level of trade in 1980, noting that 'in their quest for foreign currency, some foreign trade corporations freely export China's rare birds and animals without any consideration to animal preservation' (Anon, 1980). In 1985, it was reported that China had exported nearly three million birds, which was 'more than double the 1982 total, but it is suspected that birds smuggled out without passing through Customs and quarantine checks would make the total considerably more' (Anon, 1987).

Relevant legislation

All birds within Hong Kong are currently protected and the hunting and trapping of birds and the possession of trapping appliances is prohibited under the **Wild Animals Protection Ordinance, Cap. 170.** A very small amount of illegal trapping still occurs, mostly of Hwameis, which are believed to be sold locally rather than exported.

The **Public Health (Animals and Birds) Ordinance Cap. 139** and the **Public Health (Animals and Birds) (Animal Traders) Regulations** provide legislative control of the animal trade in Hong Kong. Any person trading in animals (including birds) requires a licence issued by the Director of Agriculture and Fisheries and may only trade from a licensed premises, hawking of animals being prohibited. The **Public**

Health (Animals and Birds) Regulations and the **Code of Standards for Licensed Animal Traders** govern the conditions under which the animals must be kept and these are reinforced by the **Prevention of Cruelty to Animals Ordinance Cap. 169 and Subsidary Regulations.**

Animals imported to Hong Kong can only be landed in accordance with a 'special permit' issued under the **Public Health (Animals and Birds) Regulations** and must be accompanied by a health certificate from the country of origin. All shipments requiring a 'special permit' are inspected on arrival. This Regulation, however, does not apply to animals or birds brought into Hong Kong direct from China. Animals for (re-)export are only covered by a health certificate if the importing country requires one. Health certificates are issued by private veterinarians and endorsed by a Government veterinarian, if requested. Similarly, shipments for export are not usually inspected at the point of departure unless specifically required by the importing country.

Hong Kong first introduced restrictions on the import and possession of certain rare species of wildlife in 1969, when the **Animals and Birds (Restriction of Importation and Possession) Ordinance** was enacted, the criteria for a species being listed apparently being based on the IUCN *Red Data* books. In 1976, this was superceded by the **Animals and Plants (Protection of Endangered Species) Ordinance, Cap. 187.** Species listed in the schedules under this Ordinance may only be imported, exported and, in most cases, possessed in accordance with a licence issued by the Director of Agriculture and Fisheries.

In October 1993, there were 167 licensed animal traders in Hong Kong who dealt in pet and food birds, most of whom were retailers. This compares with 135 in 1976 and 181 in 1979 (Melville, 1982).

The Hong Kong bird trade

Information sources

Data on the volume and composition of trade may be obtained from several sources, but all are unsatisfactory in providing an accurate picture. They are:

- the 'special permits' required for landing birds. These, however, may state numbers in excess of those actually shipped and these permits are not required for species arriving directly from China;
- health certificates, but these are only issued if required by the importing country;
- the requirement under the **Code of Standards for Licensed Animal Traders** for maintaining a species register, but this is only enforced with respect to major importers and wholesalers and is not enforced for small traders; and
- the requirement under the same law to submit quarterly reports on imports (including imports from China) to the Government, but this, in practice, is only done by the major food bird importers.

The trade data presented in this section have been compiled from inspection reports for import shipments covered by 'special permit' (to determine imports of birds mainly from countries other than China); health certificates for re-exports; and the records of the Agriculture and Fisheries Department.

Trade between Hong Kong and Southeast Asia

Species in trade

Identification of species in trade is often difficult and many of the smaller traders are genuinely unaware of the identity of species in their care. The list of species in Table 15 has been derived from permits, health certificates and inspection reports, which name 166 Southeast Asian/Chinese non-CITES bird species

imported from and/or exported/re-exported to Southeast Asia during 1990-1992 and which document the importation of 75 632 birds (of 85 species) and the export/re-export of 238 749 birds (of 93 species) during this period. It is not known how accurate the original information is, but most species in the table have been recorded for sale in local shops in recent years. However, the list is incomplete, in that data for exports to other regions include such Southeast Asian species as Chestnut-bellied Partridge *Arborophila javanica*, Pin-tailed Parrotfinch, Javan Munia, Black-faced Munia, Orange-fronted Barbet and Timor Sparrow *Padda fuscata*, which are not recorded as having been imported during these years.

Overall import figures for CITES-listed and non-CITES species during the period 1990-1992, derived from 'special permit' data and inspection reports, are shown in Table 14. Interestingly, imports from Indonesia account for 31% of imports in 1990, 34% in 1991 and 27% in 1992, increases from a value of 20% in 1979. Indonesia is the largest single source of birds traded in Hong Kong, after China. This is reflected in the listing of imported and exported non-CITES species in Table 15, which contains Indonesian endemics such as Sulawesi Myna *Basilornis celebensis*, Green Junglefowl *Gallus varius*, Rufous-fronted Laughingthrush *Garrulax rufifrons*, Black-banded Barbet, Finch-billed Myna *Scissirostrum dubium*, White-bibbed Babbler and White-faced Cuckoo-Dove *Turacoena manadensis*. Eastern Indonesian species, such as fruit-doves and imperial-pigeons *Ducula* spp., are also well represented in the official data.

Table 14

Hong Kong import and export figures for all bird species (CITES/non-CITES) for 1990, 1991 and 1992, involving Southeast Asian countries

	Imported from			Exported to		
	1990	1991	1992	1990	1991	1992
Brunei	1			7 468	4 090	6 000
Indonesia	29 400	11 798	18 906	11 5171	87 598	12 005
Malaysia	8 339	2 432	3 760	6 998	2 884	
Myanmar					1	
Philippines	3	1	3	2		1 106
Singapore	2 457	627	1 342	3 138	862	4 631
Thailand	10		3 218	2	17	
Viet Nam	1 810	2 100	9 282			

Sources: special permits, health certificates and inspection report data.

Table 15

Hong Kong records for non-CITES bird species imported from and/or exported to Southeast Asia in 1990, 1991 and 1992, excluding direct trade with China

	Hong Kong Imports			Hong Kong Exports		
	1990	1991	1992	1990	1991	1992
Acridotheres cristatellus				51		
Acridotheres grandis			100			
Acridotheres javanicus						200
Acridotheres tristis					120	
Acrocephalus orientalis						110
Aegithalos concinnus			200			
Aix galericulata					56	
Alauda arvensis						30
Alauda gulgula						200
Amandava amandava	500		1 850			
Aplonis panayensis		14				
Aythya ferina				1		
Basilornis celebensis			35			
Bombycilla garrulus						20
Calandrella brachydactyla				100	50	100
Calandrella cheleensis				50		
Calyptomena viridis			4			
Carduelis ambigua						50
Carduelis flammea					200	
Carduelis sinica				100		1 100
Carduelis spinus				1 890	3 605	1 898
Carpodacus pulcherrimus					50	10
Carpodacus thura					172	214
Casuarius casuarius	4					
Chaimarrornis leucocephalus			170	41	175	
Chalcophaps indica		6	10			
Chloropsis auriifrons	100		1 052			
Chloropsis cochinchinensis	290	102	52			
Chloropsis cyanopogon	1 280	96	300			
Chloropsis hardwickii			70	1		
Chloropsis sonnerati	300	104	2			
Clamator coromandus			1			
Columba punicea			20			
Copsychus malabaricus	29	16	210			2
Copsychus saularis	8 349	1780	4 979			
Cyanopica cyana						40
Cyanoptila cyanomelana						50
Cyornis banyumas	4 900	800	1 750	50		30
Cyornis hainanus					30	

	Hong Kong Imports			Hong Kong Exports		
	1990	1991	1992	1990	1991	1992
Cyornis rubeculoides	2 030	448	900			
Dendrocygna guttata	4					
Dendrocygna javanica	4	2				
Dicrurus annectans			4			
Ducula aenea			18			
Ducula pinon			4			
Ducula rufigaster			4			
Ducula spilorrhoa			6			
Ducula zoeae			6			
Emberiza ciodes				200	100	
Emberiza elegans				100		80
Eophona migratoria				150		25
Eophona personata			100			
Eremophila alpestris				100		
Erythrura hyperythra	20		300			
Eumyias thalassina	140				30	10
Ficedula hyperythra						4
Ficedula mugimaki						24
Ficedula narcissina						8
Ficedula zanthopygia					30	25
Francolinus pintadeanus					10	
Fringilla montifringilla				40		
Gallicolumba rufigula			4			
Gallicolumba tristigmata			2			
Gallus varius	40					
Garrulax canorus	5			35 797	22 414	3 995
Garrulax chinensis				44 450	40 731	5 130
Garrulax erythrocephalus				50		
Garrulax milnei				30	30	50
Garrulax mitratus			10			
Garrulax poecilorhynchus				300	500	850
Garrulax rufifrons			12			
Gorsachius melanolophus		1				
Gracula religiosa	1 700	300	90	2		
Hypothymis azurea						20
Hypsipetes leucocephalus						30
Irena puella	40	48				
Lanius bucephalus				20		
Lanius tigrinus	20					
Leiothrix argentauris			35	530	50	660
Leiothrix lutea				37 015	25 030	5 120
Leucosticte arctoa						10
Liocichla phoenicia					5	

