

THE TRADE IN MARINE TURTLE PRODUCTS IN VIET NAM

A Report Prepared for the
Marine Turtle Conservation
and Management Team,
Viet Nam

A TRAFFIC SOUTHEAST ASIA REPORT



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**by
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Tâm t₃t b₃o c₃o

Cả n^m lo i rⁱa bi^on xu^êt hi^on trong vⁱng lⁱ nh h^li Vi^ot Nam lⁱ S^ai M^ai (*Eretmochelys imbricata*), Vⁱch (*Chelonia mydas*), Rⁱa Da (*Dermochelys coriacea*), S^ai M^ai D^oa (*Lepidochelys olivacea*) v^o Qu^ulⁿ S^ang (*Caretta caretta*). Khai th^uc qu^u m^oc, ch^ñ y^ou cho m^oc ^oych th⁻ng m¹i, lⁱ nguy^an nh^on lⁱ m suy gi^lm c₃c qu^çn th^o rⁱa tⁱ i m^oc r^êt th^êp. Hai trong n^m lo i ^o-i c li^ot k^a v^o m^oc C^uc k^u Nguy c^êp, ba lo i c^bn lⁱ i è m^oc Nguy C^êp trong Danh s₃ch S^a Nh⁺ng Lo i B^l S^e d^aa cⁿa IUCN n^m 2002; c^l n^m lo i n^y ^ou n^m trong Ph^o l^oc lⁱ cⁿa C^ong -i c v^o Bu^on b₃n Qu^ec t^o c₃c lo i S^eng Th^uc v^êt Hoang d^o Nguy c^êp (CITES) m^o Vi^ot Nam ^o tham gia t^o n^m 1994. C₃c lo i n^y ^ou ^o-i c ph^up lu^êt Vi^ot Nam b^lo v^o.

Cu^ec kh^lo s₃t th^l tr⁻ng toⁿ qu^ec l^çn n^y nh^m ^oi^ou tra hi^on tr¹ng bu^on b₃n c₃c s^lin ph^êm rⁱa bi^on è Vi^ot Nam ^o h^ç trⁱ Ch^ñnh ph^ñ Vi^ot Nam trong vi^oc x^oy d^ung mét K^o ho¹ch H^o nh ^oéng Qu^ec gia v^o rⁱa bi^on. Cu^ec kh^lo s₃t c^a s^u tham gia cⁿa c₃c ^oi^ou tra vi^an Vi^ot Nam v^o n⁻i c ngo^o i, ^o-i c th^uc hi^on è 30 ^opa ^oi^om kh₃c nhau cⁿa 19 t^lnh th^o nh ph^è trong c^l n⁻i c v^o th^ung 5 n^m 2002. H^çu h^ot nh⁺ng ng⁻èi ^o-i c ph^áng v^ên lⁱ thⁱ th^ñ c^ong, ng⁻èi b₃n lⁱ v^o tr^ung gian tham gia v^o vi^oc bu^on b₃n.

Qu^u tr^onh kh^lo s₃t ^o th^èng k^a ^o-i c 28 837 s^lin ph^êm lⁱ m t^o rⁱa bi^on ^o-i c b₃y b₃n è 150 c^oa h^ong b₃n lⁱ è 13 n⁻i kh₃c nhau, h^çu h^ot lⁱ c₃c tr^ung t^om du l^lch v^o tr^ung t^om vⁱng ven bi^on. Kho^ong 98% nh⁺ng s^lin ph^êm n^y ^o-i c lⁱ m t^o mai rⁱa (c₃c bé ph^ên cⁿa S^ai M^ai), bao g^om 27 lo¹i s^lin ph^êm kh₃c nhau, ch^ñ y^ou lⁱ ^oa trang s^oc, nh^êt lⁱ v^ong tay. Gi₃ c^l dao ^oéng t^o 0.5 ^ooⁿ 1 ^o« la M^u ^oèi ví i nh^ên nh^a, v^ong ^oeo tay máng v^o ^oa n⁺ trang xo^ong ^ooⁿ 100 - 150 ^o« la M^u ^oèi ví i nh⁺ng chi^oc qu¹t lí n v^o v^í. Ch^l c^a nh⁺ng con S^ai M^ai c^a b^o ngang lí n h⁻n 30cm mⁱ i ^o-i c s^o d^ong gia c^ong c₃c s^lin ph^êm b^ong mai, S^ai M^ai lí n h⁻n ^o tr^e n^an r^êt hi^om è Vi^ot Nam ^ooⁿ m^oc m^o nh⁺ng ng⁻ d^on n^ai r^ong h^a ph^li mua ch^ong t^o c₃c t^u ^o, nh₃ c₃ n⁻i c ngo^o i è ngo^o i khi mang v^o (v^í d^o cⁿa lⁿ-^o«-n^a-xi-a).

Vi^oc s^o d^ong v^x m^oc ^oych th⁻ng m¹i lí n th^o hai lⁱ bu^on b₃n toⁿ bé m^êu v^êt (rⁱa nh^ai nguy^an con). C^a ba lo i rⁱa ^o-i c nh⁺n th^êy b₃n trong c₃c c^oa hi^ou theo ki^ou nh^ai nguy^an con, trong ^oa c^a 343 con S^ai M^ai, 216 con Vⁱch v^o mét con Qu^ulⁿ S^ang. Ngo^o i ra, r^êt nhi^ou ng⁻èi b₃n h^ong cho bi^ot h^a c^bn c^a nhi^ou rⁱa nh^a n⁺a c^êt trong kho, v^o mét s^e kh₃c n^ai r^ong h^a c^a ch^ong h⁻n mét ng^o n con ^o nh^ai s^ln ^oó ch^e xu^êt kh^êu. Gi₃ c^l cho h^çu h^ot lo¹i rⁱa nh^ai nguy^an con n^y (nh^êt lⁱ S^ai M^ai) ^o-i c t^lnh to₃n d^ua tr^an b^o réng ^oo è ch^ç to nh^êt cⁿa mai con rⁱa (^o-n gi₃ t^lnh theo 10 cm). Nh⁺ng con to c^a ^o-n gi₃ ^oyt h⁻n do mai cⁿa ch^ong (v^ly mai ho^êc b^lin mai) d^o y h⁻n v^o th⁻ng ^o-i c coi lⁱ h^êp d^ên h⁻n.

R^êt nhi^ou s^lin ph^êm (c^l mai rⁱa l^ên rⁱa nh^ai nguy^an con) ^o-i c bu^on b₃n ch^l ^o lⁱ m ^oa trang tr^y. C₃c bé ph^ên cⁿa rⁱa bi^on v^o m^êu v^êt nh^ai c^ong ^o-i c coi lⁱ v^êt t⁻ng tr⁻ng cho may m^ln, v^o ng⁻èi ta tin r^ong mét ^o«i rⁱa nh^ai treo trong nh^o t⁻ng tr⁻ng cho mét gia ^onh h¹nh ph^oc c^on ^oèi v^o s^í mang lⁱi nhi^ou ^oi^ou may m^ln cho c^l gia ^onh.

B^èn tr^ung t^om bu^on b₃n c₃c s^lin ph^êm rⁱa bi^on lí n nh^êt, c^a th^l ph^çn ngang nhau ^oa lⁱ th^o nh^è Hà Ch^ñ Minh (46%), H^o Ti^an (18%), Nha Trang (15%) v^o V^ong T^u (11%). H^o Néi, B^oi Ch^y v^o th^o nh^è ph^è H^li Ph^ong c^ong g^op mét con s^e ^o, ng^o k^o nh⁺ng ^oi^om b₃n lⁱ s^lin ph^êm rⁱa bi^on, k^o c^l c₃c qu^çy

hàng của sên bay Núi Bội, H Núi. H Tián, Phó Quốc vụ trưởng Hà Chí Minh I nh:ng trung tâm chỗ t, c mai rĩa quan trọng.

Trong số 150 của hiệu buôn c, c sên phEm rĩa biển, ít nhất cả 35 của hiệu cả kh, ch mua buôn th-êng xuy^n (cả I nh:ng kh, ch cết mua số 100 sên phEm mỗi lộn trẻ l^n), chủ yếu I kh, ch n-íc ngo i, kh, ch số S i Loan, Trung Quốc, Nhật Bn, Hàng Kng v Mü c-íc nh:c tí i nhiều nhất.

Kốt quđ khlo s, t cho thEy mét c, ch rã r ng I kó số lộn khlo s, t t-ng tù do TRAFFIC Sng Nam Á tiến hành v o năm 1992/1993, việc buôn b, n c, c sên phEm rĩa biển c t ng l^n c, ng kó. H-n n=a, yếu tố quốc tế trong buôn b, n rĩa biển năm 1992/1993 khng rã r ãt v chióm v trý trng yếu nh- è năm 2002. Cộn khEn thiót cả ngay c, c biển ph, p thúc thi hiệu quđ c, c luEt quèc gia v c, c cng -íc quèc tởm Viót Nam c tham gia, c ng n cEm vióc buôn b, n rĩa biển v c, c sên phEm của rĩa biển è Viót Nam.

Sở nghé Bé Thỹ sên v Bé Nng nghio v Ph, t trión Nng thkn ra mét quyót cphn chung quy cphn vióc bít gi÷ tEt cđ c, c sên phEm rĩa biển cang b y b, n t i Viót Nam néi trong 6 th, ng kó số cuéc háp Kó ho'ch H nh cng Quèc gia v rĩa biển; c, c c- quan thúc thi ph, p luEt cả li^n quan cộn theo dãi vióc tu^n thñ Quyót cphn n y v khèi tè nh:ng k I vi ph m theo luEt cphn. Cộn tEp trung nç lúc v o nh:ng tó ióm chñnh n-i dión ra c, c ho' t cng chỗ t, c mai rĩa (H Tián v Phó Quốc) v buôn b, n c, c sên phEm rĩa (th nh phè Hà Chí Minh, H Tián, Nha Trang, Vòng T u v H Núi).

C, c, n bé thúc thi ph, p luEt cộn c-íc tEp huEn vó nhEn d'ng c, c bé phEn của rĩa v vó vióc thúc hión Cng -íc CITES công nh- Nghé cphn 48/CP, v c-íc gi, o dúc vó qnh h-êng nghim trng của vióc buôn b, n rĩa biển tí i c, c quçn thó hoang d .

Nh:ng trung gian buôn b, n è Vòng T u I nh:ng cèi t-íc chñnh của h nh cng thúc thi ph, p luEt, há phđi chũ tr, ch nhióm vó vióc c mua mét khèi l-íc ng lí n rĩa biển tó ng- d, công nh- thu gom xuEt khEu quèc tở rĩa nhai nguy^n con.

C, c khuyón nghé kh, c bao gãm vióc tæ chóc c, c chión d'ch tuy^n truyón nng cao nhEn thóc, thng tin cho ng-èi b, n h ng vó buôn b, n rĩa biển I tr, i ph, p luEt v Quyót cphn vó bít gi÷ cả li^n quan, khuyón khích c, c ph-ng tión thng tin c i chóng tEp trung v o vEn có buôn b, n rĩa biển v nhm v o nh:ng cèi t-íc ng l÷ h nh quèc tở t i c, c sên bay néi cpa v sên bay quèc tở công nh- nh:ng ióm xuEt nhEp cđnh kh, c.

EXECUTIVE SUMMARY

Five marine turtle species occur in Vietnamese waters, the Hawksbill *Eretmochelys imbricata*, Green *Chelonia mydas*, Loggerhead *Caretta caretta*, Olive Ridley *Lepidochelys olivacea* and Leatherback *Dermochelys coriacea* Turtles. Over-exploitation, particularly for trade, has caused major declines and reduced populations to very low levels. Two of the five species are listed as Critically Endangered, and three as Endangered, on the IUCN 2002 Red List of Threatened Species; all five are listed on Appendix I of CITES, to which Viet Nam has been a signatory since 1994. Each is also afforded protection under Viet Nam's national legislation.

This nationwide market survey to investigate the status of the trade in marine turtle products in Viet Nam was commissioned to assist Viet Nam's government in the formulation of a National Action Plan on marine turtles. It was conducted in May 2002 by foreign and Vietnamese personnel, and covered over 30 locations in 19 provinces. Most interviewees were craftsmen, retailers and middlemen involved in the trade.

During the study, a total of 28 837 items made from marine turtle were observed on sale in 150 retail outlets spread across 13 locations, all coastal and/or tourist centres. Approximately 98% of all these items were made from tortoiseshell (Hawksbill Turtle parts), comprising 27 different product types, chiefly jewellery, and especially bracelets. Prices ranged from USD0.5-1 for small rings, thin bracelets and trinkets, to USD100 - 150 for large fans and purses. Only Hawksbill Turtles over 30 cm in width were reported to be used for manufacturing tortoiseshell items, larger Hawksbill Turtles having become so scarce in Vietnamese waters that fishermen reported having to buy them offshore from foreign vessels (e.g. Indonesian).

Trade in whole specimens (stuffed mounts) was the second largest commercial use. Three turtle species were observed for sale in shops as stuffed mounts, totalling 343 Hawksbill Turtles, 216 Green Turtles and one Loggerhead Turtle. In addition, numerous dealers reported having many more stuffed turtles in storage, with some dealers claiming to have in excess of 1000 animals readily available for export. Prices for most whole stuffed turtles (especially Hawksbills) were based on their width at the widest part of the carapace (measured in 10 cm units). Larger animals were more expensive per unit because their scutes (i.e., carapace shell or plates) were thicker and generally considered more attractive.

The vast majority of products (both tortoiseshell and whole specimens) were sold purely for ornamental purposes. Marine turtle parts and stuffed specimens were also reported to bestow good luck, and there is a belief that a pair of stuffed marine turtles hung in the home represents a balanced family and brings good fortune to the household.

The four largest market centres for marine turtle products, and the approximate market share each comprised, were Ho Chi Minh City (HCMC) (46%), Ha Tien (18%), Nha Trang (15%) and Vung Tau (11%). Ha Noi, Bai Chay and Hai Phong City supported a significant number of outlets selling marine turtle products, including Ha Noi airport shops. Ha Tien, Phu Quoc and HCMC were important centres for tortoiseshell crafting.

