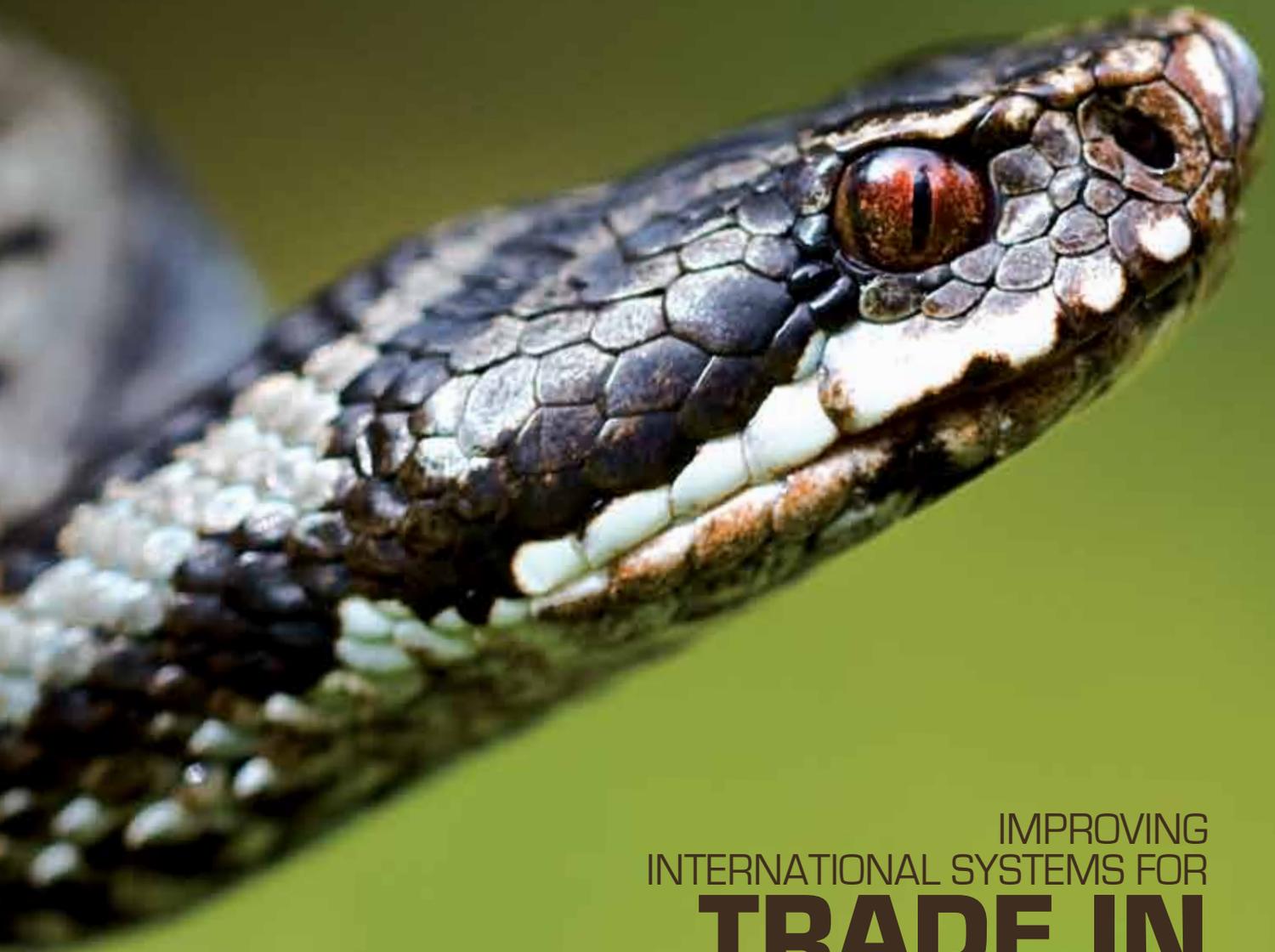


UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

UNCTAD



IMPROVING
INTERNATIONAL SYSTEMS FOR
**TRADE IN
REPTILE SKINS**
BASED ON
SUSTAINABLE USE



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UNITED NATIONS
New York and Geneva, 2012

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ACKNOWLEDGEMENTS

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UNCTAD gratefully acknowledges the support of the Swiss State Secretariat for Economic Affairs (SECO) for this publication.

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UNCTAD/DITC/TED/2011/7

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ACRONYMS

CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CSG	Crocodile Specialist Group
IRATA	Indonesian Reptile Trade Association
IUCN	International Union for Conservation of Nature
NGO	Non-governmental organization
SECO	Swiss State Secretariat for Economic Affairs
UNEP-WCMC	United Nations Environment Programme World Conservation Monitoring Centre

1. INTRODUCTION

The international reptile skin industry has flourished and expanded over the last 100 years, providing benefits to consumers in terms of products, and generating economic benefits that flow down supply chains to all stakeholders involved.