	Hong Kong Imports			Hong Kong Exports		
	1990	1991	1992	1990	1991	1992
Lonchura maja	400	1 300	1 900			
Lonchura striata			1 000			
Lophura diardi			12			
Lophura erythrophthalma	4	4	2			
Lophura ignita	8	5				
Luscinia calliope					60	
Luscinia cyane				150		
Luscinia sibilans					50	
Luscinia svecica					25	
Macropygia amboinensis			3			
Megalaima asiatica						20
Megalaima australis				70		
Megalaima chrysopogon			2			
Megalaima javensis	20		11			
Megalaima oorti			9			
Megalaima rafflesii			15			
Megalaima virens						10
Melanocorypha mongolica				110	60	15
Merops viridis			1			
Minla cyanouroptera					10	
Minla ignotincta						80
Minla strigula						15
Mino anais	90			6	7	
Mino dumonti	90					
Motacilla cinerea					10	
Niltava sundara	6 400	1 400	200	100		
Oriolus chinensis				18		
Oriolus traillii						4
Padda oryzivora	300	200	480			
Parus spilonotus					46	65
Parus venustulus					50	
Pericrocotus ethologus						40
Pericrocotus flammeus						60
Phasianus colchicus				5		
Picus canus						20
Pitta moluccensis	2					
Porphyrio porphyrio			20			
Prinia flaviventris				80		
Psarisomus dalhousiae				80		30
Psilopogon pyrolophus	60		5			
Ptilinopus aurantiifrons	2	2				
Ptilinopus coronulatus		3				

	Hong Kong Imports			Hong Kong Exports		
	1990	1991	1992	1990	1991	1992
Ptilinopus iozonus		2				
Ptilinopus jambu	70					
Ptilinopus magnificus	32		4			
Ptilinopus perlatus			4			
Ptilinopus pulchellus	48	4	8			
Ptilinopus superbus	48	2	6			
Pycnonotus atriceps		20				50
Pycnonotus bimaculatus	10	24				
Pycnonotus cafer						20
Pycnonotus finlaysoni		12				
Pycnonotus jocosus				220	250	180
Pycnonotus melanicterus		20				
Pycnonotus sinensis					5	5
Pycnonotus squamatus	14					
Pycnonotus xanthorrhous						10
Pycnonotus zeylanicus		6				
Pyrrhula erythaca					30	20
Pyrrhula pyrrhula						175
Rhodopechys sanguinea				50		
Rollulus rouloul	24	13	6			
Saxicola caprata	12 675	3 100	8 210			
Scissirostrum dubium	160	18				
Serinus mozambicus					1	
Stachyris erythroptera				160		
Stachyris thoracica			20			
Sturnus cineraceus					100	
Sturnus sinensis						60
Sturnus sturninus			100			
Terpsiphone paradisi						10
Treron bicincta			82			
Trichastoma bicolor				380		
Turacoena manadensis		1				
Turdus dissimilis				24	43	231
Turdus naumanni						30
Urocissa erythrorhyncha				40		60
Yuhina castaniceps				5		
Yuhina diademata				50		
Yuhina flavicollis						80
Zoothera citrina			3			
Zosterops japonicus			200	83	200	310
Zosterops montanus			100			
Zosterops palpebrosus	60		800			
Total	**40 272**	**9 853**	**25 507**	**122 699**	**94 335**	**21 715**

Sources: Hong Kong special permits, health certificates and inspection reports.

Volume in trade

Because of the problems regarding record-keeping noted earlier, there is no direct way to determine the total volume of trade in live birds through Hong Kong. However, the trade data do provide an indication of the sorts of numbers involved. Species which have been imported from Southeast Asia in considerable numbers during 1990-1992 include the Magpie Robin (15 108), blue-flycatchers *Cyornis banyumas* and/ or *rubeculoides* (10 828), Rufous-bellied Niltava (8 000) and Pied Bushchat (23 985). Species which have been exported to Southeast Asian countries in large quantities include the Hwamei (62 206), Black-throated Laughingthrush (90 311) and the Red-billed Leiothrix (67 165).

Local trade

There is a strong local demand for songbirds and the most popular species are the Hwamei, Magpie Robin and Japanese White-Eye *Zosterops japonicus*. There are no figures available for the total number of birds sold in the domestic Hong Kong market annually, but this has been estimated to involve at least 100 000 birds (S. Wong, pers. comm.). In surveys conducted at Hong Kong bird-dealers' premises and in the Hong Lok Street bird market in November and December 1992, Dick *et. al.* (1993) noted the presence of 104 Southeast Asian/Chinese non-CITES bird species for sale, including such species as Speckled Piculet *Picumnus innominatus*, Brown-headed Thrush *Turdus chrysolaus*, Streaked Barwing *Actinodura soulei*, Chinese Bush-warbler *Bradypterus tacsanowskius*, Radde's Warbler *Phylloscopus schwarzi* and Golden-spectacled Warbler *Seicercus burkii*, as well as more typical Southeast Asian species in trade, such as Black-browed Barbet *Megalaima oorti*, Red-whiskered Bulbul, Blue-winged Leafbird *Chloropsis cochinchinensis*, Black-collared Starling and Yellow-faced Myna. In the same study, Dick *et. al.* (1993) observed 74 Southeast Asian/Chinese non-CITES species for sale in the markets of Canton, Nanning and Shenzhen, including Naumann's Thrush *Turdus naumanni*, Red-tailed Minla *Minla ignotincta*, Hainan Blue-flycatcher and Silky Starling *Sturnus sericeus*, as well as the more usual Mongolian Lark, Magpie Robin and Hwamei.

In 1979, it was likely that most, if not all birds exported from China were routed through Hong Kong. Currently, exports also go through Shanghai, Beijing, Tianjin, Nanhai, Shenzhen and Guangzhou, but information on the numbers and species passing through these cities is unavailable. Usui (1992) reports that the Nanhai Native Products Import and Export Co. in Foshan Shi, Guangdong, claims to export 100 000 birds per month, but does not indicate whether these birds come through Hong Kong or are shipped elsewhere.

The food bird trade

Wild birds are commonly consumed locally, often as 'tonic' food. Numbers of dead 'game birds', such as Common Pheasant *Phasianus colchicus*, are imported fresh, chilled or frozen, but most birds are imported alive. Live birds imported for food from China, which include pheasants, quails, francolins, ducks, herons and egrets, are mostly imported by a limited number of major traders who voluntarily report import totals to the Agriculture and Fisheries Department. Unfortunately there is much overlap in the general names used (for instance, most, if not all 'cranes' listed in the reports are egrets Ardeidae, since both are commonly known by the same Cantonese name) and generally these data are only useful in determining overall food bird import totals: in 1990, 1991 and 1992, Hong Kong imported 244 492, 227 154 and 221 238 birds, respectively. These numbers are slightly lower than the figure of 298 146 birds reported for 1979 (Melville, 1982).

Dick *et. al,* (1993) noted 28 Southeast Asian/Chinese non-CITES bird species for sale for food in food markets in Canton, Nanning and Shenzhen during surveys in late 1992, including species such as Little

Grebe *Podiceps ruficollis*, Rickett's Hill-partridge *Arborophila gingica*, Chinese Bamboo-partridge *Bambusicola thoracica*, Woodcock *Scolopax rusticola* and Pheasant-tailed Jacana *Hydrophasianus chirurgus*, as well as various other waterfowl and marsh bird species.

Conservation impact of the Hong Kong bird trade

Most birds traded through Hong Kong originate from China. There is virtually no information available regarding populations of birds in China and only very little information available regarding the ecology of most species (Tan *et. al.*, 1990). As such, it is very difficult to make any assessment of the possible impact of the trade on species. Many of the species traded occur over wide areas of China (Cheng, 1987), but it is not known whether trapping occurs throughout their range or is restricted to certain areas.

A number of Chinese endemic species/races have been recorded in trade. For example, R. Wirth (*in litt.* to A. Braütigam, 1991) noted in trade Courtois' Laughingthrush *Garrulax galbanus courtoisi* (from Jiangxi Province), Spotted Laughingthrush *G. ocellatus artemisiae* (from Gansu, Hubei, Sichuan and Tunnan Provinces), Barred Laughingthrush *G. lunulatus* (from Gansu, Shaanxi, Hubei, Sichuan and Yunnan Provinces) and Omei Shan Liocichla *Liocichla omeiensis* (fron Sichuan Province).

Buyers in Europe and the USA generally prefer to purchase birds in pairs, but for a number of species in certain markets, males are preferred. For instance, there is a high demand in Japan for male Blue-and-white Flycatchers *Cyanoptila cyanomelana*, which are desired for their bright plumage and song. It is reported that in many cases 'unwanted' birds, such as female Blue-and-white Flycatchers and other species of no commercial value, are killed and eaten by the trappers (S. Wong, pers. comm.). Male Hwameis are also desired for their song and in Hong Kong and Guangdong, males of this species are caught using snares and male decoys and in Jiangsu Province nets and decoys are used. These methods ensure that a high proportion of the catch is composed of territorial males. In Jiangsu Province, any females caught are sold as food (Melville, 1988). The ease with which the trapping of males holding territories in restricted habitats can be accomplished may indicate a serious impact on populations. For instance, male White-capped Water-redstarts *Chaimarrornis leucocephalus* hold territories spaced about 40m apart, along rivers and streams and in Sichuan Province trapping was so successful that a bird was caught every 20 minutes and a trapper was able to 'clean out' a considerable section of stream in one day (S. Wong, pers. comm.).

It is unclear how the volume of China's export bird trade compares with that of its domestic trade. Keeping of cage-birds was effectively outlawed during the Cultural Revolution, but in recent years there has been an upsurge in bird-keeping (Boswall, 1986), with Hwameis and Mongolian Larks being among the most popular species. Sherry (1993) suggests that there are now 250 000 bird-keepers in Beijing. Traders at the Nanjing bird market, Jiangsu Province, in 1988 indicated that 70 000-80 000 Hwameis were traded there annually, although only 289 birds were seen for sale on one day in July (Melville, 1988). In Liaonong, a variety of buntings and finches are caught for local trade (F.K.O. Wong and M. Brazil, pers. comms) and the situation is similar in Hebei (Beecroft, 1986; Melville, 1991). It is not possible to estimate the nation-wide trade in cage-birds at the present time.