At least 35 of the 150 shops selling marine turtle products had regular wholesale buyers (i.e. those ordering 100 or more products at a time), predominantly from international destinations, with Taiwan, China, Japan, Hong Kong and the USA being those most frequently referred to.

The results clearly indicate that the trade of marine turtle products had increased considerably since similar surveys were carried out by TRAFFIC Southeast Asia in 1992/3. Furthermore, the substantial international element to the trade evident in 2002 was not apparent in 1992/3. There is an urgent need for effective and immediate enforcement of both national legislation and international conventions to which Viet Nam is a signatory, prohibiting the trade in marine turtles and marine turtle products in Viet Nam.

It is recommended that the Ministry of Fisheries together with the Ministry of Agriculture and Rural Development issue a joint Decision stipulating the confiscation of all marine turtle products on sale in Viet Nam within six months of convening the meeting on the National Action Plan on marine turtles; relevant enforcement agencies should monitor compliance with the Decision and prosecute offenders in accordance with the law. Efforts should be focused in the main locations where tortoiseshell items are crafted (Ha Tien and Phu Quoc) and sold (HCMC, Ha Tien, Nha Trang, Vung Tau and Ha Noi).

Enforcement personnel require training in the identification of turtle parts and the implementation and enforcement of CITES and Decree 48/CP, and education on the serious impact that the trade in marine turtles has on wild populations.

Middlemen in Vung Tau city are key targets for enforcement action, being responsible for purchasing large quantities of turtles from fishermen, as well as for much of the international wholesale export of stuffed turtles.

Awareness campaigns, informing dealers of the illegality of the trade in marine turtles and the Decision concerning confiscation, encouraging mass media to focus on the issue and targeting international travellers at domestic and international airports and other points of entry and exit are additional priority recommendations.

INTRODUCTION

Humans have used and hunted marine turtles for both food and ornamental purposes. However, in many countries, including Viet Nam, commercial trade is contributing to serious declines in marine turtle populations. The trade, along with fisheries by-catch (and in many cases the two are strongly related), are amongst the greatest threats to marine turtles worldwide.

Recognising the threats to Viet Nam's marine turtles, the IUCN Marine Turtle Specialist Group (MTSG), the Secretariat of the Convention on Migratory Species (CMS), and the Marine Turtle Conservation Management Team, comprised of the Ministry of Fisheries Viet Nam, IUCN Viet Nam, WWF Indochina Programme (WWF-ICP) and TRAFFIC Southeast Asia-Indochina (TSEA - Indochina), were cooperating in the development of a regional marine turtle conservation programme. This report prepared by TSEA - Indochina contributed to this programme by providing an overview of the trade. It illustrates the extent of the illegal trade throughout Viet Nam and highlights the need for effective and immediate enforcement of both national legislation and international conventions to which Viet Nam is a signatory and which are designed to protect marine turtles.

Species of marine turtle in Viet Nam

Five of the world's seven marine turtle species, the Hawksbill *Eretmochelys imbricata*, Green *Chelonia mydas*, Loggerhead *Caretta caretta*, Olive Ridley *Lepidochelys olivacea* and Leatherback *Dermochelys coriacea* Turtles, are found in the waters of Viet Nam. All five are known to feed and/or nest along the coast, with records from the provinces of Quang Ninh, Hai Phong, Thanh Hoa, Quang Nam, Hue, Da Nang, Quang Ngai, Binh Dinh, Phu Yen, Khanh Hoa, Ninh Thuan, Binh Thuan, Ba Ria-Vung Tau and Kien Giang (Hamann and Chu, 2003; Tran, 2002). All five face the threat of extinction. Threats from humans are numerous, and include capture for consumption, harvesting for the crafting of ornamental items, egg collection, accidental capture by fishing operations (by-catch), destruction of nesting sites, and pollution. The population of marine turtles in this region has declined sharply and the number of females returning to the nesting sites has fallen (Hamann and Chu, 2003; Tran, 2002). The exact population of marine turtles nesting each year along Viet Nam's mainland coast is unknown; recent estimates suggest 200 to 250 female Green Turtles, fewer than 100 Olive Ridelys, and fewer than 10 Leatherbacks and Hawksbills (Tran, 2002). These data exclude the offshore islands, such as the Spratly and Paracel Islands, where Green and Hawksbill Turtles are thought to nest (Hamann and Chu, 2003). Other estimates suggest that Con Dao alone may have over 400 Green Turtles nesting annually, that Ninh Thuan may have less than 50 (mostly Green Turtles), and that there are small numbers in other locations (Nick Cox, WWF ICP, *in litt.* to C. R. Shepherd, October, 2002).

Hawksbill Turtle *Eretmochelys imbricata*

The Hawksbill Turtle was first listed as an endangered species by the IUCN in 1968. It maintained this status until 1996, when its status was upgraded to Critically Endangered (Meylan and Donnelly, 1999). It is also listed as Endangered in the Red Data Book of Viet Nam (Ministry of Science, Technology and Environment, 2000), Viet Nam's official list of threatened species of fauna and flora.

Hawksbill Turtles are harvested primarily for their carapace scutes (known as tortoiseshell or, in Japan, as 'bekko'), which are fashioned into jewellery and ornaments. Tortoiseshell has long been the most traded product from this species. However, in the late 1980s, an increase in the trade of whole, stuffed turtles was noted (Groombridge and Luxmoore, 1989). The majority of the stuffed Hawksbill Turtles traded are smaller turtles, as the larger ones have thicker scutes that are more valuable for crafting (Groombridge and Luxmoore, 1989).

Historically, the Hawksbill Turtle has been heavily exploited in Viet Nam for the production of tortoiseshell goods and, to a lesser extent, for food and the preparation of medicinal products (CRES, 1994).

Studies of the exploitation of Hawksbill Turtles undertaken from 1992 to 1993 concluded that the trade in this species was exerting enormous pressure on Hawksbill Turtle populations in Viet Nam and that it had increased enormously from previous years with the opening up of the country's economy and the growing number of tourists visiting Viet Nam buying these items (Le Dien Duc and Broad, 1995).

Green Turtle *Chelonia mydas*

Found in coastal waters of Viet Nam, the Green Turtle was first listed on CITES Appendix I in 1977, and is listed as being Endangered in the Red Data Book of Viet Nam (Ministry of Science, Technology and Environment, 2000). Among the primary threats to the Green Turtle worldwide are the over-harvesting of adults and eggs (Groombridge and Luxmoore 1989; Limpus, 2002). These activities also appear to be among the most important causes for the decline of this species in Viet Nam (Hamann and Chu, 2003), where it is exploited largely for meat, eggs (Bourret, 1941, Groombridge and Luxmoore, 1989, Nguyen Thi Dao, 1999). However, some specimens are stuffed and sold for ornamental purposes.

Loggerhead Turtle *Caretta caretta*

Early reports have confused the Loggerhead with the Olive Ridley in Viet Nam. However, it now appears that Loggerheads are found in coastal waters of Viet Nam, but do not nest on Viet Nam's beaches. The Loggerhead Turtle was first listed on CITES Appendix I in 1977. It is not listed in the Red Data Book of Viet Nam (Ministry of Science, Technology and Environment, 2000). Whilst it is difficult to estimate past and present populations of this species, many fishermen report that catches of this species have declined over the last 20 years (Hamann and Chu, 2003). The primary threats to Loggerheads appear to be increased mortality in bottom trawls, gill nets and other fishing gear.

Olive Ridley Turtle *Lepidochelys olivacea*

Data obtained by Hamann and Chu (2003) indicate that Olive Ridley Turtles may nest on most of the beaches of central Viet Nam. It was first listed on CITES Appendix I in 1977 and is classified as Vulnerable in the Red Data Book of Viet Nam (Ministry of Science, Technology and Environment, 2000). It is believed that this species has been, and still is, severely affected by incidental capture and

by the harvesting of nesting females and eggs along much of the coast (Mark Hamann, IUCN VN, *in litt.* to C. R. Shepherd, October, 2002).

Leatherback Turtle *Dermochelys coriacea*

The Leatherback Turtle, the largest species of turtle in the world, is occasionally found along the coast of Viet Nam. It was first listed on Appendix I of CITES in 1977 and is listed as Endangered in the Red Data Book of Viet Nam (Ministry of Science, Technology and Environment, 2000). Nesting has been recorded as decreasing along many of the beaches in central Viet Nam. The population has been significantly affected by incidental capture in both offshore and near-shore fisheries and by the collection of nesting females and eggs for food (Mark Hamann, IUCN VN, *in litt.* to C. R. Shepherd, October, 2002).

Conservation status of marine turtles in Viet Nam

All five of the marine turtles species found in Viet Nam are listed globally as either Endangered or Critically Endangered by the IUCN (2002) Red List of Threatened Species. A summary of their global conservation status is included below in Table 1.

Table 1. Global conservation and Vietnamese legal status of marine turtles occurring in Viet Nam

Common Name	Scientific Name	IUCN Category	CITES Listing	Nam Decree 48/CP (2002)	
				Group I	Group II
Hawksbill Turtle	<i>Eretmochelys imbricata</i>	CR	I	√	
Green Turtle	<i>Chelonia mydas</i>	EN	I	√	
Loggerhead Turtle	<i>Caretta caretta</i>	EN	I		√
Leatherback Turtle	<i>Dermochelys coriacea</i>	CR	I	√	
Olive Ridley Turtle	<i>Lepidochelys olivacea</i>	EN	I		√
Definition of IUCN Categories:					
CR: Critically Endangered - A taxon facing an extremely high risk of extinction in the wild in the immediate future.					
EN: Endangered - A taxon which is not critically endangered but which faces a very high risk of extinction in the wild in the near future.					
Group I: Use and exploitation in the wild are prohibited					
Group II: Exploitation and use are restricted					

Source: IUCN 2002. 2002 IUCN Red List of Threatened Species.

The Red Data Book of Viet Nam (Ministry of Science, Technology and Environment, 2000) lists three species as Endangered, with the Olive Ridley Turtle listed as Vulnerable and the Loggerhead not listed (Ministry of Science, Technology and Environment, 2000).

National legislation and international conventions protecting marine turtles in Viet Nam

National legislation

Since 2002, all five species of marine turtles found in Viet Nam have been protected under Viet Nam's domestic legislation, Decree 48/CP (refer to Table 1). Three species, the Hawksbill Turtle, Green Turtle and Leatherback Turtle, are listed under Group I, prohibiting their use and exploitation in the wild. Under this category, any special non-commercial use and exploitation must be proposed by the Minister of Agriculture and Rural Development and approved by the Prime Minister on a case-by-case basis. This Decree came into force on 22 April 2002. Prior to this date, marine turtles could be legally traded within Viet Nam. The Olive Ridley Turtle and Loggerhead Turtle were initially listed in Group I, but were later removed and placed in Group II, by Official Letter No. 3399. They are now afforded a lesser degree of protection: their exploitation and use are restricted. The Leatherback Turtle was initially not listed in Decree 48/CP but was later listed in Group I by Official Letter No. 3399 (Nguyen Tri Man, TSEA-Indochina, *in litt.* to Chris R. Shepherd, October 2002).

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

All species of marine turtles have been listed on Appendix I of CITES since 1977. This listing prohibits their international trade unless under special circumstances accompanied with specific permits. International commercial trade of marine turtles and their products is completely forbidden. Viet Nam has been a Party to CITES since 1994 and therefore has a legal obligation to ensure that no marine turtle species or their parts or derivatives, are exported, imported or re-exported. In Viet Nam, the chief agency responsible for implementing and enforcing the Convention is the Forest Protection Department, under the Ministry of Agriculture and Rural Development.

The ASEAN Memorandum of Understanding on Sea Turtle Conservation and Protection

Most countries within the ASEAN region have established national programmes to protect marine turtles and have acceded to CITES. However, realising that a coordinated approach to protect marine turtles and their habitats was still needed, in company with a review of legislation at a regional level, the 19th Meeting of the ASEAN Ministers on Agriculture and Forestry [September 1997, Bangkok, Thailand] endorsed the Memorandum of Understanding (MoU) on ASEAN Sea Turtle Conservation and Protection (Akhir, 1999)¹. Countries that signed this MoU in Bangkok included Viet Nam, Brunei Darussalam, Indonesia, Lao PDR, Malaysia, the Philippines, Singapore and Thailand. Malaysia was designated the Regional Coordinator to lead the Technical Experts Working Group in the implementation of the MoU.

¹ This decision coincided with the US embargo on the import of shrimp from a number of ASEAN countries accused of having shrimp trawlers operating without turtle exclusion devices (TEDS).

The Memorandum of Understanding for the Indian Ocean and Southeast Asia

The Memorandum of Understanding for Conservation of Marine Turtles and their Habitats in the Indian Ocean and Southeast Asia (IOSEA MoU) was created to provide a wider regional agreement that would cover more than just the ASEAN countries and expand across the entire Indian Ocean. This MoU also invites states that are not within the Indian Ocean-ASEAN region to become a signatory to the ASEAN MoU. Viet Nam became the ninth party to sign the MoU in July 2001. The objective of this MoU is “to protect, conserve, replenish and recover marine turtle populations and their habitats” (Hykle and Pilcher, 2002). The Conservation and Management Plan, the first of its kind, outlines six main programmes, 24 sub-programmes and 104 activities. Importantly, this MoU calls for cooperation amongst nations, the implementation of the Conservation and Management Plan, and, when necessary, the review or establishment of legislation that will promote the conservation of marine turtles and their habitats within the Indian Ocean and South East Asian regions (Hykle and Pilcher, 2002).

Protected areas for marine turtles in Viet Nam

Viet Nam currently has three national parks/special-use forests with marine components: Bai Tu Long National Park, Cat Ba National Park and Con Dao National Park. However, of these three, only Con Dao actually functions as a Marine Protected Area (MPA), as the marine components in the former two have not been enforced (Nick Cox, WWF-ICP, *in litt.* to C. R. Shepherd, September, 2002).