While the keeping of cage-birds is mainly restricted to the older generation, the direct consumption of wild birds as food is widespread. No overall figures are available, but an indication of the level of harvesting is available for some areas. The largely illegal harvesting of waterfowl in Poyang County, Jiangsi Province, is reported to be in excess of 200 000 birds annually (Anon., 1986). Hu and Cui (1990) record that an average of 150 000 kg of waterfowl (ducks and Common Coots *Fulica atra*) were harvested annually at Fuwan Village, Hubei Province, in the period 1949-1979. This is roughly equivalent to about twice the

number of waterfowl imported to Hong Kong annually in the period 1990-1992, suggesting that Hong Kong's consumption of wild waterfowl is of relatively minor consequence when compared with domestic consumption within China.

One impact of the extensive trade of Chinese birds through Hong Kong has been the introduction of a number of species to the Hong Kong avifauna. Dealers may release shipments of sick or unprofitable birds and local Buddhists also follow the practice of releasing 'prayer birds', contributing to the more than 50 species observed in Hong Kong which are suspected to originate from the Chinese trade. Several of these have established breeding populations, including Silver-eared Mesia, Velvet-fronted Nuthatch *Sitta frontalis*, Grey-headed Parrotbill *Paradoxornis gularis* and Vinous-throated Parrotbill *P. webbianus* (Chalmers, 1986; Melville, 1983; Hong Kong Bird Watching Society records). The introduction of exotics has also occurred in China, with feral breeding populations of the Java Sparrow (La Touche, 1927; Cheng, 1987) and probably the African Yellow-crowned Bishop *Euplectes afer* in south-east China (Melville, unpublished).

The wild bird trade through Hong Kong, especially that from China, is not being effectively managed and there is clearly an urgent need for an assessment of the effects of China's bird export trade on wild populations. Guidelines for the management of the wild bird trade have been given by Edwards and Thomsen (1992), but it is doubtful whether there are sufficient data to allow the establishment of safe harvest quotas for any species currently traded through Hong Kong from China.

A REGION-WIDE OVERVIEW OF THE TRADE

The Southeast Asian trade in non-CITES birds is huge in scope and volume. Official records are often superficial and incomplete and only a limited portion of this trade is exported beyond the Asian region, explaining why little concrete data on this trade have been available. The TRAFFIC surveys observed 380 species and an additional 22 subspecies in trade. Combined with the trade in southern Chinese birds, the number of species in trade easily exceeds 400 and the volume may be measured in millions of birds traded annually.

No two countries in the region have a wild bird trade which is identical in scope, purpose, impact and regulatory measures. Certain families and/or species may be in high demand in one country, while being largely ignored in another. One country may have an outward-directed trade, while its neighbour might have a primarily domestic trade. Imports might figure highly in one country and be of little interest in another and so on. Equally, attitudes of government officials, traders and conservationists towards the trade differ between the countries concerned, although this diversification is as much the result of cultural factors as it is of biogeographical ones. While the trade in non-CITES birds is complex, some generalities on the various roles played by each country may be interpreted from the trade data:

Singapore has a significant domestic trade, but is primarily a transit point for the Southeast Asian bird trade; Singapore provides the legal means to 'launder' illegally exported birds; native species are largely protected.

Indonesia is a major producer, importer and consumer of wild birds, its domestic trade is far greater in size than that of any other Southeast Asian country; much of the domestic trade is of a 'throw away' nature; native species lack protection and, in any event, protected species are widely traded.

Thailand is no longer a legal source of wild birds; Thailand is the primary producer of captive-bred Zebra Doves (which are being exported illegally); certain wild species are caught and exported illegally, mainly

to Singapore; native species are largely protected.

Viet Nam is becoming an important producer of wild birds; native species lack protection.

Malaysia's trade is small and local demand is limited; certain wild species are caught and exported illegally, mainly to Singapore; native species are largely protected.

The **Philippines** has a relatively small trade; native species are largely protected.

Lao PDR and **Cambodia** have a relatively insignificant trade; native species lack protection.

Myanmar and **Brunei** have bird trades of unknown scope, but which are believed to be relatively insignificant.

Hong Kong is a major transit point in the bird trade, with substantial numbers arriving from China and Southeast Asia. There is some evidence that the trade in Hong Kong is in decline (Hong Kong Agriculture and Fisheries Department, pers. comm.), possibly as a result of direct exports from China.

The conservation impact of the trade differs not only in each country, but also with the families and species concerned. TRAFFIC surveys found evidence for 380 species (and 22 subspecies) from 40 families in trade, (and, as mentioned earlier, data from other sources would bring the number of species in trade to more than 400). Not all these species are traded in large or significant quantities: although trade in some species may have been witnessed in the hundreds, thousands or tens of thousands of individuals, many of TRAFFIC's observations are of only a few birds of a species. For species which may be traded only occasionally and in small numbers, the conservation impact is likely to be small or negligible. Still, absolute numbers are not necessarily the best indicator in judging conservation impact, as a small off-take of a rare species may have a much greater significance than the capture of large numbers of common species. Size and types of habitat are also important in determining the impact of trade on species and trade in species, which need not be large-scale to be of concern, where the species have limited ranges or highly restricted habitats.

Trade in species from the following families is believed to be of particular relevance to any discussion on the Southeast Asian non-CITES bird trade, either by virtue of its prominence or because it may be of conservation concern.

Phasianidae (pheasants, partridges)
Non-CITES pheasants and partridges are widely traded in Singapore and Indonesia. Birds in Singapore are for the most part of unknown origin, though some traders did specify the Indonesian, Thai, Viet Namese and Malaysian origin of some birds. Members of this family are extremely popular in private collections and have the extra burden of being hunted as food thoughout their range. Of particular concern is trade in partridges of the genera *Rhizothera*, *Melanoperdix*, *Arborophila*, *Caloperdix* and *Rollulus* and in pheasants of the genus *Lophura*, much of which passes through Singapore.

Picidae (woodpeckers)
Woodpeckers are widely available in trade in Java and almost nowhere else. While overall numbers appear to be low, several species, such as the Fulvous-breasted Woodpecker *Dendrocopos macei* and the Common Flameback *Dinopium javanense,* are almost always available and eight other species were noted in trade. These birds are sold entirely for their novelty and buyers usually cannot provide an adequate diet. Trade in species from this family is representative of the 'cut-flower' nature of much of the bird trade in Indonesia, where many species are sold whose likelihood of survival is very low.

Megalaimidae (barbets)

Barbets are extremely popular as songbirds in Indonesia and Indonesian barbets are also sold in, and re-exported from, Singapore. Barbets are rarely encountered in trade outside these two countries. Fifteen species have been noted in trade, of which only two, the Great Barbet *Megalaima virens* and the Blue-throated Barbet *M. asiatica*, do not originate in Indonesia. The most commonly encountered species are the Gold-whiskered Barbet *M. chrysopogon*, the Red-throated Barbet *M. mystacophanos*, the Orange-fronted Barbet, the Coppersmith Barbet *M. haemacephala*, the Lineated Barbet *M. lineata* and the Fire-tufted Barbet. The largest numbers observed in trade were of the last species (approximately 350 birds from 24 surveys in Singapore and approximately 850 birds from 25 surveys in Indonesia). The Orange-fronted Barbet, endemic to Java, is a fully protected species and may not be traded legally. There is no evidence of declining wild populations of any of the above-named barbets. Round (1988) considers the Red-crowned Barbet *M. rafflesii* at risk in Thailand.

Centropodidae (coucals)

Three species of coucals were observed in trade, including a single Sunda Coucal *Centropus nigrorufus*, a species considered to be very rare within its limited range, which is probably confined to western Java. Of interest is the fact that coucals are the only birds in the region which are widely traded for their believed medicinal properties. It is thought in Indonesia and in Viet Nam that the adult birds are knowledgeable about medicinal plants and young birds which have been fed by their parents are taken from nests and preserved in alcohol, which is later consumed for its properties. In Indonesia, at least, the belief extends to breaking the leg bones of the nestlings, to ensure that the parents will 'treat' the nestlings with medicinal foods. The young are later collected and preserved. In Viet Nam, the adults are consumed as well (Le Dien Duc, pers. comm., April 1993).

Coucals are also used for medicine in China, (D.S. Melville, pers. comm., November 1993).

Columbidae (pigeons and doves)

A wide variety of wild doves is traded in the region (32 species were noted in the TRAFFIC surveys). Trade is generally in small numbers, with the exception of the Emerald Dove and the ubiquitous Spotted Dove, both of which are traded in considerable numbers. As a group, fruit-doves from the Indonesian province of Irian Jaya are the most popular wild pigeons in the export trade, with the Orange-bellied Fruit-Dove, Wompoo Fruit-Dove and Coroneted Fruit-Dove being the most frequently encountered fruit-dove species in trade.

Eurylaimidae (broadbills)

Broadbills are forest-dwelling birds and TRAFFIC surveys noted only three species in trade. Two of these were observed in small numbers while a total of approximately 500 Green Broadbills *Calyptomena viridis* were counted from 25 observations in three Singapore shops, with the most seen on any single occasion being 60 birds. For a species restricted to the diminishing lowland forests of the the Malayan peninsula, Borneo and Sumatra this regular trade is of concern. The absence of any observations of Green Broadbills from markets on Sumatra and elsewhere in Indonesia suggests that the birds may be of Malaysian or Thai origin. This species is protected in Thailand and Peninsular Malaysia, but is not protected in the eastern Malaysian states of Sabah and Sarawak.

Irenidae (leafbirds and fairy-bluebirds)

Leafbirds are commonly traded in Indonesian bird markets and in numbers greatly in excess of the annual capture quotas. In Singapore, leafbirds are frequently encountered in bird shops, where many, if not most,

originate from Thailand (as confirmed by the traders), where they are illegally captured and exported to Singapore and legally re-exported from Singapore. While the Golden-fronted Leafbird *C. aurifrons*, Blue-winged Leafbird, Greater Green Leafbird *C. sonnerati* and the Lesser Green Leafbird are the most commonly encountered species in trade, lesser numbers of Orange-bellied Leafbirds *C. hardwickii* were also noted. In 1990, Hong Kong authorities reported receiving 1 130 Lesser Green Leafbirds from Singapore (Melville and Lau, 1992).

The Asian Fairy-Bluebird *Irena puella* is one of Southeast Asia's most strikingly coloured cage-birds and TRAFFIC survey data show this species is regularly traded in small to moderate numbers in Indonesia and Singapore (44 surveys in Singapore counted approximately 450 birds, while 27 surveys in Indonesia counted approximately 200; frequently between 10-30 birds would be on sale; on one occasion in Singapore approximately 75 birds were displayed). The origin of the Fairy-bluebirds observed in trade in Singapore is unclear. It is probable that specimens arrive from Indonesia, Thailand and Malaysia, despite the fact that recorded exports from Indonesia to Singapore are very small (fewer than 100 birds of this species annually) and despite the fact that the Asian Fairy-Bluebird is fully protected in Peninsular Malaysia and in Thailand.

Corvidae (crows, magpies, jays, orioles, minivets, fantails, drongos, ioras, greybirds etc.)
Members of this extremely diverse family are widely traded in Indonesia and in/through Singapore (46 species recorded in the surveys, though few are traded in large quantities), but were rarely encountered in surveys elsewhere.

Subfamily **Corvinae** (crows, magpies, jays, orioles, minivets, etc.)
In Indonesia the species most commonly traded include the Crested Jay *Platylophus galericulatus*, Green Magpie, Short-tailed Magpie *C. thalassina*, Racket-tailed Treepie, Slender-billed Crow *Corvus enca*, Large-billed Crow *C. macrorhynchos*, Black-naped Oriole and Small Minivet *Pericrocotus cinnamomeus*. Of these, the largest numbers observed were of the Black-naped Oriole (approximately 900 in 35 surveys) and the Racket-tailed Treepie (approximately 500 in 29 surveys), two lowland forest birds commonly found in secondary and disturbed habitats. The Green and Short-tailed Magpies often had a pale blue cast to their plumage, indicating an inadequate diet in captivity. In Singapore, the only species of this subfamily widely observed in trade was the Black-naped Oriole (approximately 260 birds from 34 surveys).

Subfamily **Dicrurinae** (drongos, fantails, monarchs, etc.)
Drongos *Dicrurus* spp. are popular cage-birds in Indonesia and a few shops in Singapore occasionally have birds of Indonesian origin on display. The most frequently observed species in trade are the Black Drongo *D. macrocercus*, Lesser Racket-tailed Drongo *D. remifer*, Ashy Drongo *D. leucophaeus* and the Greater Racket-tailed Drongo *D. paradiseus*. It is also worth noting that the Pied Fantail, observed for sale in Indonesia on six occasions, is a fully protected species in that country.

Muscicapidae (thrushes, flycatchers, Magpie-Robins, robins, shamas, forktails, etc.)
This family includes some of the region's best and most popular songbirds and this popularity is reflected in the number of species (35 noted in the TRAFFIC surveys) and, in some cases the quantities, in trade.

Subfamily **Turdinae** (thrushes, whistling-thrushes, etc.)
In western Indonesia, trade in whistling-thrushes *Myiophonus* spp. and certain thrushes *Zoothera* spp. is widespread and trade in one species, the Orange-headed Thrush, is particularly worthy of increased attention (approximately 1 100 birds were counted in 35 surveys). Also worthy of note is the regular

appearance of small numbers of the Chestnut-capped Thrush *Z. interpres*, a Southeast Asian endemic species believed to be rare throughout its range (birds for sale in Jakarta were noted on 14 occasions).

The Sunda Whistling-Thrush *Myiophonus glaucinus* and the Blue Whistling-Thrush *M. caeruleus* were the most frequently encountered whistling-thrush species in Indonesian markets. In Singapore, the Sunda and Blue Whistling-Thrushes were occasionally encountered (38 and nine birds from four and eight survey counts, respectively), as were Orange-headed Thrushes (46 birds from four surveys) and occasional Chestnut-capped Thrushes (one shop well known for importing Indonesian birds had 40 birds on display in January 1992).

Subfamily **Muscicapinae** (flycatchers, robins, shamas, forktails, bushchats, etc.)
Trade in 21 species from this subfamily was noted in the TRAFFIC surveys, of which 18 species were observed in trade only in Indonesia and Singapore. While trade in 12 flycatcher species was observed, only the Verditer Flycatcher *Eumyias thalassina*, Rufous-bellied Niltava, Pale Blue-Flycatcher *Cyornis unicolor*, Hill Blue-Flycatcher *C. banyumas* and Mangrove Blue-Flycatcher *C. rufigaster* were regularly encountered in trade. The most frequently encountered species in Indonesia was the Hill Blue-Flycatcher (64 birds noted in 19 surveys) and, in Singapore, the Verditer Flycatcher (15 birds in 11 surveys). The species observed in trade in largest numbers was the Rufous-bellied Niltava, of which approximately 100 birds were counted during eight surveys. However, numbers observed in trade in Singapore and Indonesia do not resemble in any way official trade data from Indonesia and Hong Kong. Hong Kong reported imports of 6 400 Rufous-bellied Niltavas from Indonesia in 1990 (Melville and Lau, 1992) and Indonesia reported exports of 2 000 Hill Blue-Flycatchers and 3 000 'Blue-throated Flycatcher *C. rubeculoides*' to Hong Kong in 1991 (Blue-throated Flycatchers do not occur in Indonesia and this is almost certainly a misidentification of one or several other species). Blue-flycatchers, such as the Blue-and-white Flycatcher, appear to be extremely popular in Hong Kong, China and Japan and much of the Southeast Asian trade in these species might be aimed primarily at the export markets, explaining why relatively few appear on the local retail market.

Sturnidae (starlings, mynas)
Starlings and mynas are extremely popular as cage-birds throughout the Southeast Asian region and TRAFFIC surveys noted 20 species and several distinctive subspecies in trade. By far the most widespread myna in trade is the Hill Myna, one of the few species observed in trade in each country surveyed (approximately 7 500 individuals were noted on 214 surveys in 73 localities). Subspecific variation indicated that at least four subspecies are locally traded (*religiosa*, *intermedia*, *palawanensis* and *robusta*) and possibly others as well. The large subspecies *robusta* is known as the Nias Hill Myna, occurring only on the island of Nias, off western Sumatra. This fully protected endemic subspecies is widely sought-after for its size and voice-mimicking abilities and regularly appears in trade in Singapore. The subspecies *palawanensis* is restricted to the island of Palawan in the Philippines and this fully protected subspecies is a popular cage-bird in the Philippines. The small *religiosa* subspecies from Indonesia and the slightly larger *intermedia* subspecies from mainland Southeast Asia appear to form the vast majority of the Hill Myna trade in the region. Birds from Thailand regularly appear in Singapore in large numbers (consignments of several thousand birds, mostly nestlings), despite the fact that Thailand has not issued any export permits for this species in the past two years (M. Lauprasert, *in litt.*, 27 August 1993).

Several other members of this family are in high demand. In Indonesia, the Great Myna is very popular (2 630 birds noted on 32 survey counts), the Asian Pied Starling *Sturnus contra* (desired for its loud song; approximately 1 000 birds noted on 36 surveys), the Black-winged Starling (approximately 550 birds

noted on 33 surveys) and the Asian Glossy Starling (approximately 400 birds noted on 27 surveys) being next-most in demand. The Indonesian endemic Black-winged Starling is actually a fully protected species and the widespread trade in these birds is entirely illegal. In Singapore, the Yellow-faced Myna *Mino dumontii* (137 birds in 35 surveys), Golden Myna *M. anais* (82 birds in 25 surveys), White-shouldered Starling *Sturnus sinensis* (approximately 300 birds in 24 surveys) and Great Myna (approximately 560 birds in 21 surveys) were the most frequently encountered members of this family (aside from Hill Mynas). Popular elsewhere in the region is the Golden-crested Myna *Ampeliceps coronatus* (Thailand), Crested Myna *Acridotheres cristatellus* (Viet Nam, Philippines), Common Myna *A. tristis* (Malaysia) and Black-collared Starling *Sturnus nigricollis* (Viet Nam, Malaysia).

Pycnonotidae (bulbuls)

Bulbuls are popular cage-birds in Southeast Asia, with the Red-whiskered Bulbul of Thailand and Indochina being one of the best-known and most sought-after cage-birds in Singapore, where a total of approximately 12 000 birds were noted on 215 surveys. Other bulbuls popular in the Singapore trade include the Black-headed Bulbul *P. atriceps* (approximately 750 birds in 24 surveys), Straw-headed Bulbul (approximately 500 birds in 33 surveys) and Sooty-headed Bulbul (approximately 300 in 17 surveys). In Indonesia, the most popular bulbuls are the Sooty-headed Bulbul (approximately 3 000 in 36 surveys), Yellow-vented Bulbul *P. goiavier* (approximately 1 700 in 34 surveys), Straw-headed Bulbul (approximately 1 100 in 37 surveys), Black-crested Bulbul *P. melanicterus* (approximately 1 000 in 34 surveys) and Orange-spotted Bulbul (approximately 800 birds in 36 surveys). Capture of Sooty-headed, Orange-spotted and Yellow-vented Bulbuls in Indonesia is far in excess of the Government's capture quotas.