Con Dao is an island archipelago in Ba Ria-Vung Tau Province, consisting of 16 small islands with a total terrestrial area of over 72 square km (Nguyen Thi Dao, 1999). This area is considered to be the most important marine turtle nesting location in Viet Nam. Indeed, this coastal reserve could be considered one of the most important marine turtle nesting areas in Southeast Asia (Kemf, *et al.*, 2000). A nature reserve was established in 1984, to protect the islands’ terrestrial ecosystems, but excluded the ocean surrounding the islands. In 1993, the nature reserve was made into a national park and in 1997, the park was expanded to encompass about 80% of the islands’ total area, including 14 000 ha of ocean (Nguyen Thi Dao, 1999). Both the Green and the Hawksbill Turtles have been recorded nesting on Con Dao. However, both species continue to be threatened by poaching, and their numbers continue to decline. Leatherback and Loggerhead Turtles both appear on the park’s list of species, although information from locals suggests that neither of these species has nested in the area in the past. (Hamann and Chu, 2003; Nguyen Thi Dao, 1999). There are historical records of Loggerhead and/or Olive Ridley Turtles nesting in the archipelago, but there have been no recent sightings (Tran, 2002). [Based on all existing information it now appears likely that the species sighted was Olive Ridley and not Loggerhead (Hamann and Chu, 2003)]. WWF-Indochina initiated the first marine turtle conservation project in the national park and continues to assist local counterparts in setting up and running hatcheries, monitoring turtle nesting, and creating awareness among the people living in the area (Nguyen Thi Dao, 1999).

The Asian Development Bank (ADB) (1999) proposed that the system of marine protected areas be expanded, with the addition of a number of areas. One of these proposed areas is Phu Quoc, which is already a terrestrial national park (Nick Cox, WWF-ICP, *in litt.* to C. R. Shepherd, September, 2002). Phu Quoc, especially the northern portion (Le Dien Duc and Broad, 1995) and nearby small islands,

have in the past contained marine turtle nesting beaches. However, nests have long been exploited for eggs, young hatchlings were exploited for former ranching attempts, and the turtles themselves have been hunted for meat and curios (especially tortoiseshell from the Hawksbill Turtles). There is now little evidence that the northern part of the island still attracts nesting turtles. It appears that only the southern islands of An Thoi and the isolated To Chu Islands (both administered as part of Phu Quoc District) have nesting turtles.

Coastal areas adjacent to Nui Chua Nature Reserve in the Ninh Hai District of the Ninh Thuan Province also contain important nesting habitat for marine turtles, and are one of the few remaining marine turtle nesting sites on the mainland of Viet Nam. Green Turtles, Hawksbill Turtles and Olive Ridley Turtles (Tran, 2002) nest there. Although some authors did not list the Olive Ridley Turtle as a species known to breed in this area (Chu and Pham, 1999; Nguyen Thi Dao, 1999), recent surveys indicate that nesting did occur, and in moderate densities (more than 10 nests per night) (Hamann and Chu, 2003) Historically, Leatherback Turtles were known to nest on these beaches (Tran, 2002).

The number of turtles nesting in this area has declined sharply over the last five years (Tran, 2002). In 2000, WWF-Indochina initiated marine turtle conservation activities within the Nui Chua Nature Reserve, including monitoring nests, identifying threats to the turtles in this area, and designing a conservation plan, with the hope of involving local communities. However, as the nature reserve protects only the terrestrial forests, the Provincial People's Committee has proposed to the government that the reserve be expanded to include the marine component and also be upgraded to national park status. This would provide more scope for biodiversity conservation (Nick Cox, WWF-ICP, *in litt.* to C. R. Shepherd, October, 2002).

Summary of regional trade in marine turtles

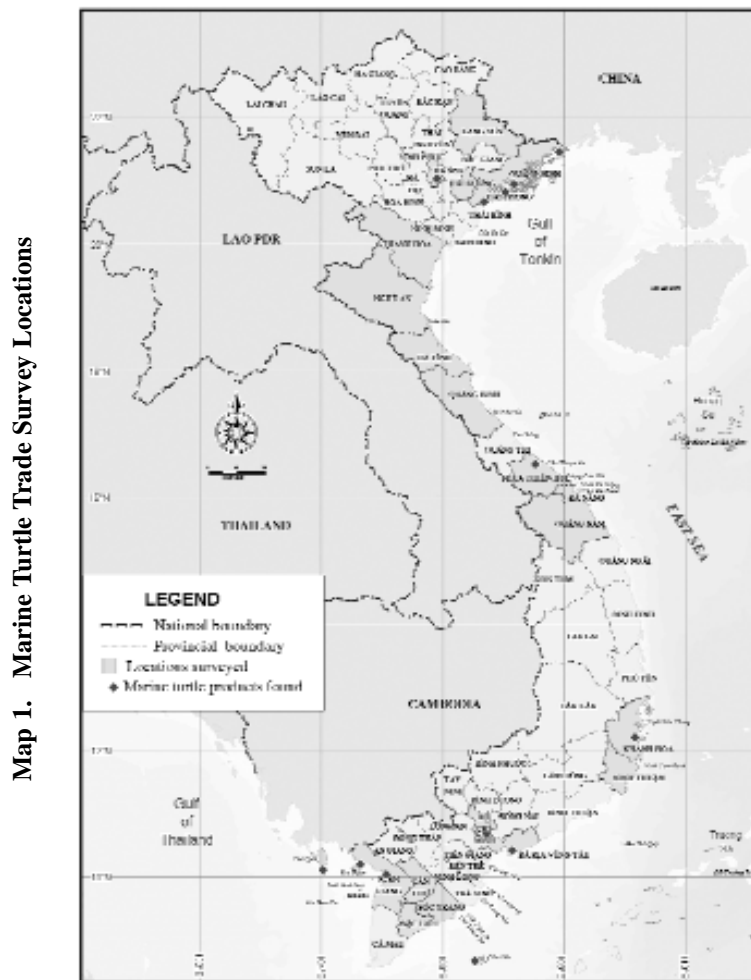
Historically, at least, Japan was the world's largest consumer of tortoiseshell (Groombridge and Luxmoore, 1989). During the 1970s Japan imported approximately 40 t annually. This had fallen to approximately 30 t annually in the 1980s (Japan Wildlife Conservation Society, 2000). Although Japan has been a Party to CITES since 1980, a reservation (a clause in CITES that allows a country to continue to trade commercially in an Appendix I species whilst still complying with the Convention) was held until the end of 1992 when Japan adopted a zero import quota on its reservation (Meylan and Donnelly, 1999).

Records show that tortoiseshell was imported from Viet Nam by Hong Kong, South Korea, Singapore and Taiwan, during the period 1973-1985 (records post 1985 were not available). Between 1973 and 1977, a total of 5447 kg from Viet Nam was imported into these four countries. There is no evidence of any such trade during the period 1978-1981. While Hong Kong statistics show a large increase in import quantities in the early 1980s (from 7918 kg in 1982 to 39 384 kg in 1985), the Hong Kong Agriculture and Fisheries Department has confirmed that these figures do not relate to marine turtles, but to shells of freshwater turtles (Groombridge and Luxmoore, 1989). It is important to note that these exports were reported before Viet Nam became a Party to CITES and that Japan has never reported importing tortoiseshell from Viet Nam (Groombridge and Luxmoore, 1989).

METHODS

The survey on which this report is based was carried out in May 2002 by two survey teams, one dispatched to the north and the other to the south of Viet Nam. The aim was to gain a contemporary overview of any illegal trade of marine turtles and marine turtle products in Viet Nam. Information such as volumes of trade, number of traders, trade dynamics, possible sources of marine turtles, species involved in the trade, trade routes, and end destinations was gathered and compiled. Craftsmen, retailers and middlemen and their operations made up the majority of the locations visited and people interviewed during this study. Because fishermen, at the collection end of the marine turtle trade, and buyers, at the other end, are too numerous and dispersed to be a practical source of data, craftsmen, retailers and middlemen were the target of this survey. At some stage, the vast majority of all marine turtle products in trade pass through the hands of these people, making them the most practical, accessible and convenient group to target when seeking information about the extent of the marine turtle trade in Viet Nam. Most prices quoted to the survey team by retailers and middlemen were in USD, and all prices quoted in this report are in USD; in May 2002, the exchange rate was 15,215 Vietnamese dong to one American dollar. Map 1 shows the locations surveyed.

LOCATIONS SURVEYED IN VIET NAM FOR MARINE TURTLE PRODUCTS



RESULTS

The size of the marine turtle industry in Viet Nam

As the legislation to protect marine turtles domestically had only come into force in April 2002, during this survey the capture and trade of marine turtles continued. This study revealed that the trade in manufactured tortoiseshell products appears to be the largest commercial use, followed by the trade in stuffed animals.

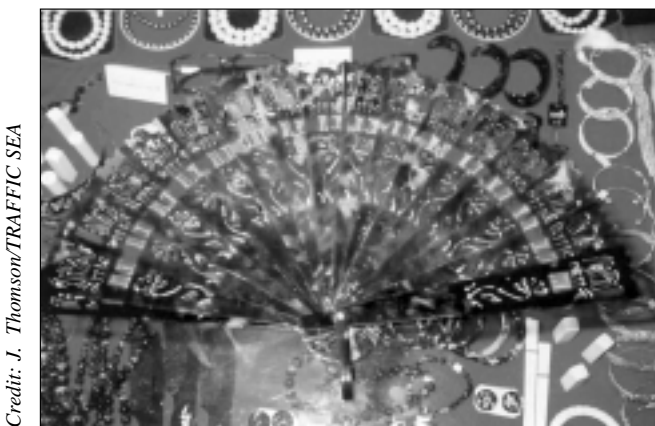
International trade

Most dealers stated that much of their trade was international. This study found that the trade appears to have increased considerably since surveys by TRAFFIC Southeast Asia were carried out in 1992/1993, and that much of the trade has become wholesale international export, a phenomenon that was not recorded in 1993.

Raw scutes

While 27 raw Hawksbill Turtle scutes were observed for sale during this study, no dealer referred to these as being exported. Only two dealers were observed with raw scutes for sale, one in Ho Chi Minh City (HCMC) (with two pieces for sale) and one in Ha Tien (with 25 pieces). These latter pieces were fairly small and of low quality and were priced at USD6.65 each. A third shop in HCMC claimed to have scutes available but these were not kept in the shop and were not seen by surveyors. However, the dealer stated that these scutes were priced at USD100-400 per kg depending on the quality. One dealer in Vung Tau stated that scutes were imported from countries such as China. Craftsmen also stated that scutes of high quality and large size were becoming difficult to obtain in Viet Nam and that they often purchased scutes from Indonesia and Singapore.

Turtle products



Credit: J. Thomson/TRAFFIC SEA

Fan made from Hawksbill Turtle shell

A total of 28 837 marine turtle products were observed in retail outlets during this study. This total included 28 277 items made from tortoiseshell, comprising 27 different types of products (Table 2). All of these were counted separately (except for earrings which were counted in pairs). The majority of the products were sold purely for ornamental purposes, although the thin bracelets (which

were always sold in bunches of seven, to be worn one for each day of the week) were alleged to bring the wearer good luck. These thin bracelets were the most numerous items observed during this survey. The majority of the stuffed turtles (116 Green, 54 Hawksbill) discovered during this study were observed at the premises of retailers in the city of Vung Tau. In Ha Tien a total of 154 stuffed turtles (31 Green, 123 Hawksbill) were observed.

Table 2. Summary of marine turtle products observed on sale in Viet Nam 2002

Item	Quantity
Hawksbill (tortoiseshell) products	28 277
Stuffed Hawksbill Turtles	343
Stuffed Green Turtles	216
Stuffed Loggerhead Turtles	1

A number of products, including beaded necklaces and bracelets, cigarette lighter covers, name seals and some cigarette boxes, were made from very thin scutes that were wrapped around woode moulds or, in the case of name seals, around moulds made from bone. The number of beaded bracelets made up less than a quarter of the total number of bracelets and is treated as one product in the figures presented in this report.

Three species of marine turtles were observed for sale in retail shops as stuffed mounts: 343 stuffed Hawksbills Turtles, 216 stuffed Green Turtles, and one stuffed Loggerhead Turtle (see Table 2). Additionally, three live and three dead Hawksbill Turtles, four live Green Turtles and an unspecified number of raw scutes were observed in the premises of middlemen and tortoiseshell craftsmen. The stuffed specimens were sold for ornamental purposes, although there is a belief that a pair of stuffed marine turtles hanging in the home represents a balanced family and will bring good fortune to the household. Numerous dealers reported having many more stuffed turtles in storage, with some dealers claiming to have in excess of 1000 animals available for export within a couple of days. These unseen animals are not included in the above figures. Similarly, stuffed turtles in the premises of middlemen are not included in these figures, but are recorded separately to avoid overlap in counts. A summary of the prices for marine turtle products in Viet Nam in 2002 is provided in Table 3.

Table 3. Prices of marine turtle products observed on sale in Viet Nam 2002

Items	Prices (in USD)	Items	Prices (in USD)
Bangles (large - size)	6.00	Fan (small - size)	7.00 - 60.00
Bangles (medium - to large size)	5.00	Glass frame	35.00
Bangles (medium - size)	3.00	Hair-clip (medium - size)	1.00 - 12.00
Bangles (small - size)	2.00	Hair piece	1.00 - 5.00
Beaded bracelet	1.00 - 17.00	Hair - back	6.00
Beaded necklace	4.00 - 35.00	Hair - band	1.50 - 15.00

Items	Prices (in USD)	Items	Prices (in USD)
Box (small)	45.00	Hair-stick	1.00 - 5.00
Bracelet (large)	2.50 - 80.00	Head-band	4.00 - 5.00
Bracelet (medium - size)	1.00 - 10.00	Key chains	1.00
Bracelet - carved with oyster shell	8.00 - 15.00	Letter opener (big)	8.00 - 15.00
Bracelet (thick) - set of seven	18.40	Letter opener (small)	10.00
Bracelet (thin) - set of seven	1.00 - 25.00	Lighter	2.00 - 25.00
Brooch	1.00 - 15.00	Name seal	6.00 - 15.00
Butterfly - shaped brooch	15.00	Purse	110.00 - 150.00
Button - set	2.00 - 8.00	Raw scutes	7.00
Chain with medallion	30.00	Rings	0.50 - 10.00
Cigarette box	5.00 - 40.00	Spectacle frame	7.00 - 120.00
Cigarette holder	3.00 - 12.00	Stuffed Green Turtle	8.50 - 140.00
Comb (large)	3.00 - 20.00	Stuffed Hawksbill Turtles	10.00 - 180.00
Comb (small)	1.00 - 15.00	Stuffed Olive Ridley Turtle	58.20
Decorative box	6.60 - 26.00	Tobacco pipe (big)	3.00 - 15.00
Decorative pin	0.80 - 2.60	Tobacco pipe (small)	2.00 - 10.00
Earrings (pair)	1.00 - 3.00	Toothpick	0.70
Fan (large - size)	45.00 - 100.00	Watch chain	5.30 - 7.90
Fan (medium - size)	15.00 - 50.00		

Most whole stuffed turtles, especially the Hawksbills, were priced on the basis of their width (measured in 10 cm units, with the width of the animal measured over the widest part of the carapace). Larger animals were more expensive per unit than small ones, as the scutes were thicker and generally thought to be more attractive. Freshly caught turtles were sold to the craftsmen by fishermen according to the same pricing method. A craftsman in Ha Tien claimed he purchased Hawksbill Turtles from fishermen for USD4.60/10 cm. Turtles are often sold by the 10 cm measurement in retail shops (Table 4), although some dealers sold them on a per head basis. The majority of the Hawksbill Turtles observed during this study were small, many appearing to be less than 30 cm in width. The price of stuffed turtles sold on a per-head, rather than a size basis varied greatly, with the price depending on the size of the animal and the colouration.