Of immediate concern is the Indonesian trade in Straw-headed Bulbuls, where it appears that local capture has largely extirpated this species in Indonesia, requiring constant imports of illegally captured Malaysian birds re-exported via Singapore to meet demand.

Zosteropidae (white-eyes)

In Southeast Asia, white-eyes are popular only in Singapore and in demand to a much lesser extent in Indonesia and Viet Nam. Approximately 11 000 Oriental White-eyes were counted in Singapore, from 211 surveys. The subspecies most in demand in Singapore is *Z. p. auriventer* from the southern portion of the Malayan peninsula, captured illegally in the adjacent Malaysian state of Johore. The conservation impact of this highly focused trade is unknown.

In Indonesia, the Lemon-bellied White-eye *Z. chloris* and Javan Grey-throated White-eye *Lophozosterops javanicus* are routinely traded (though the latter is a fully protected species). While the Japanese White-eye was observed in trade in Singapore, Indonesia and Viet Nam, this does not seem to be a species in high demand.

Sylviidae (tailorbirds, warblers, laughingthrushes, babblers)

Subfamily **Garrulacinae** (laughingthrushes)

Laughingthrushes are widely traded throughout Southeast Asia. Robust and entertaining songbirds, laughingthrushes of Chinese origin are widely available in Indonesian bird markets. This trade mainly involves Black-throated Laughingthrushes (approximately 3 500 birds noted in 37 surveys), White-crested Laughingthrushes (approximately 5 400 birds in 37 surveys), Hwameis (approximately 2 850 in 35 surveys), Masked Laughingthrushes (approximately 1 700 birds in 30 surveys) and Red-faced Liocichlas *Liocichla phoenicea* (approximately 260 in 18 surveys). Several local species are also heavily traded in

Indonesia, including the Sunda Laughingthrush *Garrulax palliatus* (approximately 1 600 birds noted in 33 surveys), the Sumatran *bicolor* race of the White-crested Laughingthrush (approximately 700 birds in seven surveys), the Chestnut-capped Laughingthrush and the Rufous-fronted Laughingthrush, endemic to western Java (traded in small but regular numbers). Indonesian imports of laughingthrushes may be in the order of 100 000 or more birds, annually. The Hwamei is also an extremely popular cage-bird in Singapore, where approximately 900 birds were noted in 84 surveys.

Subfamily **Sylviinae:Timaliini** (babblers)

Some 22 babbler species were recorded in trade in Singapore and Indonesia, usually in very small numbers but with some notable exceptions. The Red-billed Leiothrix is a species, mainly of Chinese origin, which is traded throughout much of Southeast Asia. In Singapore, approximately 2 000 birds were counted in 112 surveys, while approximately 4 700 birds were counted in 37 Indonesian surveys. Hong Kong re-exported 34 395 Red-billed Leiothrixes to Indonesia in 1990 and Indonesia imported over 17 500 birds during a 15-week period at the end of 1991. Trade in this species deserves much closer attention. The Silver-eared Mesia is another heavily traded species in Singapore and Indonesia (approximately 750 birds were noted in 27 surveys in Singapore; approximately 4 000 birds were noted in 37 Indonesian counts). While Indonesia is a range state for this species (with distinctive endemic races), birds are also imported from China, suggesting that the capture of local birds can no longer keep up with market demand. The White-bibbed Babbler, endemic to Java and Sumatra, is routinely traded in Jakarta (93 birds were observed on 12 occasions), despite being a fully protected species.

Passeridae (sparrows, wagtails, pipits, weavers, munias, parrotfinches, etc.)

Subfamily **Ploceinae** (weavers)

The trade in weavers generally involves large quantities of the Streaked Weaver and the Baya Weaver. These birds are traded in Indochina for food and throughout the region as 'prayer birds', destined for release by Buddhists. It is not uncommon to see several hundred of these birds in a cage, in a wide number of localities.

Subfamily **Estrildinae** (parrotfinches, munias, etc.)

The Southeast Asian trade in estrildid finches involves many hundreds of thousands of birds annually, with relatively few being exported outside the region (though the Red Avadavat, Java Sparrow and various Asian munias may be found for sale in pet shops worldwide). Many are purchased and released by Buddhists and many more are simply eaten (especially in Cambodia and Viet Nam). Heavily traded species include the Red Avadavat, Pin-tailed Parrotfinch, White-rumped Munia, Scaly-breasted Munia, Black-headed Munia, White-headed Munia and the Java Sparrow, with Indonesia, Viet Nam and Malaysia being the main sources of birds in trade. Populations of some of these birds have been observed to decline, though only the marked decline in populations of the Java Sparrow in Indonesia may be cause for serious concern.

CONCLUSIONS AND RECOMMENDATIONS

The non-CITES wild bird trade in Southeast Asia is of a scale and scope far greater than was previously supposed, not least as the internal trade within the region and within individual countries (notably Indonesia) has never appeared in international bird trade statistics. The TRAFFIC survey noted 378 Southeast Asian bird species, which are not listed in Appendices I or II of CITES, for sale (along with an additional 24 recognizable subspecies), compared with only 109 CITES-listed Southeast Asian species observed in trade and undoubtedly many more non-CITES species than those noted are also being sold. Evidence exists for approximately 500-600 species of non-CITES birds in trade in the countries covered by this report. The trade involves threatened species, rare and little-known species and supposedly fully protected species, some of which are very short-lived in captivity. So little is known of the populations of virtually all non-CITES species in trade that it is inconceivable that an essentially uncontrolled trade will not have a negative effect on the survival of some of these species. It is difficult to have much faith in the claims of officials and the bird trade industry regarding the management and sustainability of the bird trade when the trade in so-called protected species is so widespread, when the laundering of illegally obtained birds is so easily accomplished (particularly in Singapore) and when some governments and traders refuse to divulge accurate and verifiable data on the trade.

Based on the findings of this report, the following recommendations are made for the improved protection of Southeast Asian species whose populations may be at risk from trade.

- Accurate and detailed data on the bird trade need to be collected and compiled by the governments and trade associations in the region (particularly in Singapore) and made available to the public.
- Detailed data on existing populations of species in trade need to be obtained and used in determining appropriate harvest limits.
- Legislation in Singapore, Indonesia and Viet Nam, in particular, needs to be improved with regard to limiting species and quantities of birds in trade and providing adequate protection for native bird populations.
- Loopholes in Singaporean legislation which allow the laundering and re-export of illegally obtained species need to be eliminated.
- Illegal trade in protected species needs to be stopped, in particular in Indonesia, Malaysia and Thailand.
- The Straw-headed Bulbul should be proposed for inclusion on CITES Appendix II by one or more of the range states.
- The Red-whiskered Bulbul should be proposed for inclusion on CITES Appendix III by Thailand, to assist Thai efforts in stopping illegal exports.
- The Oriental White-eye should be proposed for inclusion on CITES Appendix II (or at minimum on Appendix III) by one of the range states, to document trade levels and assist Malaysian efforts in stopping illegal exports.
- The White-rumped Shama should be proposed for inclusion on CITES Appendix II (or at minimum on Appendix III) by one of the range states, to assist efforts in documenting trade levels and stopping illegal trade.

- The Hill Myna should be proposed for uplisting from its current CITES Appendix III listing to inclusion on CITES Appendix II, to assist efforts in stopping widespread illegal trade in this species.

A substantial portion of the Southeast Asian trade in non-CITES birds involves captive-bred species and wild species which naturally occur in large numbers and which survive well in captivity. The Zebra Dove breeding industry in Thailand demonstrates that captive breeding can entirely displace the demand for wild-caught birds, while encouraging a culturally important pastime.

- Captive breeding at commercial levels should be encouraged for heavily-traded species such as the Red-whiskered Bulbul, Straw-headed Bulbul, Orange-headed Thrush, Hwamei, Black-throated Laughingthrush, White-crested Laughingthrush, Red-billed Leiothrix, Hill Myna, Oriental White-eye, Java Sparrow and parrotfinches.

Overall, the long-term outlook for the Southeast Asian bird trade is not encouraging. Without a substantial change in how the trade is monitored, administered and controlled, local extinctions will occur, perhaps leading to range-wide losses. Without sufficient trade and population data it is unlikely that even heavily traded species will qualify for listing on CITES Appendices and without the attention reserved for CITES Appendix I or II species, trade which threatens species will pass unnoticed by local authorities and the conservation community at large.

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NOTES

[1] Stephen Nash was the Director of TRAFFIC Southeast Asia until January 1994.

[2] The final manuscript for the Hong Kong section was condensed and incorporated into the main report by Stephen Nash.

[3] The Straw-headed Bulbul does not occur on Singapore Island itself, but on the small offshore island, Pulau Ubin.