Table 4. Price (USD) per 10 cm (width) for stuffed turtles observed on sale in Viet Nam 2002

Location	Hawksbill Turtle	Green Turtle
HCMC	20.00 - 46.50	-
Nha Trang	6.65 - 46.50	6.65
Vung Tau City	14.65	6.65
Hai Phong City	12.00 - 17.35	8.00 - 10.00
Mong Cai Town	12.00 - 18.65	10.00 - 13.35

Turtle meat was also found for sale in a few locations. Turtle meat is sometimes eaten by the fishermen who capture the animals, or by craftsmen buying the animals. The meat of Green Turtles, considered superior to that of Hawksbills, is also often sold in markets (Hamann and Chu, 2003.) Interestingly, the IUCN Baseline Survey 2002 uncovered at least five cases of food poisoning from eating Hawksbill meat, some of which were fatal. While not common, such cases have been reported from many areas of the world where Hawksbill Turtles are consumed (Limpus, 1987 and Robinson *et al.*, 1999).

The four largest markets of tortoiseshell products were, in order of decreasing significance, HCMC, Ha Tien, Nha Trang, and Vung Tau (Table 5). The four largest markets of stuffed turtles were, in order of decreasing significance, Vung Tau, Ha Tien, Nha Trang and Hai Phong City. More information regarding these trade centres and other surveyed locations is presented later in this report.

Up to May 2002 there had been no seizure of marine turtle products, nor had there been any prosecution relating to the illegal harvest or trade of marine turtles in Viet Nam. Enforcement personnel often do not consider derivatives, such as tortoiseshell products, as being protected (Nguyen Tri Man, TSEA–Indochina, *in litt.* to Chris R. Shepherd, September 2002).

The figures presented in Table 5 are by no means complete, as it was not always possible or logistically practical to survey all shops in every location. The study was based on a sample rather than a census of outlets. The figures presented below should be treated as an underestimate of the actual quantities in trade.

st of marine turtle products observed on sale in various locations in Viet Nam in May 2002

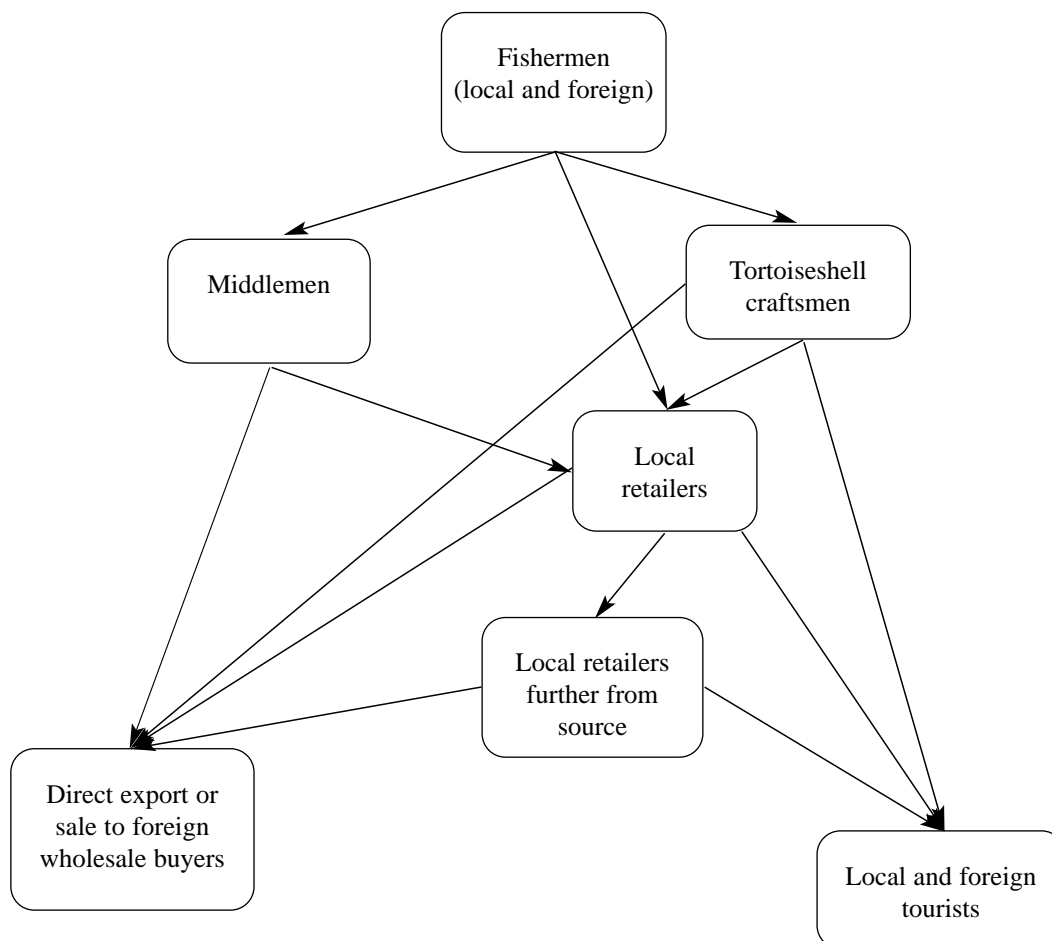
	HCMC	Vung Tau	Nha Trang	Phu Quoc Island	Ha Tien	Rach Gia	Thua Thien - Hue	Ha Noi	Hai Phong	Cat Ba Island	Mong Cai	Ha Long	Con Dao	Total	Total Percentage
	3,42	909	1,412	95	1,292	4	118	476	90		17	62	166	8,062	27.957%
	35		16				23	8	3					85	0.295%
	46			3	3			9				4		13	0.045%
	144	5	11		31			4					7	202	0.700%
	302	188	67	17	729		13	92	6					1,414	4.903%
	399	10	39		32		12	9	44			20		565	1.959%
	815	10	159	158	492		10	33	18			21	47	1,763	6.114%
	36													36	0.125%
l pins	1,088	342	484	58	1,259	4	62	171	3	12		19	13	3,515	12.189%
	111	3	12	3	21		3	19	2		2			176	0.610%
	34				133									167	0.579%
	34													34	0.118%
	27							15						42	0.146%
	50		3	6	2			21	4				2	88	0.305%
	5													5	0.017%
age	5													5	0.017%
	143	5	2		8			25						183	0.635%
	361	12	19		10		17	40				14		473	1.640%
	82				5			2						89	0.309%
	33						11	19	2			17		82	0.285%
	2				25									27	0.094%
	476	74	11		31		1	9						602	20.88%
	5,656	1,449	1,897	189	1,077	14	14	161	70		14	28		10,569	36.650%
								20						20	0.069%
	1													1	0.003%
Turtle								4						4	0.014%
sbill Turtle	2	116	32		31			5	20		10			216	0.749%
erhead Turtle	57	54	39	1	123		1	4	48		12	2	2	343	1.189%
			1											1	0.003%
	13,365	3,177	4,204	530	5,304	22	285	1,149	310	12	55	187	237	28,837	

46.35 11.02 14.58 1.84 18.39 0.08 0.99 3.98 1.07 0.04 0.19 0.65 0.82

Structure of the marine turtle industry in Viet Nam

Marine turtles are captured by fishermen, intentionally or as by-catch when fishing for other target species. The fishermen often eat the meat of Green Turtles they catch and sell the carcasses to retailers or middlemen, who stuff and sell them. Hawksbill Turtles, when caught, are usually sold live to the tortoiseshell craftsmen, who slaughter the animal themselves. Alternatively, they are sold to middlemen who, in turn, sell them to craftsmen. If the captured Hawksbill Turtles are too small for tortoiseshell manufacturing (usually less than 30 cm in width), the animal is stuffed, either by the tortoiseshell craftsmen or by local retailers or middlemen. Often the Hawksbill Turtles die when captured (by drowning in nets). In this case the fishermen may eat the meat before the carapace is sold. The craftsmen manufacture tortoiseshell items and stuffed turtles and sell these to tourists (both foreign and local) and to local retailers. In turn, the local retailers sell their products to foreign and local tourists, to retailers in provinces further from the source (such as souvenir and handicraft shops, and gift shops in hotels and airports), and to wholesale buyers from other countries. Middlemen often sell directly to foreign wholesale buyers.

Figure 1. Structure of the trade in marine turtle products in Viet Nam



Fishermen

Historically, the turtle has been a symbol of longevity in Viet Nam. In the past, fishermen tried to avoid catching marine turtles, and ones that were accidentally caught in nets were released (Chu and Pham, 1999). Despite this, during this study, fishermen were constantly identified by those interviewed as the source of all marine turtles entering the trade. While a few fishermen interviewed in the northern part of the country claimed that they did release marine turtles accidentally caught in their nets, no such release appears to occur in the south. Releasing marine turtles may have been a common practice in the past, but today releasing the turtle means losing revenue, and is infrequent.

The fishermen usually eat the meat of the Green Turtles caught in their nets. The Hawksbill Turtles are primarily sold live. However, despite the meat of the Hawksbill Turtle allegedly being less tasty than that of the Green Turtle, if a Hawksbill Turtle drowns in the net, the fishermen will sometimes eat it.

Hawksbill Turtles over 30 cm in width were used for tortoiseshell items, while smaller animals were stuffed. Because large Hawksbill Turtles suitable for making tortoiseshell products are vanishing from Viet Nam as a result of over-harvesting, some fishermen buy them from foreign boats (from, for example, Singapore and Indonesia), met on the open seas. Fishermen from Kien Giang Province are even said to venture outside Viet Nam's waters in order to catch turtles (Nguyen Tri Man, TSEA - Indochina, *in litt.* to Chris R. Shepherd, October 2002).

Middlemen

Middlemen buy marine turtles from fishermen for resale to craftsmen or retailers. Although they slaughter and stuff turtles for sale, they do not manufacture tortoiseshell goods. One middleman interviewed for this study claimed to specialize in buying live turtles, killing and stuffing them and then exporting them in bulk to dealers in other countries, especially South Korea. The middlemen interviewed were based in Nha Trang.

Craftsmen

The premises of three tortoiseshell craftsmen, two in Ha Tien and one on Phu Quoc Island, were visited during this study. While smaller craft operations exist in HCMC and elsewhere, they were not visited. The individuals interviewed were very keen to share information regarding their trade. All three men were very elderly and stated that the trade had been in their families for generations. However, none of their children was continuing with the family practice, all favouring better paid jobs elsewhere. All three craftsmen stated that the business was rapidly diminishing, as the populations of Hawksbill Turtles were declining. These men said that over-harvesting of the animals was the cause of the decline, and that very few large Hawksbill Turtles remained in the waters of Viet Nam. As a result of this, large Hawksbill Turtles are purchased from foreign fishermen. During a survey carried out on the Hawksbill Turtle trade in 1994 (CRES, 1994), it was determined that one craftsman in the city of Ha Tien (Kien Giang province) had imported 20 kg of Hawksbill Turtle shell from Cambodia

in 1993. While none of the craftsmen interviewed during this survey admitted to buying Hawksbill Turtle shell from Cambodia, they did mention purchasing large animals from Indonesian and Singaporean fishermen.

The craftsmen buy the turtles from both local and foreign fishermen. However, because large Hawksbill Turtles (those most appropriate for making tortoiseshell items) are scarce, the craftsmen are now making more small items from the thin scutes of small turtles and producing more stuffed turtles for sale than they did in the past. The reduction in the size of the turtles used is illustrated by a comparison of the data from the 1992/93 and this survey. In 1993, craftsmen stated they used the scutes from Hawksbill Turtles measuring over 40 cm in diameter (measured at the widest part) for making tortoiseshell products (Le Dien Duc and Broad, 1995). In 2002, the craftsmen stated that they used scutes from Hawksbill Turtles measuring over 30 cm in width. It appears that, as the larger animals become increasingly scarce, the craftsmen are adapting, and utilising less than optimal materials to continue to meet the demand for products.

Retailers

During this study, a total of 150 retail shops was found to have marine turtle products available for sale. This represents a sample of the entire supply as not all outlets selling marine turtle products were surveyed. Because of this, the number of products reported here should be treated as an underestimate of the entire market. The vast majority of the products observed were for sale in retail shops, usually souvenir or handicraft stores. Most of these stores targeted foreign tourists, although in some locations, especially recreational beach areas, local tourists were also important buyers. Interestingly, as the surveys were carried out by both foreigners and Vietnamese, it was found that dealers were much more prepared to discuss the trade in marine turtles with foreigners than they were with the Vietnamese. Prices offered to both foreigners and Vietnamese were the same. Table 6 lists the locations surveyed, the number of retail outlets selling marine turtle products and the total number of marine turtle products observed in each location.

Table 6. Number of retail locations selling marine turtle products and quantities in Viet Nam 2002

Locations	Number of retail outlets selling marine turtle products	Total number of marine turtle products observed
Ho Chi Minh City	36	13,365
Nha Trang	25	4,149
Ha Noi	22	1,149
Bai Chay	14	187
Ha Tien	13	5,304
Hai Phong City	12	310
Vung Tau	11	3,177
Mong Cai Town	5	55

Locations	Number of retail outlets selling marine turtle products	Total number of marine turtle products observed
Con Dao	5	237
Phu Quoc Island	2	530
Hue	2	285
Cat Ba Island	2	12
Rach Gia	1	22
Total	150	28,837

While some of the products were crafted by retailers and their families, the majority of retailers bought ready-to-sell products from craftsmen. Many of the dealers sold products wholesale, often specialising in wholesale supply.

Wholesale in retail outlets

Orders of 100 or more pieces in Viet Nam are considered to be wholesale. Wholesale orders were welcomed by all dealers, many of whom already had wholesale clients, and some of whom appeared to carry out the majority of their business with this type of buyer. Of the 150 shops found to have marine turtle products openly available, 35 of them openly stated, when asked, that they had regular wholesale buyers. Many others stated that, although they do not have regular wholesale buyers, they occasionally supply, or would be willing and able to supply, wholesale buyers. Numerous retailers quoted wholesale prices to potential buyers without being prompted to do so. Table 7 shows the origins of regular wholesale buyers with whom the dealers claimed to do business.

Table 7. Retailers in Viet Nam with regular overseas wholesale buyers

Origin of wholesale buyers	Number of dealers in Viet Nam claiming to have one or more regular overseas wholesale buyer
Taiwan	14
China	13
Japan	12
Hong Kong	7
Vietnamese living abroad *	7
Foreign tourists (origin not stated)	3
United States of America	2
South Korea	2
Singapore	2
Canada	1
Thailand	1

** According to dealers, most of the regular Vietnamese wholesale buyers living abroad are based in North America (the USA and Canada) and, to a lesser extent, in Western European countries.*

Ranching of Hawksbill Turtles in Viet Nam

Ranching is defined as the rearing in a controlled environment of specimens taken from the wild. Ranching operations bring young turtles (or, in some cases, eggs) into a controlled environment and rear them until they are of a commercially exploitable size (Wijnstekers, 2001). Ranching of Hawksbill Turtles has been attempted on a number of occasions in Viet Nam over the past, but with seemingly poor results. None of the ranches has managed to breed marine turtles in captivity. About a dozen Hawksbill Turtle ranches were reported to be in operation in 1941 in Ha Tien District, Kien Giang Province (Groombridge and Luxmoore, 1989). In 1993, there were only three in Kien Giang Province. At the two in Ha Tien District, a total of 41 Hawksbill Turtles were observed. The third, on the island of Hon Mot in the Phu Quoc District, held a total of 113 Hawksbill Turtles (CRES, 1994). Small, household-based ranching sites at the village of Ham Ninh on Phu Quoc were also recorded. A total of 13 young Hawksbill Turtles were observed in these small operations (CRES, 1994). Another six Hawksbills were observed at a small ranch in Kien Hai District, although these were apparently being raised as pets (CRES, 1994) rather than for commercial purposes. Poor water quality, flooding and infectious diseases plagued these operations, causing high mortality rates and forcing many of them to close down (CRES, 1994).

According to a number of locals in Ha Tien and nearby Phu Quoc, ranching of Hawksbill Turtles turtles continued in Ha Tien until a few years prior to this current study. Hatchlings were collected on Phu Quoc and on nearby small islands and brought to Ha Tien to be raised for slaughter. However, the attempts failed, with the hatchlings perishing as a result of excess freshwater and silt from the Mekong River. Interviewees also stated that the level of financial and time investment required in the ranching process made it commercially non-viable. Another interviewee stated that a ranching project established a few years ago near Mui Nai beach (Ha Tien province) ran for three years. Apparently, hatchlings were collected from small islands on Phu Quoc and were taken to the ranch to be reared. Again, however, excess freshwater and silt from the Mekong River at peak times caused the death of many of the turtles. Eventually, an extremely high level of freshwater and heavy silt load lead to the death of the remaining turtles and the project was abandoned. Similar failure greeted a ranch at Nam Hinh village on Phu Quoc. It is understood that no ranching project exists today in the southern part of Viet Nam.

In Hai Phong province at least one ranching exercise was initiated in the 1970s, at Ang Tham. However, in this case all the turtles escaped prior to reaching a suitable size for slaughter (Hamann and Chu, 2003). No active ranching of Hawksbill Turtles was observed or reported during this present survey.

Egg Collection

Collection of eggs from Hawksbill Turtles and Green Turtles appears to be common in some areas, including Con Dao and Phu Quoc. Locals claimed that eggs are often gathered and eaten, but no evidence of eggs being sold was discovered during this study. Egg collection of these two species has contributed significantly to their decline in Viet Nam (Hamann and Chu, 2003; Nguyen Thi Dao, 1999). The collection of marine turtle eggs is discussed in more detail by Hamann and Chu (2003).

Current location of the industry²

Ho Chi Minh City

Ho Chi Minh City (HCMC) is the largest city in Viet Nam. Set in the south of the country, this location is a major trade hub. Aside from its role as a business centre, HCMC is also a major tourist destination. Tourists from around the world travel to this old city to take in its rich history, and use it as a starting point for trips to various other destinations in the country. HCMC is situated relatively close to many of the major sources of marine turtles, such as Ha Tien, Vung Tau, Con Dao and Phu Quoc.

Thirty-six retailers of marine turtle products were surveyed in the city, home to the largest concentration of dealers and products observed. Between them they held approximately 46% of all items counted in this national survey. By far the majority of these were jewellery (for example, there were 9177 bracelets observed), although there were 59 stuffed turtles on display. One dealer had



Credit: TRAFFIC SEA - Indochina

Hawksbill Turtle shell jewellery

17 stuffed Hawksbill Turtles and one stuffed Green Turtle on display but stated that 1000 more Hawksbill Turtles and 40 - 50 more Green Turtles were in storage. According to this dealer, the majority of the turtles were small and were to be exported to buyers in Hong Kong and Japan. The majority of the 36 retailers were located in District 1, mostly on or near Dong Khoi Street. This area is a focus for foreign tourists, and contains numerous gift and souvenir shops. Prices of all items in all of these shops were given in USD, further suggesting that the market is targeted at foreigners. Prices here, as well as in all the other towns and cities surveyed, were the same for both foreigners and locals.

In a survey conducted in March 1992, 72 shops in HCMC were found to have marine turtle products derived from Hawksbill and Green Turtles for sale (Baird, 1993). While this is considerably more than were surveyed in 2002, the data do not necessarily mean that the number of outlets has fallen, as the 2002 study did not attempt to complete a census of all outlets. An important difference between 1992 and 2002 related to the nature of the trade conducted at the outlets. During the 1992 survey, no wholesale trade was located, while the 2002 survey found most dealers engaging in wholesale business, or offering to do so. This may reflect an important change in the dynamics of the trade, and more products being exported for resale abroad.

Most of the dealers in HCMC claimed that Japanese tourists and wholesale buyers were their most significant customers. One dealer stated that he deals with regular wholesale buyers from Hong Kong,

² Locations are presented in descending order of market share in marine turtle products (refer to Market Share in Table 5).

Thailand, the USA and Singapore, with the most significant buyer coming from Hong Kong to buy large quantities every three months. While he did not have any Japanese wholesale buyers, the dealer claimed to sell more items to Japanese tourists than to any of the wholesale buyers from the other countries.

Retailers of marine turtle products in HCMC claimed that the products they sell are crafted predominantly in Ha Tien, in HCMC and, to a lesser extent, in Nha Trang, Phu Quoc and Vung Tau. Surveyors were told of at least five craftsmen manufacturing tortoiseshell goods in HCMC but none was available to be visited. The craftsmen in HCMC seemed to be far less willing to invite strangers into their homes than those in other locations, such as Phu Quoc Island or Ha Tien. One dealer had a contract with a craftsman in Ha Tien, and purchased all products from there. A few of the other family-owned retail businesses in HCMC make their own tortoiseshell products, buying turtles or just scutes from dealers and fishermen in Nha Trang, Ha Tien and Phu Quoc. One of these families claimed

to have been making these products for the past 20 years.

Credit: TRAFFIC SEA - Indochina



Hawksbill Turtle shell jewellery

Many retailers offered wholesale prices and many give discounts of 10 - 15% for large orders. One dealer offered a 10% discount for orders valued at over USD100 and a 30% discount for much larger orders. This same dealer also offers locals 10% commission on resulting sales if they bring foreign buyers to the shop.

All retailers were willing to receive questions regarding the sale of marine turtle products and all stated that there was no problem with taking marine turtle products out of the country. Many of them suggested that hiding the items in luggage was Stuffed turtles, especially in large numbers, were said to be a little more difficult. Some dealers said that sending stuffed turtles out of the country sea was easier than by air. Many of the dealers said they would take the responsibility for sending the products abroad, provided that the buyers paid the shipping and handling costs. Dealers admitted to often shipping large quantities to overseas wholesale buyers. One dealer stated that he would send small wholesale quantities, but that large, bulk orders must be taken out of the country by the buyers. This same dealer stated that many of the items sold, especially high priced spectacle frames, some of which cost as much as USD800 each, are purchased via mail order from buyers in Japan.

Kien Giang Province

Kien Giang Province is a major source of both Hawksbill and Green Turtles. It is also a major centre for the manufacturing of tortoiseshell items and for the production of stuffed turtles for both domestic

and international trade. Egg collection and over-harvesting of marine turtles in Kien Giang poses a severe threat to their continued survival in this province. CRES (1994), in a report on the Hawksbill Turtle trade, stated that the prospect for Hawksbill populations in Kien Giang was very poor, owing to habitat disturbance and to direct exploitation through uncontrolled egg-collecting and capture of juveniles and adults, including the capture of nesting females.

Ha Tien

Thirteen outlets were visited in Ha Tien, including three manufacturers or craftsmen of tortoiseshell items. The craftsmen and dealers were very open in sharing their information.

The largest producer/supplier of Hawksbill products in Ha Tien has been a family business for more than 50 years. The crafting of tortoiseshell items is done mostly by family members, with hired workers sometimes sharing in the work. According to the owners of the business, they receive and process approximately 300-450 whole turtles per year. They also purchase an un-stated number of large scutes. If orders are too large for them to fulfil, they buy products from the other craftsmen in Ha Tien. The turtles used to make the tortoiseshell items, as well as stuffed turtles, are purchased from fishermen. Although the dealers did not know how many fishermen were involved in the catching of turtles, they did state that there were many. Turtle meat is eaten by the fishermen. Many of the products produced by this family business are sold to local Vietnamese tourists. Dealers in Hawksbill products from HCMC also frequent this shop regularly, buying large, but unspecified, quantities to take back to HCMC for resale. Although very few foreign tourists buy products at this location, one buyer from Hong Kong comes approximately every three months and buys everything in stock, for resale in Hong Kong.

Ha Tien is known widely for its Hawksbill products and, therefore, they are the preferred souvenir of local tourists to this town. Local tourists buy an unspecified quantity of products daily, especially during New Year festive seasons. In a survey of the Hawksbill Turtle trade in 1994, it was learned that the tortoiseshell products made in Ha Tien were sold to visiting tourists, as well as to retailers in HCMC, but were not directly exported from Kien Giang Province (CRES, 1994). The current study indicates that this has changed, reflecting a growing demand or increased competitiveness from foreign retailers. One retailer in Ha Tien stated that wholesale buyers and tourists, both local and foreign, bought numerous products, and that she sold approximately 300 bracelets, three to five hand fans and many other pieces of tortoiseshell each month.

A second producer/supplier operated two locations in Ha Tien. This family has been producing Hawksbill Turtle products for the past 20 years. Turtles and scutes are purchased from an unknown number of local fishermen, and three people are employed to manufacture the products. According to the owner, they process approximately 150 turtles each year. The majority of the products are sold to Vietnamese buyers, many of whom are retailers from other cities. However, a small amount is sold to foreigners, most of whom allegedly are from Hong Kong, Japan and China.

There are at least three families in the Hawksbill craft business in Ha Tien. It takes a minimum of three years training under the guidance of an expert for someone to become a craftsman. The owner of the



Green Turtle meat on sale

from the fishermen and never bought small ones. They purchased and processed as many as 400 large Hawksbills each year. According to the interviewee, the populations of Hawksbill Turtles began to decline around 1980, and for the past 10 years or so he has been buying turtles of whatever size is offered as there is little choice. Business has declined so much that he no longer employs any staff. He stated that there are no big turtles left in the area because there are now too many fishermen catching them. He still buys up to 300 turtles a year, but many of these are very small and are stuffed and sold whole, rather than crafted into tortoiseshell products. He believes that, in 1993, when the turtle population was starting to drastically decline, business was further hurt by a ban on all exports of Hawksbill products from Viet Nam. Prior to this, he had regular large buyers from South Korea, Hong Kong, Japan, China and France. Although he did not specify the quantities purchased by these foreign buyers, he did say they were very large. Today he has buyers only from Hong Kong and Korea, and they do not buy in large quantities because of the difficulties in transporting the products undetected and because of the shortage of product. According to the craftsman, buyers from Japan purchase a lot of Hawksbill products, but buy only from higher-priced retailers in HCMC. He maintained that while there is little problem shipping the products out of Viet Nam, it is difficult to import them into other countries. Most of his products are now purchased by retailers in HCMC and by a few dealers in Ha Tien. Approximately four times per year, he closes his shop and takes the majority of his stock to one particular dealer in HCMC. The HCMC buyer has a set contract with the craftsman to purchase a certain amount of pieces every few months. The retailers in HCMC mark up the prices considerably-for example, a fan that would be sold in Ha Tien for USD23 will sell for USD33 in HCMC.

This craftsman stated that the Hawksbill Turtles nest three times each year in this region, in February, October and December. In another study carried out in this area, it was found that nesting began in April or May and continued until October (Hamann and Chu, 2003). However, the

third business, which has been producing Hawksbill products for almost 50 years in Ha Tien, is such an expert. Most of the craftsmen working in the area learned their trade under his guidance and supervision. He works on the products from his home in Ha Tien, and was very willing to share his knowledge of the craft and trade with the researcher. According to this craftsman, the number of Hawksbill Turtles in Viet Nam has declined sharply, especially in the past five years. Up until about 1980 there apparently were many Hawksbill Turtles in the ocean near Ha Tien and Phu Quoc. At that time there were six people working full time in his shop. Old photos of him and his colleagues manufacturing Hawksbill products show a time of more prolific production.