[4] Adapted from Corrigan, 1993

[5] By David S. Melville and Amy Lau, WWF Hong Kong

Appendix

A listing of Southeast Asian Non-CITES birds observed in commercial trade in Singapore, Indonesia, Thailand, Viet Nam, Philippines and Malaysia

		1991-1993 TRAFFIC Survey Data					
		SG	ID	TH	VN	PH	MY
CASUARIIDAE							
Southern Cassowary	*Casuarius casuarius*	•					
	Casuarius sp.	•					
MEGAPODIIDAE							
Orange-footed Scrubfowl	*Megapodius reinwardt*	•					
PHASIANIDAE							
Chinese Francolin	*Francolinus pintadeanus*				•		
Long-billed Partridge	*Rhizothera longirostris**	•					
Black Partridge	*Melanoperdix nigra**	•					
Blue-breasted Quail	*Coturnix chinensis*	•	•			•	
Grey-breasted Partridge	*Arborophila orientalis**	•	•				
Chestnut-bellied Partridge	*Arborophila javanica*	•	•				
Chestnut-necklaced Partridge	*Arborophila charltonii**	•					
	Arborophila sp.		•				
Ferruginous Partridge	*Caloperdix oculea**	•					
Crested Partridge	*Rollulus rouloul**	•	•				
Red Junglefowl	*Gallus gallus*		•				
Green Junglefowl	*Gallus varius*		•				
Silver Pheasant	*Lophura nycthemera*	•					
Crestless Fireback	*Lophura erythrophthalma**	•					
Crested Fireback	*Lophura ignita**	•					
Siamese Fireback	*Lophura diardi*				•		
	Lophura sp.				•	•	
ANSERANATIDAE							
Magpie Goose	*Anseranas semipalmata*		•				
DENDROCYGNIDAE							
Wandering Whistling-Duck	*Dendrocygna arcuata*		•				
Lesser Whistling-Duck	*Dendrocygna javanica*		•		•		
ANATIDAE							
Cotton Pygmy-Goose	*Nettapus coromandelianus*				•		
Spot-billed Duck	*Anas poecilorhyncha*				•		
TURNICIDAE							
Barred Buttonquail	*Turnix suscitator*	•	•			•	
PICIDAE							
Fulvous-breasted Woodpecker	*Dendrocopos macei*		•				

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		1991-1993 TRAFFIC Survey Data					
		SG	ID	TH	VN	PH	MY
Laced Woodpecker	*Picus vittatus*		•				
	Picus sp.		•				
Common Flameback	*Dinopium javanense*		•				
Greater Flameback	*Chrysocolaptes lucidus*		•				
Grey-and-buff Woodpecker	*Hemicircus concretus*		•				
MEGALAIMIDAE							
Fire-tufted Barbet	*Psilopogon pyrolophus*	•	•				
Great Barbet	*Megalaima virens*	•		•			
Lineated Barbet	*Megalaima lineata*	•	•				
Gold-whiskered Barbet	*Megalaima chrysopogon*	•	•				
Red-crowned Barbet	*Megalaima rafflesii*	•					
Red-throated Barbet	*Megalaima mystacophanos*	•	•				
Black-banded Barbet	*Megalaima javensis*	•	•				
Golden-throated Barbet	*Megalaima franklinii*	•					
Black-browed Barbet	*Megalaima oorti*	•	•				
Blue-throated Barbet	*Megalaima asiatica*	•					
Yellow-crowned Barbet	*Megalaima henricii*	•	•				
Orange-fronted Barbet	*Megalaima armillaris*	•	•				
Blue-eared Barbet	*Megalaima australis*	•	•				
Coppersmith Barbet	*Megalaima haemacephala*	•	•				
Brown Barbet	*Calorhamphus fuliginosus*	•	•				
UPUPIDAE							
Eurasian Hoopoe	*Upupa epops*	•	•				
DACELONIDAE							
White-throated Kingfisher	*Halcyon smyrnensis*	•	•				
Javan Kingfisher	*Halcyon cyanoventris*		•				
Collared Kingfisher	*Todirhamphus chloris*		•				
Sacred Kingfisher	*Todirhamphus sanctus*	•					
MEROPIDAE							
Blue-throated Bee-Eater	*Merops viridis*	•					
CUCULIDAE							
Chestnut-winged Cuckoo	*Clamator coromandus*	•					
Oriental Cuckoo	*Cuculus saturatus*		•				
	Cuculus sp.	•	•				
Banded Bay Cuckoo	*Cacomantis sonneratii*	•					
Plaintive Cuckoo	*Cacomantis merulinus*		•				
Drongo Cuckoo	*Surniculus lugubris*		•				
Asian Koel	*Eudynamys scolopacea*		•	•			
Black-billed Koel	*Eudynamys melanorhyncha*		•				
Black-bellied Malkoha	*Phaenicophaeus diardi*	•					
Green-billed Malkoha	*Phaenicophaeus tristis*	•					
Red-billed Malkoha	*Phaenicophaeus javanicus*	•	•				
Chestnut-breasted Malkoha	*Phaenicophaeus curvirostris*	•	•				

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		1991-1993 TRAFFIC Survey Data					
		SG	ID	TH	VN	PH	MY
CENTROPODIDAE							
Greater Coucal	*Centropus sinensis*		●		●		
Sunda Coucal	*Centropus nigrorufus*		●				
Lesser Coucal	*Centropus bengalensis*	●			●		
COLUMBIDAE							
Silvery Wood-Pigeon	*Columba argentina*	●	●				
Oriental Turtle-Dove	*Streptopelia orientalis*	●		●			
Spotted Dove	*Streptopelia chinensis*	●	●	●	●	●	●
Red Collared-Dove	*Streptopelia tranquebarica*	●	●	●	●		
Island Collared-Dove	*Streptopelia bitorquata*		●			●	
Barred Cuckoo-Dove	*Macropygia unchall*		●				
Brown Cuckoo-Dove	*Macropygia phasianella*					●	
Little Cuckoo-Dove	*Macropygia ruficeps*		●				
	Macropygia sp.	●	●				
White-faced Cuckoo-Dove	*Turacoena manadensis*	●					
Emerald Dove	*Chalcophaps indica*	●	●			●	
Zebra Dove	*Geopelia striata*	●	●	●			●
Sulawesi Ground-Dove	*Gallicolumba tristigmata*	●					
Pheasant Pigeon	*Otidiphaps nobilis*	●					
Cinnamon-headed Green-Pigeon	*Treron fulvicollis*	●	●			●	
Pink-necked Green-Pigeon	*Treron vernans*	●	●				
Orange-breasted Green-Pigeon	*Treron bicincta*		●				
Thick-billed Green-Pigeon	*Treron curvirostra*		●				
Grey-cheeked Green-Pigeon	*Treron griseicauda*		●				
Wedge-tailed Green-Pigeon	*Treron sphenura*		●				
	Treron sp.	●	●				
Pink-headed Fruit-Dove	*Ptilinopus porphyreus*		●				
Black-backed Fruit-Dove	*Ptilinopus cinctus*		●				
Jambu Fruit-Dove	*Ptilinopus jambu*	●					
Wompoo Fruit-Dove	*Ptilinopus magnificus*	●					
Pink-spotted Fruit-Dove	*Ptilinopus perlatus*	●					
Superb Fruit-Dove	*Ptilinopus superbus*	●	●				
Coroneted Fruit-Dove	*Ptilinopus coronulatus*	●					
Beautiful Fruit-Dove	*Ptilinopus pulchellus*	●					
Claret-breasted Fruit-Dove	*Ptilinopus viridis*		●				
Orange-bellied Fruit-Dove	*Ptilinopus iozonus*	●	●				
Black-naped Fruit-Dove	*Ptilinopus melanospila*		●				
	Ptilinopus sp.	●	●			●	
Green Imperial-Pigeon	*Ducula aenea*	●	●			●	
	Ducula aenea paulina	●					
Shining Imperial-Pigeon	*Ducula chalconota*	●					
Pinyon Imperial-Pigeon	*Ducula pinon*	●					
Banded Imperial-Pigeon	*Ducula zoeae*	●					
Pied Imperial-Pigeon	*Ducula bicolor*	●	●	●		●	
	Ducula sp.	●					

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		1991-1993 TRAFFIC Survey Data					
		SG	ID	TH	VN	PH	MY
RALLIDAE							
Red-legged Crake	*Rallina fasciata*		•				
White-breasted Waterhen	*Amaurornis phoenicurus*	•	•		•		
Watercock	*Gallicrex cinerea*		•		•		
Purple Swamphen	*Porphyrio porphyrio*	•	•				
Common Moorhen	*Gallinula chloropus*	•	•				
SCOLOPACIDAE							
Common Greenshank	*Tringa nebularia*	•					
Common Sandpiper	*Tringa hypoleucos*	•					
CHARADRIIDAE							
Masked Lapwing	*Vanellus miles miles*	•					
ARDEIDAE							
Little Egret	*Egretta garzetta**		•				
Intermediate Egret	*Mesophoyx intermedia*				•		
Cattle Egret	*Bubulcus ibis**	•	•		•		
Javan Pond-Heron	*Ardeola speciosa*		•				
Striated Heron	*Butorides striatus*		•				
CICONIIDAE							
Woolly-necked Stork	*Ciconia episcopus*				•		
Lesser Adjutant	*Leptoptilos javanicus*				•		
EURYLAIMIDAE							
Black-and-red Broadbill	*Cymbirhynchus macrorhynchus*	•					
Long-tailed Broadbill	*Psarisomus dalhousiae*	•	•				
Green Broadbill	*Calyptomena viridis*	•					
PTILONORHYNCHIIDAE							
Fawn-breasted Bowerbird	*Chlamydera cerviniventris*	•					
White-eared Catbird	*Ailuroedus buccoides*	•					
MELIPHAGIDAE							
Plain Friarbird	*Philemon inornatus*		•				
Blue-faced Honeyeater	*Entomyzon cyanotis*	•					
PARDALOTIDAE							
Golden-bellied Gerygone	*Gerygone sulphurea*		•				
IRENIDAE							
Asian Fairy-Bluebird	*Irena puella*	•	•	•			
Philippine Fairy-Bluebird	*Irena cyanogaster*					•	
Greater Green Leafbird	*Chloropsis sonnerati*	•	•	•			
Lesser Green Leafbird	*Chloropsis cyanopogon*	•	•	•			
Blue-winged Leafbird	*Chloropsis cochinchinensis*	•	•				
Golden-fronted Leafbird	*Chloropsis aurifrons*	•			•		