At that time, they purchased only the largest turtles

eggs are collected by locals and eaten or sold in the markets to be eaten. The meat of the marine turtles is also eaten (either by the fishermen or the tortoiseshell producers) or it is sold in the markets, where it is regularly available. The meat sells for USD2.35/kg. Restaurants in the area often have marine turtle meat on the menu.

The craftsman also stuffs Green Turtles bought from local fishermen. Concurring with the comments of others, he too said that people usually buy stuffed turtles in pairs, to represent a boy and a girl - a well - rounded, happy family. This is believed to bring better fortune to the family.

Hawksbill Turtles are purchased from fishermen who are paid according to the width of the animal. The current price is USD4.65/10 cm. Sometimes buyers purchase scutes already removed from the animal. These are sold by the kilogramme, with the current price paid to the fishermen being USD133.35/kg. Light coloured scutes are, apparently, the most desirable, but all are purchased, as all can be sold. According to the craftsman, marine turtles in Viet Nam are disappearing due to over harvesting, and large scutes are often purchased by local fishermen from Indonesian and Singaporean fishermen.

In Ha Tien, dealers and craftsmen stated that the government has outlawed the catching of Hawksbills and that police sometimes confiscate the large turtles from dealers and fishermen. The fact that only the large turtles are confiscated strongly suggests that this is not a comprehensive enforcement strategy on the part of the local police, and it is likely that further understanding of the law is needed.

Another long-time tortoiseshell craftsman was visited and interviewed in Ha Tien. This man agreed that marine turtle populations in Viet Nam have declined very rapidly over the past 10 years. Large Hawksbills in Viet Nam are scarce, and are no longer found in the Ha Tien area. Most large scutes handled by this individual are purchased by Vietnamese fishermen from Indonesian and Singaporean fisherman, with the exchanges taking place out at sea. Large scutes are also often purchased in HCMC, dealers there also purchasing them from Indonesian and Singaporean fishermen. Locally caught turtles are usually delivered to him live and the meat is eaten by his family or given away. The meat is not sold.

Large scutes observed at this location measured approximately 20x30 cm. The scutes are purchased by the craftsman, processed and resold. This carver stated that he buys large scutes for USD133.35/kg. This equates to approximately USD200/kg (or a return of USD66.65) when the products are complete and sold. Considering the amount of time and labour invested, this is a low return.

Craftsmen from Ha Tien and elsewhere often have contracts with retailers in HCMC and sell excess products to retailers in Ha Tien. A higher profit is made by selling to retailers in HCMC. Both craftsmen in Ha Tien stated that they knew it was illegal to sell the products internationally. They were, however, not clear as to whether or not it was illegal to trade locally, although they thought it was.

Mui Nai beach in Ha Tien

A gift shop at Mui Nai beach, Ha Tien, which also sells wildlife parts for medicinal purposes, was found to sell some marine turtle products, mostly to local tourists, and, to a lesser extent, to foreign tourists. A total of 546 pieces was observed. According to the owner, there was a Hawksbill Turtle ranching project set up in Mui Nai a few years ago, which ran for approximately three years before being abandoned.

The Ha Tien fish market sells all types of local produce in addition to fish. One dealer in the market sells Green Turtle meat. According to this individual, local fishermen bring in Green Turtles, sometimes the whole turtle, sometimes just the portions not eaten by the fishermen. The dealer said that it was difficult to determine how many turtles were brought in to be sold in this market, although he did state that he sold an average of 30-50 kg per week, and sometimes as much as 100 kg. The meat is sold for local consumption.

Phu Quoc

The island of Phu Quoc has approximately 60 000 inhabitants, with 70 - 80% of the people dependent on the fishing industry (Anon, 2002). Fishermen regard the marine turtles, especially Hawksbill Turtles, as a good source of income and try and catch them, regardless of the size of the turtle (Anon., 2002). Only two locations selling marine turtle products on Phu Quoc were observed. One was a small shop in the village of Ham Ninh; the second was a shop in the Departure Lounge of the Phu Quoc Airport. In addition to these two retailers, one craftsman of tortoiseshell works on Phu Quoc. All three locations are closely related, with the craftsman being the father of the owner of the shop in Ham Ninh, and the airport gift shop buying its products from the Ham Ninh shop.

The owner of the shop in Ham Ninh buys her products from her father, who is apparently the only remaining carver or craftsman of tortoiseshell left on the island. She sells her products to other retailers on the mainland, and to local tourists. She also supplies the souvenir shop at the local airport with approximately 40 tortoiseshell items (and the occasional stuffed Hawksbill Turtle) each week throughout the year. The dealer at the airport buys these products at a discounted rate, as she is a regular buyer. Prices at the airport are marked up by approximately USD 0.30 - 0.70 per item.



Credit: TRAFFIC SEA - Indochina

Stuffed Hawksbill as decoration

The gift shop in the departure lounge of the Phu Quoc Airport deals exclusively in Hawksbill products and ornaments made from seashells. No other souvenirs were available. The craftsman is from a family that has been crafting tortoiseshell for generations. However, this man is the last of his kind in Phu Quoc, as his children have no interest in continuing in the profession because it is seen as too difficult and providing too little profit. The craftsman stated that Hawksbills, especially the larger ones, were becoming very scarce around Phu Quoc and elsewhere in Viet Nam, and that the populations of marine turtles in Viet Nam have declined as a result of over-harvesting and habitat destruction. He stated that, although the prohibition on international trade in marine turtle products makes it risky, large scutes are now frequently purchased by Vietnamese fishermen from Indonesian fishermen, with these exchanges usually taking place out at sea. Usually the turtles are brought to him alive, although occasionally, if the turtle dies during capture, the meat will either be eaten by the fishermen and his family or brought to the craftsman for his family. The meat is never sold to restaurants or other families. Occasionally, drowned turtles have their scutes removed before the carcass is dumped at sea. According to this craftsman, there is no longer any Hawksbill Turtle ranching on Phu Quoc. It was attempted some years ago but failed because the turtles became ill and died. No further attempts have been made, partly because the time and effort required makes it non-viable. This concurs with statements from individuals in Ha Tien.

Rach Gia

A number of shops were surveyed in this town, and numerous people were questioned about the trade in marine turtles in this city. However, only one handicraft shop in the large central market was found to carry Hawksbill Turtle products, and it had only a small amount. All shop owners questioned about the availability of marine turtle products stated that interested buyers should go to Ha Tien to buy these. The few tortoiseshell products that were available were said to have come from Ha Tien.

Khanh Hoa Province

According to people interviewed in this region, marine turtles were once numerous off the coast of Khanh Hoa Province, but their numbers have been severely depleted by over-harvesting. Hawksbill Turtles are known to have once inhabited much of the coastal area of this province, especially the reef areas around the numerous offshore islands. Although there are no detailed population statistics available (CRES, 1994), it appears that numbers of Hawksbill Turtles have fallen substantially (Hamann and Chu, 2003). The areas off this coast and around the islands are very heavily fished, and as a result, turtles are often caught as by-catch, or are specifically hunted.

Nha Trang

With its attractive beaches, Nha Trang is a popular destination for both local and foreign tourists. With the exception of the Cau Da market (see below), which largely supplies foreign wholesale markets, the shops in Nha Trang cater primarily for local and foreign tourists. A total of 25 retailers of marine turtle products were found in a variety of outlets, including souvenir markets, hotel gift shops and a

large market selling mostly dried seafood and other marine produce. In 1994, only four main dealers made up the bulk of the marine turtle retail business in Nha Trang (CRES, 1994), far fewer than the number observed during the current study.

Retailers in Nha Trang held the third highest stock of marine turtle products observed in this study. Together they accounted for 4204 pieces, or close to 15% of the total observed nationwide. The items for sale included 72 stuffed turtles (39 Hawksbills, 32 Greens and one Loggerhead).

Following a survey carried out in 1994, it was estimated that 14 stores in Nha Trang jointly sold 900 - 1400 stuffed Hawksbill Turtles each year (CRES, 1994). One 1994 interviewee stated that some Hawksbill Turtle carapaces were purchased from Singapore (CRES, 1994). The 1994 report stated that foreign tourists seldom bought stuffed Hawksbill Turtles in Nha Trang (due to their bulk), and that most were sold to government institutions and private businesses to be given as gifts (CRES, 1994). However, the current study found that most of the stuffed marine turtles sold in Nha Trang were sold to foreign wholesale buyers and to retailers in HCMC. Local and foreign tourists also buy marine turtle products here, including some stuffed turtles.

The current study found that foreign tourists purchased the majority of the tortoiseshell items, although local tourists also bought numerous pieces. One dealer said that the number of outlets selling tortoiseshell product in the city had increased over the past few years, and that this had driven prices down. Most dealers stated that the products were made in Nha Trang, although a few claimed to buy their products from HCMC. A few dealers said that they also sell to retailers in HCMC. Many also said that the products manufactured locally were from turtles caught around Nha Trang.

One dealer from Nha Trang said that he sold an average of 30 - 40 tortoiseshell products per month. Another claimed to sell approximately 200 pieces per month in the tourist season (June to August), and again around the Tet holiday. During the rest of the year, sales are slower. Another dealer working in the gift shop of a large international hotel stated that Japanese tourists make up by far the majority of the buyers of tortoiseshell in the souvenir shops of Nha Trang. 'European' tourists also buy a number of tortoiseshell items. The hotel gift shop sells about six to 10 hand fans each month to European tourists, who apparently use them as wall decorations. Many dealers in Nha Trang stated that local tourists, especially those from Ha Noi and HCMC, usually buy small pieces, especially small bracelets, for gifts to take home. These are thought to be ideal gifts and are relatively inexpensive and easy to carry. Some people from these cities buy larger quantities to take back and resell. Stuffed turtles are available for sale in Nha Trang, but they were not on display in all shops. If buyers wanted stuffed turtles, especially in large quantities, the dealers ordered them from a nearby middleman.

According to all dealers interviewed, including one from a government-owned tourist souvenir shop located along the beachfront, it is not a problem to take marine turtle products out of Viet Nam. The dealer at this establishment explained that it was easy to hide tortoiseshell items in luggage.

Five stuffed Hawksbill Turtles and six stuffed Green Turtles were observed in the dried seafood market. The Hawksbill Turtles were very small, measuring approximately 15 cm in width. According

to dealers in this food market, the turtles typically sold for decorative purposes. Marine turtle meat was not available in this market, as dealers said fishermen reportedly eat it when they catch the turtles.

The Cau Da market in Nha Trang

Nha Trang's Cau Da Market, which is made up of approximately 13 shops, specializes in exporting marine products, such as seahorses (live and dried), shells and marine turtles. During this study, 11 of the 13 shops were found to stock marine turtle products. Many of the dealers made and exported seashell products, such as curtains and ornaments, around the world. A number of marine turtle products were also exported from here. According to dealers in this market, the turtles were mostly caught in the Nha Trang area, but only a small proportion of tortoiseshell products were manufactured locally; the bulk were crafted in HCMC. Dealers in this market claimed that almost all their marine turtle sales were made to foreign buyers, especially buyers from China, Japan, Taiwan and Hong Kong. Vietnamese living abroad, mostly in the US and, to a lesser extent, Canada, are also said to be major buyers. One dealer stated that exporting stuffed turtles to Asian countries was simple, but that it was difficult to export to North America and Europe, especially in large quantities. All of the dealers in this market claimed to be able to supply any amount of tortoiseshell and stuffed turtles.

Contrary to the general opinion of dealers, one stated that it was very difficult to take raw scutes out of Viet Nam. While many shipments of raw scutes are sent by freight, some buyers prefer to take the pieces out of the country in person. According to the dealers, this is easily done by hiding the products in luggage. Again, one dealer in the Cau Da market said that exporting tortoiseshell is not a problem, but that stuffed turtles have to be taken out of the country by the buyers themselves.

According to the dealers, both Green and Hawksbill Turtles are caught in the sea near Nha Trang. They are usually purchased live from fishermen and dried and stuffed at the sales outlet. According to the dealers, they can sell as many as they receive. The number sold depends on the supply, not the demand, as the animals always sell within a month or two. One dealer stated that, on average, 20 stuffed turtles in total are sold each year. The fishermen in the area catch more Green Turtles turtles than Hawksbills. Apparently, both species used to be very common in the area but, according to individuals involved in the trade, they are becoming increasingly rare due to over-harvesting. This is especially the case with larger turtles. The fishermen occasionally eat the meat from animals that have drowned in the nets. However, this is not the case unless the animal is very small, as it is difficult to extract the meat.

In two locations in this market, dealers were observed loading stuffed turtles into boxes for transport. At one of these, 20 medium-sized Green Turtles were put into two boxes. These animals had been purchased earlier that day and were to be sent to China (by bus to HCMC, then to China by air). The buyer, from China, had come to the store and bought all the stuffed turtles in stock. The dealer explained that this sort of purchase is common. The dealer stated that 20-50 Green Turtles could be supplied at a day's notice. Like many others in this area, the dealer said that there were no longer any large turtles surviving in the area. The few large Green Turtles hanging on the wall were, apparently, not caught off Nha Trang.

In the second location, seven Green Turtles were put into a box for export. The dealer claimed to export approximately 500 Green and Hawksbill Turtles a year, with the majority of them being Green Turtles. Seven of the Green Turtles observed in this shop were very small (less than 10 cm in width). This dealer stated that the biggest importing country of these stuffed animals is China, with orders increasing considerably over the past three years. Orders of 20-30 animals require half a day's notice to prepare. Larger orders take a longer period. Wholesale buyers can pay with cash, cheque or bank transfer. Buyers must pay shipping expenses. Orders can be placed by email. The dealer stated that the turtles are caught in Nha Trang and in nearby fishing villages.

Credit: C. Shepherd/TRAFFIC - SEA



Stuffed Hawksbill Turtle on sale

One large Loggerhead Turtle was on display in one of these shops and, according to the dealer, was for sale for USD46.50. The dealer was unsure of its origin. This was the only specimen of this species observed in this study.