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		1991-1993 TRAFFIC Survey Data					
		SG	ID	TH	VN	PH	MY
Orange-bellied Leafbird	*Chloropsis hardwickii*	•					
	Chloropsis sp.	•					
LANIIDAE							
Tiger Shrike	*Lanius tigrinus*		•				
Brown Shrike	*Lanius cristatus*		•				
Long-tailed Shrike	*Lanius schach*		•				
CORVIDAE-Pachycephalinae							
Golden Whistler	*Pachycephala pectoralis*		•				
CORVIDAE-Corvinae							
Crested Jay	*Platylophus galericulatus*	•	•				
Black Magpie	*Platysmurus leucopterus*		•				
Eurasian Jay	*Garrulus glandarius*			•			
Blue Magpie	*Urocissa erythrorhyncha*	•					
Green Magpie	*Cissa chinensis*	•	•				
Short-tailed Magpie	*Cissa thalassina*	•	•				
Azure-winged Magpie	*Cyanopica cyana* ▲	•					
Rufous Treepie	*Dendrocitta vagabunda*	•					
Grey Treepie	*Dendrocitta formosae*		•				
Racket-tailed Treepie	*Crypsirina temia*	•	•				
Black-billed Magpie	*Pica pica*	•				•	
Slender-billed Crow	*Corvus enca*		•	•			
Large-billed Crow	*Corvus macrorhynchos*		•	•	•		
Collared Crow	*Corvus torquatus*	•					
Hooded Butcherbird	*Cracticus cassicus*	•					
Ashy Wood-swallow	*Artamus fuscus*		•				
Black-hooded Oriole	*Oriolus xanthornus*	•					
Dark-throated Oriole	*Oriolus xanthonotus*	•	•				
Black-naped Oriole	*Oriolus chinensis*	•	•	•		•	
Slender-billed Oriole	*Oriolus tenuirostris*	•					
Silver Oriole	*Oriolus mellianus*						
Pied Triller	*Lalage nigra*	•	•				
White-shouldered Triller	*Lalage sueurii*		•				
Rosy Minivet	*Pericrocotus roseus*	•					
Small Minivet	*Pericrocotus cinnamomeus*		•				
Fiery Minivet	*Pericrocotus igneus*		•				
Grey-chinned Minivet	*Pericrocotus solaris*	•	•				
Short-billed Minivet	*Pericrocotus brevirostris*	•					
Sunda Minivet	*Pericrocotus miniatus*		•				
Scarlet Minivet	*Pericrocotus flammeus*	•	•				
Bar-winged Flycatcher-Shrike	*Hemipus picatus*		•				
Black-winged Flycatcher-Shrike	*Hemipus hirundinaceus*	•	•				
CORVIDAE-Dicrurinae							
Rufous-tailed Fantail	*Rhipidura phoenicura*		•				
Pied Fantail	*Rhipidura javanica*	•	•			•	

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		1991-1993 TRAFFIC Survey Data					
		SG	ID	TH	VN	PH	MY
Black Drongo	*Dicrurus macrocercus*	•	•				
Ashy Drongo	*Dicrurus leucophaeus*	•	•				
Crow-billed Drongo	*Dicrurus annectans*		•				
Bronzed Drongo	*Dicrurus aeneus*	•	•				
Lesser Racket-tailed Drongo	*Dicrurus remifer*		•				
Hair-crested Drongo	*Dicrurus hottentottus*	•	•				
Greater Racket-tailed Drongo	*Dicrurus paradiseus*	•	•	•			
	Dicrurus sp.		•				
Black-naped Monarch	*Hypothymis azurea*	•	•				
Japanese Paradise-Flycatcher	*Terpsiphone atrocaudata*	•	•				
Magpie-Lark	*Grallina cyanoleuca*	•					
CORVIDAE-Aegithininae							
Common Iora	*Aegithina tiphia*		•				
CORVIDAE-Malaconotinae							
Large Woodshrike	*Tephrodornis gularis*		•				
BOMBYCILLIDAE							
Bohemian Waxwing	*Bombycilla garrulus* ▲	•					
	Bombycilla sp. ▲						•
MUSCICAPIDAE-Turdinae							
White-throated Rock Thrush	*Monticola gularis*	•					
Blue Rock-Thrush	*Monticola solitarius*	•	•				
Shiny Whistling-Thrush	*Myiophonus melanurus*		•				
Sunda Whistling-Thrush	*Myiophonus glaucinus*	•	•				
Malayan Whistling Thrush	*Myiophonus robinsoni*	•					
Blue Whistling-Thrush	*Myiophonus caeruleus*	•	•				
	Myiophonus c. caeruleus	•					
Chestnut-capped Thrush	*Zoothera interpres*	•	•				
Orange-headed Thrush	*Zoothera citrina*	•	•				
Siberian Thrush	*Zoothera sibirica*		•				
Scaly Thrush	*Zoothera dauma*		•				
Black-breasted Thrush	*Turdus dissimilis*	•					
Grey-winged Blackbird	*Turdus boulboul*	•					
Eyebrowed Thrush	*Turdus obscurus*	•					
White-browed Shortwing	*Brachypteryx montana*		•				
MUSCICAPIDAE-Muscicapinae							
Grey-streaked Flycatcher	*Muscicapa griseisticta*					•	
Yellow-rumped Flycatcher	*Ficedula zanthopygia*	•					
Narcissus Flycatcher	*Ficedula narcissina*	•					
Rufous-chested Flycatcher	*Ficedula dumetoria*	•					
Little Pied Flycatcher	*Ficedula westermanni*	•	•				
Blue-and-white Flycatcher	*Cyanoptila cyanomelana*	•	•				
Verditer Flycatcher	*Eumyias thalassina*	•	•				
Indigo Flycatcher	*Eumyias indigo*		•				
Rufous-bellied Niltava	*Niltava sundara*	•	•				

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		1991-1993 TRAFFIC Survey Data					
		SG	ID	TH	VN	PH	MY
Pale Blue-Flycatcher	*Cyornis unicolor*	•	•				
Hill Blue-Flycatcher	*Cyornis banyumas*		•				
Malaysian Blue-Flycatcher	*Cyornis turcosus*		•				
Mangrove Blue-Flycatcher	*Cyornis rufigaster*		•				
Siberian Rubythroat	*Luscinia calliope*	•					
Bluethroat	*Luscinia svecica*	•					
Oriental Magpie-Robin	*Copsychus saularis*	•	•	•	•		•
	Copsychus saularis amoenus		•				
	Copsychus saularis javensis		•				
White-rumped Shama	*Copsychus malabaricus*	•	•	•	•	•	•
White-capped Water-Redstart	*Chaimarrornis leucocephalus*	•					
White-tailed Robin	*Cinclidium leucurum*	•					
Blue-fronted Robin	*Cinclidium frontale'*	•					
White-crowned Forktail	*Enicurus leschenaulti*		•				
Pied Bushchat	*Saxicola caprata*		•		•	•	•
STURNIDAE							
Short-tailed Starling	*Aplonis minor*		•				
Asian Glossy Starling	*Aplonis panayensis*	•	•	•			
Chestnut-tailed Starling	*Sturnus malabaricus*	•					
Purple-backed Starling	*Sturnus sturninus*	•	•				
White-shouldered Starling	*Sturnus sinensis*	•	•		•		
Asian Pied Starling	*Sturnus contra*	•	•	•			
Black-collared Starling	*Sturnus nigricollis*	•	•		•		•
Vinous-breasted Starling	*Sturnus burmannicus*	•	•	•	•		
Black-winged Starling	*Sturnus melanopterus*	•	•				
	Sturnus m. melanopterus		•				
	Sturnus m. tricolor		•				
	Sturnus sp.					•	
Common Myna	*Acridotheres tristis*	•	•	•			•
Jungle Myna	*Acridotheres fuscus*	•	•		•		•
Great Myna	*Acridotheres grandis*	•	•		•		•
Crested Myna	*Acridotheres cristatellus*	•		•	•	•	
Golden-crested Myna	*Ampeliceps coronatus*	•		•			
Golden Myna	*Mino anais*	•	•			•	
Yellow-faced Myna	*Mino dumontii*	•	•	•			
Sulawesi Myna	*Basilornis celebensis*	•	•				
White-necked Myna	*Streptocitta albicollis*		•				
	Streptocitta a. albicollis	•					
Coleto	*Sarcops calvus*					•	
Hill Myna	*Gracula religiosa**	•	•	•	•	•	•
	Gracula religiosa intermedia	•		•	•		
	Gracula religiosa palawanensis					•	
	Gracula religiosa religiosa	•	•				
	Gracula religiosa robusta	•					
Finch-billed Myna	*Scissirostrum dubium*	•	•				
PARIDAE							

Appendix

		1991-1993 TRAFFIC Survey Data					
		SG	ID	TH	VN	PH	MY
Yellow-bellied Tit	*Parus venustulus*	•					
Great Tit	*Parus major*	•	•				
Green-backed Tit	*Parus monticolus*	•					
Yellow-cheeked Tit	*Parus spilonotus*		•				
Sultan Tit	*Melanochlora sultanea*	•					
HIRUNDINIDAE							
Sand Martin	*Riparia riparia*				•		
Barn Swallow	*Hirundo rustica*				•		
Striated Swallow	*Hirundo striolata*				•		
PYCNONOTIDAE							
Collared Finchbill	*Spizixos semitorques*	•					
Straw-headed Bulbul	*Pycnonotus zeylanicus*	•	•				
Black-headed Bulbul	*Pycnonotus atriceps*	•	•				
Black-crested Bulbul	*Pycnonotus melanicterus*	•	•				
	Pycnonotus m. johnsoni		•				
	Pycnonotus m. dispar		•				
Scaly-breasted Bulbul	*Pycnonotus squamatus*	•	•				
Grey-bellied Bulbul	*Pycnonotus cyaniventris*	•	•				
Red-whiskered Bulbul	*Pycnonotus jocosus*	•	•	•	•		•
Light-vented Bulbul	*Pycnonotus sinensis*	•					
Red-vented Bulbul	*Pycnonotus cafer*		•		•		
Sooty-headed Bulbul	*Pycnonotus aurigaster*	•	•		•		•
Puff-backed Bulbul	*Pycnonotus eutilotus*	•					
Orange-spotted Bulbul	*Pycnonotus bimaculatus*	•	•				
Stripe-throated Bulbul	*Pycnonotus finlaysoni*	•			•		
Yellow-vented Bulbul	*Pycnonotus goiavier*	•	•		•		
Olive-winged Bulbul	*Pycnonotus plumosus*	•	•				
Streak-eared Bulbul	*Pycnonotus blanfordi*				•		•
Cream-vented Bulbul	*Pycnonotus simplex*	•	•				
Red-eyed Bulbul	*Pycnonotus brunneus*		•				
Spectacled Bulbul	*Pycnonotus erythropthalmos*	•					
Puff-throated Bulbul	*Alophoixus pallidus*	•					
Ochraceous Bulbul	*Alophoixus ochraceus*	•	•				
Grey-cheeked Bulbul	*Alophoixus bres*		•				
Olive Bulbul	*Iole virescens*		•				
Ashy Bulbul	*Hemixos flavala*		•				
Black Bulbul	*Hypsipetes leucocephalus*	•	•				
	Hypsipetes l. leucothorax		•				
CISTICOLIDAE							
Zitting Cisticola	*Cisticola juncidis*		•				
Golden-headed Cisticola	*Cisticola exilis*		•				
Bar-winged Prinia	*Prinia familiaris*		•				
Yellow-bellied Prinia	*Prinia flaviventris*		•				
ZOSTEROPIDAE							

Appendix

		1991-1993 TRAFFIC Survey Data					
		SG	ID	TH	VN	PH	MY
Oriental White-eye	*Zosterops palpebrosus*	•	•		•		
	Zosterops p. melanurus		•				
Japanese White-eye	*Zosterops japonicus*	•	•		•		
Lemon-bellied White-eye	*Zosterops chloris*		•				
	Zosterops chloris maxi		•				
Javan Grey-throated White-eye	*Lophozosterops javanicus*		•				
	Lophozosterops j. elongatus		•				
	Lophozosterops j. frontalis		•				
SYLVIIDAE-Acrocephalinae							
Common Tailorbird	*Orthotomus sutorius*		•				
Ashy Tailorbird	*Orthotomus ruficeps*		•				
Yellow-bellied Warbler	*Abroscopus superciliaris*		•				
	Abroscopus sp.		•				
SYLVIIDAE-Garrulacinae							
Sunda Laughingthrush	*Garrulax palliatus*	•	•				•
Rufous-fronted Laughingthrush	*Garrulax rufifrons*		•				
Masked Laughingthrush	*Garrulax perspicillatus*	•	•				
White-throated Laughingthrush	*Garrulax albogularis*	•	•				
White-crested Laughingthrush	*Garrulax leucolophus*	•	•	•	•		•
	Garrulax l. bicolor		•				
Lesser Necklaced Laughingthrush	*Garrulax monileger*	•	•				
Greater Necklaced Laughingthrush	*Garrulax pectoralis*	•			•		
Black Laighingthrush	*Garrulax lugubris*		•				•
Black-throated Laughingthrush	*Garrulax chinensis*	•	•	•	•		•
	Garrulax c. lugens		•		•		
Chestnut-capped Laughingthrush	*Garrulax mitratus*		•				•
Hwamei	*Garrulax canorus*	•	•	•	•		•
Red-winged Laughingthrush	*Garrulax formosus*	•	•				
Red-tailed Laughingthrush	*Garrulax milnei*	•	•				•
Red-faced Liocichla	*Liocichla phoenicea*	•	•				•
SYLVIIDAE-Sylviinae							
Abbott's Babbler	*Malacocincla abbotti*	•	•				
Temminck's Babbler	*Pellorneum pyrrogenys*		•				
Black-capped Babbler	*Pellorneum capistratum*	•	•				
Large Scimitar-Babbler	*Pomatorhinus hypoleucos*	•					
White-browed Scimitar-Babbler	*Pomatorhinus schisticeps*	•	•				
Chestnut-backed Scimitar-Babbler	*Pomatorhinus montanus*		•				
Large Wren-Babbler	*Napothera macrodactyla*		•				
Marbled Wren-Babbler	*Napothera marmorata*		•				
White-bibbed Babbler	*Stachyris thoracica*		•				
Crescent-chested Babbler	*Stachyris melanothorax*		•				
Striped Tit-Babbler	*Macronous gularis*		•				
Grey-cheeked Tit-Babbler	*Macronous flavicollis*		•				
Fluffy-backed Tit-Babbler	*Macronous pilosus*		•				
Chestnut-capped Babbler	*Timalia pileata*	•	•				

Appendix

		1991-1993 TRAFFIC Survey Data					
		SG	ID	TH	VN	PH	MY
Silver-eared Mesia	*Leiothrix argentauris*	•	•		•		
	Leiothrix a. rookmakeri/laurinae	•	•				
Red-billed Leiothrix	*Leiothrix lutea*	•	•	•		•	•
Blue-winged Minla	*Minla cyanouroptera*	•					
Chestnut-tailed Minla	*Minla strigula*	•					
Spotted Crocias	*Crocias albonotatus*		•				
Rufous-backed Sibia	*Heterophasia annectans*	•					
Black-headed Sibia	*Heterophasia melanoleuca*	•					•
Long-tailed Sibia	*Heterophasia picaoides*		•				
ALAUDIDAE							
Australasian Lark	*Mirafra javanica*	•	•				
Mongolian Lark	*Melanocorypha mongolica* ▲	•	•	•			
	Melanocorypha sp.	•					
Oriental Skylark	*Alauda gulgula*	•					
NECTARINIIDAE							
Crimson-breasted Flowerpecker	*Prionochilus percussus*		•				
Orange-bellied Flowerpecker	*Dicaeum trigonostigma*	•	•				
Scarlet-backed Flowerpecker	*Dicaeum cruentatum*		•	•			
Plain-throated Sunbird	*Anthreptes malacensis*	•	•				
Ruby-cheeked Sunbird	*Anthreptes singalensis*		•				
Purple-throated Sunbird	*Nectarinia sperata*	•					
Olive-backed Sunbird	*Nectarinia jugularis*	•					
Purple Sunbird	*Nectarinia asiatica*	•					
Long-billed Spiderhunter	*Arachnothera robusta*		•				
Yellow-eared Spiderhunter	*Arachnothera chrysogenys*		•				
PASSERIDAE-Passerinae							
Eurasian Tree Sparrow	*Passer montanus*	•	•		•	•	
PASSERIDAE-Motacillinae							
Grey Wagtail	*Motacilla cinerea*	•					
Yellow-hooded Wagtail	*Motacilla citreola*	•					
Yellow Wagtail	*Motacilla flava*	•	•		•		
Paddyfield Pipit	*Anthus rufulus*	•	•				
	Anthus sp.	•					
PASSERIDAE-Ploceinae							
Streaked Weaver	*Ploceus manyar*	•	•		•		
Baya Weaver	*Ploceus philippinus*	•	•		•		•
Asian Golden Weaver	*Ploceus hypoxanthus*	•	•				•
PASSERIDAE-Estrildinae							
Red Avadavat	*Amandava amandava*	•	•		•	•	•
Zebra Finch	*Taeniopygia g. guttata*		•				
Tawny-breasted Parrotfinch	*Erythrura hyperythra*	•	•				
Pin-tailed Parrotfinch	*Erythrura prasina*	•	•			•	

Appendix

		1991-1993 TRAFFIC Survey Data					
		SG	ID	TH	VN	PH	MY
Black-headed Munia	*Lonchura malacca*	●	●	●	●	●	●
White-capped Munia	*Lonchura ferruginosa*		●				
White-headed Munia	*Lonchura maja*	●	●			●	●
Grey-crowned Munia	*Lonchura nevermanni*	●					
Hooded Munia	*Lonchura spectabilis*	●					●
Black Munia	*Lonchura stygia*	●	●				
Black-breasted Munia	*Lonchura teerinki*	●					●
	Lonchura sp.					●	
Java Sparrow	*Padda oryzivora*	●	●	●		●	●
Timor Sparrow	*Padda fuscata*	●	●			●	
FRINGILLIDAE							
Brambling	*Fringilla montifringilla*▲	●					
Black-headed Greenfinch	*Carduelis ambigua*	●					
Eurasian Bullfinch	*Pyrrhula pyrrhula*▲	●					
Yellow-billed Grosbeak	*Euphona migratoria*▲	●				●	
Japanese Grosbeak	*Euphona personata*▲	●					
Yellow-breasted Bunting	*Emberiza aureola*	●					

Key: *=Appendix III-listed species; ▲=Non-Southeast Asian species of Chinese origin, which, however, feature regularly in the region's bird trade; ?=identification questionable.

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The TRAFFIC Network shares its international headquarters in the United Kingdom with the World Conservation Monitoring Centre.

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JANUARY 1994