There is one very large exporting company in Nha Trang, dealing exclusively in stuffed marine turtles. The husband of this dealer is from South Korea, and has reportedly numerous connections there. In addition to premises in the town, the company has a showroom at a nearby international ship repair yard. Many sailors from ships at the repair yard buy stuffed Green Turtles to take back to Korea, which is the biggest buyer of stuffed turtles prepared by this company. In 2001, four 40 ft containers, each containing 400 large

stuffed Green Turtles, were sent by ship to Korea. According to this dealer, only Green Turtles are sent to Korea as the buyers there say that the Hawksbills are too expensive. She claims to be able to ship turtles anywhere in the world, but her main buyer, after Korea, is Taiwan. This dealer boasted that, because she has so many connections and suppliers near Nha Trang and in other areas of Viet Nam, even though marine turtle populations are declining, she could still supply any amount of stuffed turtles. Observed at her premises during this visit were three dying Green Turtles and two dying Hawksbills. A number of turtles were being soaked in formaldehyde, and approximately 25 large stuffed Green Turtles were in storage. Some of these were wrapped in newspaper, ready for export.

The middleman in Nha Trang

A Nha Trang middleman interviewed at his home described his family's trade in snake wine, Hawksbill Turtles, and, to a lesser extent, other species of terrestrial fauna. The business buys Hawksbill Turtles from fishermen throughout the area and resells them to other dealers, who sell them to retailers. The dealer stated that the business buys and sells as many as 500-700 Hawksbill Turtles per year. This, however, is far less than the numbers bought and sold 10 years ago. This species, according to this

dealer, is declining rapidly and has become quite rare near Nha Trang. One dead and one live Hawksbill and one live Green Turtle were observed on the premises. While some Green Turtles are purchased and later resold to be stuffed, this dealer prefers to deal in Hawksbill Turtles.

Ba Ria - Vung Tau Province

Vung Tau

Eleven shops were surveyed in Vung Tau. All 11 of these shops specialise in wholesale export of marine turtle products, although large quantities are also sold to visiting tourists. At the time of this study, collectively these shops were displaying 3 177 pieces, 11% of the total observed during this study.

All dealers here stated that large purchases were easily handled. In fact, they claimed that the majority of their business involved selling large quantities to foreign buyers. All of the dealers in these shops claimed to have numerous foreign wholesale buyers.

Wholesale buyers from China allegedly bought the most products, followed by buyers from Taiwan, Japan, Viet Nam (Vietnamese living abroad in various countries), the USA and South Korea. Seven of these dealers claimed to have at least one wholesale buyer from China; six claimed wholesale buyers from Taiwan; five claimed buyers from Japan; five claimed to have Vietnamese living abroad (mostly



Credit: TRAFIC SEA - Indochina

Hawksbills Turtle jewellery on sale

from North America and, to a lesser extent, Europe) buying wholesale; one claimed to have wholesale buyers from the USA; and another claimed wholesale buyers from South Korea. All dealers stated that wholesale buyers come on a regular basis, with one mentioning monthly visits from a number of buyers. According to another dealer, one buyer from South Korea and another from China buy 50-70 stuffed Green and Hawksbill Turtles every month. These two buyers are said to buy all stuffed turtles in stock in all 11 shops every month. Many dealers stated that buyers from China, Japan and Taiwan often come to the shops and purchase all the tortoiseshell products in stock.

All dealers were eager to give information, apparently in the hope of enlisting another wholesale buyer. All gave information on exporting the products, stating that small quantities can be taken by air, but that larger shipments (those with hundreds of tortoiseshell items or large stuffed turtles) should be taken by sea to avoid detection. One dealer noted that it was easier to export tortoiseshell products than it was to export whole stuffed turtles. All dealers stated that they handle all shipping arrangements, although the buyer is responsible for paying shipping and handling charges. Dealers

said that orders of less than 500 pieces of tortoiseshell could be arranged within one day, but larger shipments required up to a week to prepare.

All dealers in Vung Tau stated that the majority of marine turtle products were sold to foreign wholesale buyers and foreign tourists. The majority of these foreign tourists were Vietnamese living in countries such as the USA, France, Canada and Germany. Japanese and Taiwanese tourists were also major buyers. One dealer stated that the majority of the stuffed turtles, especially the stuffed Green Turtles, were sold to buyers from China and Japan.

Two of the dealers stated that the products for sale in their shops were made in Vung Tau, although no craftsmen were located there during this study. One of these two dealers stated that raw scutes were often purchased from other countries, including China, to be fashioned into products and sold in Vung Tau. The second claimed that products were made by her family, although no further information regarding production was obtained. A few of the dealers stated that some of the stuffed turtles for sale were caught around Vung Tau. Others stated that many of their products were purchased from HCMC and elsewhere. While surveyors were in one shop, a man delivered a package of 70 thin bracelets that the dealer said were from HCMC.

Many of the dealers in Vung Tau reported that most of the large stuffed female turtles they sell come from Con Dao. Whether they were being caught on the beaches by fishermen or other local inhabitants, or were being caught in nets around the islands and then sold to the dealers, is not known.

Con Dao Archipelago

At the end of the 17th century, the Con Dao islands were the site of a flourishing Green Turtle oil extraction industry. No account of such exploitation of Hawksbill Turtles in the Con Dao archipelago at that period exists, but some information on more recent harvesting is available. Between the late 1970s and 1985, a business based on the islands produced tortoiseshell jewellery for sale to visitors. The enterprise had its own captive rearing, or ranching, facilities. When juvenile turtles from this facility reached 20-30 cm, they were slaughtered to produce stuffed specimens for sale. Between 50 and 100 such specimens were sold each year. The enterprise was closed down in 1985 when the first marine turtle protection measures were introduced to the islands (CRES, 1994).

During this survey, five shops were found to have Hawksbill Turtle products available. According to the dealers in these shops, the products were brought from Vung Tau for resale in Con Dao.

When asked if it was legal to sell these products on the island, the shop owners stated that it was legal in the case of products other than stuffed turtles. They said that if the authorities on this island found any store selling stuffed turtles they would be confiscated and the owner fined.

On Con Dao, there is one craftsman of tortoiseshell products. He stated that he only makes these products when local fishermen catch Hawksbills. He noted that because it is illegal for the fishermen to catch these animals, it is sometimes difficult for him to acquire craft material.

Most tortoiseshell products on the Co Dao islands are sold to Vietnamese tourists, foreign sailors and, to a lesser extent, foreign tourists. Local villagers and fishermen stated that there are very few (approximately 30) local boats fishing around Con Dao. These mostly catch small fish and cuttlefish. However, locals also stated that as many as 3000 fishing boats from other areas, such as Nha Trang, Vung Tau, and Binh Dinh, work around this island from February to August, the breeding season of marine turtles on the island. Local fishermen said that during this season many marine turtles are caught. Fishermen that caught the turtles are aware that it is illegal. As a result, some of the turtles are released, but others are hidden on fishing boats and taken elsewhere for sale. Additionally, some turtles are given to island locals by fishermen. Locals explained that the intense fishing pressure, especially from fishermen outside Con Dao, is the reason for the decline in the number of marine turtles around the islands. A few examples of fishing techniques employed around the island by 'outside' fishing vessels were given by the locals. These techniques are considered by the locals to be very damaging to the local reefs as well as to the marine turtle populations. Four types of fishing nets (three-layer nets, mackerel fishing nets, trawl nets, and small nets) were described by locals as being especially harmful to marine turtles.

The 'three-layer net' is usually used for fishing over coral reefs. With its small-sized mesh (5x5 cm) this net can catch fish of various sizes and also marine turtles. Fishermen claimed that approximately 10 such units are employed every day and that each net traps one to four turtles daily.

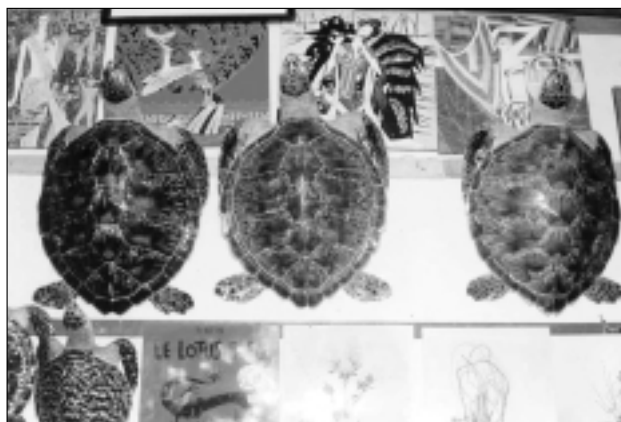
The small-meshed mackerel fishing net is often used during the season when marine turtle breed around the islands. Fishermen stated that this net often accidentally catches marine turtles, but no estimates of numbers caught were given.

Trawl nets, as well as small nets used for fishing close to the shore, are commonly used and are also considered harmful to marine turtles, taking numerous animals as by-catch. However, no estimates on numbers caught were given. Locals considered the small nets working close to the shore as serious threats to marine turtles, as they catch turtles along the nesting beaches.

According to locals interviewed during this study, up until 10 years ago, marine turtles were widely eaten during local festivals and celebrations. Usually four or five Green Turtles (50 to 100 kg per animal) were consumed during such events. Green Turtle meat was considered better tasting than beef, pork, or Hawksbill Turtle. The local people said that they would still like to use marine turtle meat but that this has become difficult since the introduction of the protection measures.

Ha Noi

Ha Noi, the capital city of Viet Nam, is located in the north of the country. The capital is visited by numerous foreign tourists, and functions as a trade hub. A total of 58 souvenir and handicraft shops were surveyed, and 21 of these were found to have marine turtle products for sale. However, these shops accounted for only 4% of the items observed in the entire survey. Dealers in Ha Noi stated that they



Stuffed turtles on sale

said that the reason only a few locals bought these items was that the prices were too high.

buy their marine turtle products from HCMC and Nha Trang. Their main buyers, in order of importance, originate from China, Japan, Taiwan, Hong Kong and South Korea. A few dealers stated that buyers from China and Hong Kong usually buy large quantities. Dealers said that locals buy very few Hawksbill Turtle products, although some buy stuffed Green Turtles for their homes. One dealer

One dealer selling stuffed turtles stated that discounts of USD6.65–13.35 are provided for purchases of more than 10 stuffed specimens. The NASCO government -owned gift shop in the domestic departure lounge at Noi Bai International Airport had a number of tortoiseshell products for sale (a total of 139 items were observed), and the international departure lounge had an additional 197 pieces. When dealers at the international airport gift shop were asked if it was legal to take tortoise shell products out of the country, they replied that they were aware that it was illegal, due to international controls.

Hai Phong City

Twenty-nine shops were surveyed in this town. Of these, 12 were found to have small quantities of marine turtle products available. According to dealers, few people now buy marine turtle products, compared with a few years ago, when demand was much higher. While dealers had few pieces in stock, some claimed they could supply larger volumes (one mentioned 100 - 200 pieces) to order, and that wholesale prices were available. One dealer stated that he would not supply stuffed turtles because transporting them to Hai Phong was too difficult. All dealers stated that the majority of the products were purchased by foreigners, mostly originating from China, Japan, Taiwan and South Korea. One of the shop owners stated that, when his current stock was finished, he would no longer buy marine turtle products, as prices were too high and sales too low. Dealers claimed to buy their products from Nha Trang (especially stuffed Hawksbills) and from HCMC, while some stuffed Green Turtles were purchased from fishermen in Cat Ba.

Cat Ba Island

Thirteen souvenir and handicraft shops were surveyed in this location. Only two of these were found to have any marine turtle products available, and between them they had only 12 pieces.

Discussions with some local fishermen in the area revealed that Green and Hawksbill Turtles are rarely

found locally these days. No other marine turtle species were thought to exist in these waters. One fishing boat owner stated that he had accidentally caught a Green Turtle in 1997. He sold the turtle to a foreign tourist (for USD4.80) who photographed the animal and released it. Another fisherman said that, in 1999, he had accidentally caught a Green Turtle weighing 20 kg, which he had sold to a local tourist for USD16. The turtle was killed and eaten. This fisherman said he had not seen another turtle since then.

Do Son beach

Shops on Ly Thanh Tong, Yet Kieu and Van Hoa streets were surveyed but no marine turtle products were found for sale. A worker at a seafood restaurant displaying a stuffed Hawksbill Turtle explained that the animal had been salvaged, still alive, from by-catch near Cat Ba Island, but had died in captivity two months later because of cold weather. The restaurant owner offered to sell the specimen for USD133. The owner also stated that Hawksbill Turtles are very rarely seen in this area compared with Green Turtle, and said that if Green Turtles were caught as by-catch they were normally released. However, fishermen sometimes kill them for food.

Thua Thien - Hue Province

Hue

Approximately 30 souvenir and handicraft shops were surveyed in this location and only two, one souvenir shop and the gift shop at the Phu Bai Airport, were found to have marine turtle products available. Dealers in both of these shops stated that the products were made in southern Viet Nam, although an exact location was not named. The dealers both stated that the products are sold to both local and foreign tourists. While these shops have not dealt with wholesale buyers in the past, they do give discounts for large purchases. One stuffed Hawksbill Turtle was observed in the souvenir shop. The dealer stated that stuffed marine turtles are rare, and only small ones could be obtained. A number of tortoiseshell products (142 pieces in total) were also observed for sale in the Phu Bai Airport gift shop.

Quang Ninh Province

Ha Long

Thirty-one shops were visited in this town and five were found to have marine turtle products for sale. Some shop owners said they had sold marine turtle products in the past, but stopped selling them because of high prices and low demand. According to the dealers that did have marine turtle products available, most are sold to Chinese tourists, as this town is close to the Viet Nam-China border.

In addition to the handicraft and souvenir shops selling marine turtle products, one restaurant was also found to be offering marine turtle meat. This restaurant kept a number of live fish and six live marine turtles (two Hawksbills Turtles, two Olive Ridley Turtles and two Green Turtles) in aquariums. Staff at the restaurant stated that these turtles were kept for decoration only, not for food. However, they said that marine turtles can be ordered for consumption, if money is paid in advance. Hawksbill Turtles cost from USD200 to USD330 per turtle; Green Turtles cost from USD100 to USD165 per turtle, depending on the size. The dealers stated that Hawksbill Turtles sold in this restaurant came from southern Viet Nam, while Green Turtles came from local fishermen.

Mong Cai

Only five shops were found to have marine turtle products in this town. The majority of the dealers stated that they did not sell marine turtle products as they were difficult to acquire and difficult to sell due to strict control by the police and the market authorities. Amongst the dealers that were selling marine turtle products, two of them claimed to purchase their stuffed turtles from other countries; one cited Indonesia as a source, the other the Philippines.

Provinces with no observations of marine turtle products on sale³

Bac Lieu, Can Tho, Soc Trang Provinces

There was no information regarding marine turtle trade or use in these three provinces. Local people and fisherman were interviewed, and all stated that this area was not suitable for marine turtles due to the mangrove forests and marshy shore. Local people in the area appeared to have no tradition of using any kind of marine turtle products. However, fresh water turtles are harvested widely in this area for food.

Da Nang

Ten souvenir and gift shops and two restaurants were surveyed in Da Nang City. None of these locations was found to have any marine turtle products for sale.

Various villages in Huong Tra District

During an interview with a fisherman in the An Hai Tay village, it was learned that Green Turtles are sometimes accidentally caught by local fishermen, although the interviewee claimed these turtles were quite rare in this area. He said turtles accidentally caught are usually returned alive to the sea because they are considered a symbol of power and are, therefore, respected.

According to a fisherman at An Hai Dong village, fishermen in the area sometimes catch Green Turtles

³ Listed in alphabetical order.

but usually release them, although a few are sold to fish traders. According to the interviewee, Green Turtles are quite scarce in this area. In the past 10 years of living and working in this area, he had seen Hawksbill Turtles caught only once or twice.

A fish trader interviewed in Thuan Phuoc village, Da Nang, said she had only once, in 2000, purchased some iced meat said to be from a Green Turtle. In 2001, she had also observed another fish trader purchase a 10 kg Green Turtle from some local fishermen who had caught and killed it. The meat was sold for USD2/kg.

Nai Hien Dong, Son Tra District

A fisherman from Nai Hien Dong, Son Tra District, sometime in 2000, indicated he had caught a Green Turtle (as by-catch), but he had released it as he thought killing it would bring bad luck. He also noted that he has never seen marine turtles nesting in the area.

Ha Tinh Province

Ten shops were surveyed in the town of Ha Tinh but no marine turtle products were observed on sale.

Hai Duong Province

Hai Duong

Ten shops in the town of Hai Duong were surveyed, but no marine turtle products were found for sale. Shop owners explained that that was because very few foreign tourists visit the town.

Lang Son Province

Eight towns were surveyed in this province, but no marine turtle products were observed in trade.

Nghe An Province

Vinh

Seven souvenir and jewellery stores were surveyed in Vinh but no marine turtle product was found for sale. One dealer of wildlife products stated that five years ago there was a market for stuffed marine turtles in this city, but as the market declined, he stopped stocking them. While he had no marine turtles in stock, he claimed to be able to get them on order from fishermen in Nha Trang. There were no marine turtle products on sale at the Vinh Airport.

Cua Lo beach

Twenty-three shops were surveyed in this town but none was found to have marine turtle products for sale. Dealers said that these products were too expensive and that not enough tourists visited the area to make it a worthwhile investment.

Ninh Thuan Province

Phan Rang

According to fishermen from this village, weather permitting, twice a month, 400 - 500 fishing boats go out in groups of five to six. Each group stays out for seven to 10 days. Whilst at sea, each group catches an average of one Hawksbill or Green Turtle a day (no other turtle species are taken). The majority of the turtles caught are Green Turtles, which are killed and eaten by the fishermen and their families, and shared with others in the village. The meat is never sold. Hawksbill Turtles are taken live to the nearby island of Binh Ba, and sold to a dealer there for USD8 per 10 cm carapace width. Hawksbills that die in capture are eaten by the fishermen and the carapace only is sold to the dealer on Binh Ba. The dealer on Binh Ba then resells them. The fishermen stated that, while turtles are still being caught, they are becoming less abundant, and large ones are now seldom caught.

Quang Binh Province

Dong Hoi

Nineteen shops and hotels were surveyed, both in the centre of this town as well as along the beach, but no marine turtle products were observed.

Quang Nam Province

Hoi An

No marine turtle products were observed in the 15 shops surveyed in this town. Traders said that they do not sell marine turtle products as nobody has ever asked for such products.

Thanh Hoa Province

Thanh Hoa

Eight souvenir and handicraft shops were surveyed in this town but none was found to have marine turtle products for sale.

Sam Son beach

No marine turtle products were available in this town. In conversations with a few fishermen in the nearby Cua Hoi Port, it was learned that Green Turtles are occasionally caught as by-catch. One fisherman stated that he had once observed a Green Turtle killed by fishermen for food, but indicated that if the animals are caught they are usually released.

Fishermen in a nearby port, in Vinh, said that Green Turtles caught as by-catch are released, as it is believed that killing these animals brings bad luck. They also said that fishermen from a nearby village, Quang Xuong, stick the shells of accidentally caught Green Turtles on coconut trees near the sea in order to exorcize ghosts. None of the people interviewed in this area mentioned seeing any species other than the Green Turtle.

CONCLUSIONS

In May 2002 there was still a significant trade in marine turtles and marine turtle products in Viet Nam. This trade is a major contributor to the decline in turtle populations being experienced in the country. This situation is recognised not only by researchers but also by many of those involved in the trade. Dealers, fishermen and tortoiseshell craftsmen interviewed as part of this study stated that marine turtle populations in Viet Nam are declining, due to over-harvesting and egg collection.

The turtles are killed to produce jewellery and other tortoiseshell products, and stuffed mounts. Although much of this exploitation is to supply foreign demand, local demand is also substantial in certain areas.

The trade continues illegally despite marine turtles being officially protected in Viet Nam. All five species of marine turtle found in Viet Nam waters are listed in the country's national protected species legislation. Furthermore, all five species are listed on CITES Appendix I, to which Viet Nam has been a signatory since 1994.

Widespread and consistent anecdotal evidence, along with overt public displays of marine turtle products for sale, provide irrefutable evidence of the trade in these products in Viet Nam. The size and openness of this trade demonstrates that legislation prohibiting such trade is being deliberately flouted by the traders. Indeed, while several dealers interviewed for this study stated that they knew the trade was illegal, only one considered action by the authorities to be a real threat.

It is becoming increasingly apparent from the records that Viet Nam's populations of marine turtles cannot sustain current levels of harvest (for food and/or trade) and accidental capture. But without enforcement of the conventions and national legislation designed to protect marine turtles, these rates of decline will continue. CITES alone, if properly enforced, would be an effective mechanism to stop much of the international trade in marine turtle products.

Stronger enforcement of CITES and national legislation protecting marine turtles, along with education of the authorities and both buyers and sellers of marine turtle products, is essential if Viet Nam's marine turtle populations are to survive.

RECOMMENDATIONS

The following recommendations are seen as essential for marine turtle populations in Viet Nam waters to survive.

1. Enforcement of legislation prohibiting the trade in marine turtles and marine turtle products in Viet Nam must be increased and improved. It is recommended that:
 - a. The Ministry of Fisheries together with the Ministry of Agriculture and Rural Development issue a joint Decision stipulating the confiscation of all marine turtle products on sale in Viet Nam within six months of convening the meeting on the National Action Plan on marine turtles.
 - b. Relevant enforcement agencies monitor compliance with the Decision and prosecute offenders in accordance with the law.
 - c. The Ministry of Fisheries educate and inform relevant enforcement agencies about the serious impact that the trade in marine turtles has on wild populations, and of the need to protect marine turtle populations.
 - d. The Ministry of Fisheries assist enforcement personnel to identify marine turtle species, parts and products. This could be facilitated by the publication of such tools as identification guides, for distribution to relevant personnel.
 - e. The Ministry of Agriculture and Rural Development and relevant partners, including NGOs, assist enforcement agencies in the training of field staff on the implementation and enforcement of CITES and Decree 48/CP.
 - f. National enforcement agencies focus enforcement efforts in the main locations where tortoiseshell items are made (Ha Tien and Phu Quoc) and sold (HCMC, Ha Tien, Nha Trang and Vung Tau). Target middlemen in Vung Tau city for enforcement action, as they are responsible for purchasing large quantities of turtles from fishermen, as well as for much of the international wholesale export of stuffed turtles.
2. Government and NGO partners continue monitoring the marine turtle trade in Viet Nam to measure the success of enforcement efforts and to keep abreast of changing market trends, trade routes and other relevant information. The current population status of all marine turtle species in the wild should continue to be monitored, and local individuals and organisations should be trained to carry out such monitoring projects.
3. Viet Nam sign and implement the Convention on Migratory Species (CMS). (See Appendix 1).

4. With the support of the Marine Turtle Conservation and Management Team for Viet Nam, the government undertake an awareness campaign informing dealers of the illegality of the trade in marine turtles and the Decision concerning confiscation.

5. Government and NGO partners implement campaigns designed to raise public awareness of the need to protect marine turtles, and to reduce consumption of marine turtle products. Such campaigns should:
 - a. Encourage the mass media to focus on the conservation needs of marine turtles and the illegality of the trade.

 - b. Create and distribute information for international travellers at airports and other points of entry and exit.

 - c. Create and distribute information designed specifically for children.

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APPENDIX 1 - THE CONVENTION ON MIGRATORY SPECIES

Also known as the Bonn Convention, the Convention on Migratory Species (CMS) is a global inter-governmental treaty that provides several benefits to signatory states. These benefits include infrastructure, secretariat services, and some financial support. The CMS aims to address problems of domestic consumption of endangered wildlife at a national level, and encourage international cooperation to achieve conservation objectives (Hykle, 2000). In regard to marine turtles, all species (except for the Flatback Turtle *Natator depressus*) are listed on Appendix I of the Convention, which includes species afforded strict protection because of their endangered status (Hykle, 2000). CMS largely addresses domestic exploitation whereas CITES addresses international trade. Although at the time of writing Viet Nam has not signed the Convention on Migratory Species, three Viet Nam government officials did participate in the recent Conference of Parties (courtesy of IUCN and CMS), and the Viet Nam government intends to submit its instrument of accession to CMS by December 2002.

APPENDIX 2 - PREPARING HAWKSBILL TURTLE SCUTES FOR CRAFTING

In all locations covered during this study, the processing methods of products from Hawksbill Turtles were similar. The following steps briefly explain the process in which tortoiseshell items are crafted.

1. Choosing and cleaning the scutes

The scutes from the carapace of the Hawksbill Turtle, which are used to make tortoiseshell curios, are removed from the animal by application of heat (Pritchard, 1979). Raw scutes are rough and dull in colour. After removal from the animal, the scutes are cleaned and sorted. The scutes must be cleaned thoroughly to improve their appearance and to allow pieces to be fastened together securely. Scutes are chosen for various products on the basis of their colour and pattern. For example, fans, hair clips, cigarette boxes, necklaces etc, use thin scutes with attractive patterns (a balanced pattern of transparent and black veins). This type of shell is often 0.7 to 1.5 mm thick. To make thicker products, such as combs, spectacle frames and bracelets, thicker scutes are needed. The thickest types, measuring 1.2 - 2 mm in thickness, are often used for these items.

2. Pressing into shapes

To enable the scutes to be pressed into shape, they must be heated to a temperature of 60° - 70°C. At this temperature they soften, and can be shaped into suitable moulds. These are then pressed for 4 - 8 hours.

3. Processing and polishing

This step requires much time and force. For example, bracelets are cut into rings of various thicknesses from tortoiseshell that has been pressed into tubular shapes.

Generally, all the work is carried out by hand, using very simple tools, such as knives and files. However, according to some individuals involved in the trade, machines are now used in some of the steps (especially polishing) in the creation of tortoiseshell products in HCMC.

The time needed to complete the polishing depends on the product being made. For example, it takes 1-1.5 hours to polish a cigarette box to satisfaction, and 30 minutes for a normal bracelet.

The thinner the scutes, the faster the pieces can be made into a product. For example, it takes a person three days to make five thick combs and only one day for a person to make a hand fan, as the fans are made out of thinner pieces.

Master craftsmen frown upon rushing to finish a product because the final product of a hurried piece is seen as having no beauty. Traditional craftsmen believe that time, patience and skill are essential in making beautiful pieces. Traditionally, the tools of the trade are a press to flatten the scutes, pliers and a vice to hold and bend the pieces, files, a fine-toothed saw and small blades - no electrical equipment is used. Currently, a skilled craftsman using traditional procedures could make a gross salary of approximately USD200 per month.

APPENDIX 3 - PRODUCTION OF STUFFED TURTLES

Stuffing the turtles is less difficult and less labour intensive than crafting the shell. The flesh and viscera are removed from the animal from the rear, and the inside thoroughly cleaned. The animal is often alive when this step is initiated, dying soon after. Following cleaning, the carcass is soaked in various preserving solutions to prevent it from decaying. The animal is then set in the sun for approximately two weeks until dry. Once completely dry, it is polished and ready to sell. Most animals used to make these products are Green Turtles; although it appears that in the recent past Loggerhead Turtles were also used. Only the small Hawksbill Turtles (width <30 cm) are stuffed, because larger ones are used for making tortoiseshell products.

APPENDIX 4 - SLAUGHTERING

A knife is inserted between the carapace and the plastron of the live animal, just posterior to the front flipper. The knife is then drawn down to the anus along the plastron/carapace margin and up the other side to the posterior edge of the adjacent front flipper. The plastron and carapace are then forced apart and the insides are pulled out. During this process, the animal dies. This method is generally used in the tortoiseshell industry.

APPENDIX 5 - MARINE TURTLE PRODUCTS AND IVORY

While ivory was not the focus of this report, during the survey a strong apparent correlation was found between Hawksbill Turtle products and ivory products in the city of HCMC. A number of business cards collected from dealers in HCMC depicted both sea turtles and elephants, suggesting the availability of both ivory and tortoiseshell products. Of the 36 shops with tortoiseshell for sale in HCMC, 16 also had ivory for sale. Only two shops surveyed carried ivory but not tortoiseshell. In these shops in HCMC, a total of 2 051 carved pieces of ivory, one kilogramme of tusk tips, four raw tusks and four pictures made from small pieces were observed. The only other sighting of ivory for sale was in Vinh, in the province of Nghe An, where three kilogrammes of raw ivory was for sale in a shop.