The social and cultural context within which the industry exists has and continues to change over time. When the industry started, interest in wildlife conservation was at best embryonic with few people concerned about the well-being or welfare of reptiles. Since the 1960s, public and political interest in wildlife and biodiversity conservation has grown exponentially, spawning tiers of new wildlife legislation at national and international levels.

Under the broad umbrella of wildlife conservation, public concerns about animal welfare and animal rights flourished, and the number of non-governmental organizations (NGOs) active in these fields increased greatly.

Corporations involved in the high-end retail marketing of reptile leather fashion goods are well known, because they use sophisticated branding and advertising to achieve that goal. With these corporations in particular there is an increasing public expectation that they will be model corporate citizens in the way they conduct business. Part of that expectation is that the skins they use will be derived legally from sustainable sources, in ways that do not compromise animal welfare.

This has proved easier to demonstrate with crocodilian skins than it has with snake and lizard skins, particularly from Southeast Asia. The snake and lizard skin industry is highly fragmented and competitive, and sources within and between supply chains are closely guarded commercial secrets.

However, there is no escaping the fact that the reptile skin trade depends on killing and skinning snakes, lizards and crocodiles, and this is offensive to people and organizations philosophically opposed to the lethal use of animals (proponents of animal rights). For animal rights proponents, the reptile skin industry has no moral or ethical right to exist.

In the snake skin trade, recent media attacks led to some corporations immediately trying to restrict their sourcing of skins to closed-cycle captive breeding farms, thereby abandoning skins from wild harvest. But this attempt to alter supply chain sourcing created

more problems than it solved. It diverted benefits away from hunters living in poverty, encouraged illegal trade, provided economic incentives to falsify permits, and indeed, has been carried out with the full knowledge of those who arranged it that it is a cosmetic and fraudulent practice. That large snake skins can be laundered through captive breeding farms to meet the “market expectations” of perhaps well-meaning corporations, simply means that the corporations are digging a deeper hole for themselves than the one they were in originally.

The assumption that all supply chains for skins and other fittings incorporated into finished leather products can be micromanaged, to ensure each step is legal, socially acceptable and biologically sustainable, and at the same time complies with the ever-changing public attitudes concerning ethics and morality, is fraught with practical and economic difficulties and thus the problems and criticisms will continue.

The way in which individual corporations respond to public criticism is ultimately a business decision. But making cosmetic changes in the modus operandi aimed at side-stepping rather than solving the problems can backfire. Public interest in such issues often reflects public ignorance about supply chains and the benefits of trade. But it is difficult to avoid the conclusion that corporations must be better informed about their own supply chains than they appear to be at present, and at least be familiar with the conservation benefits of trade.

The aim of the present report is to examine the changing context within which the reptile skin trade has existed (“where we came from”), the extent of the current industry and its regulatory strengths and weaknesses (“where we are now”), and what the future can or should bring (“where we go from here”). In terms of future directions, there appear to be at least three key themes that need to be considered:

- Increasing the public profile of the reptile skin industry by fostering more engagement in market-based incentives for the conservation and sustainable use of reptiles and their habitats.
- Identifying and prioritizing current and potentially positive and negative issues linked to production and trade of reptile skins, bearing in mind that public support ultimately hinges on the positives outweighing the negatives.

- Examining ways in which collaboration between the private sector, governments and international organizations can be beneficial to conservation, trade and the stakeholders involved.
-

2. HISTORICAL CONTEXT – “WHERE WE CAME FROM”

2.1 General comments

Reptile skins (snakes, lizards, crocodylians and turtles) have been used by people for handicrafts and drum skins for thousands of years, but the reptile skin fashion industry evolved largely during the 20th century. Most trade in reptile skins was and remains restricted to a relatively small group of species characterized by large body size, producing larger pieces of leather. Historically, most reptile skins used in the fashion industry came from wild reptiles killed specifically for trade, mostly in different countries to those where consumers purchased the final products.

Until the 1960s, the killing of wild reptiles for trade was largely unmanaged, which meant there was rarely any application of wildlife management principles and practices in their harvest. Business supply chains were not overly encumbered by regulation, control or the issuance of permits. There was little obligation on most stakeholders in the reptile skin business to exercise stewardship of the resource, or to be involved in its conservation. Nor were there any strong commercial incentives to consider the social and economic well-being of the people, often living in poverty, that were collecting the raw product.

2.2 Changing paradigms

This all changed in the 1960s and 1970s. A pivotal contribution to that change was the publication of the first “Red Data Book” in 1963 by the International Union for Conservation of Nature (IUCN). It identified a range of species, including many reptiles, which scientists considered endangered: species that may go extinct unless the causal factors causing population decline (mostly excessive harvesting for commercial use and trade) were halted.

The whole concept of endangered species captured scientific and public interest, stimulated existing environmental NGOs into renewed action, and spawned a plethora of new NGOs. Increased political action followed quickly, which was reflected in improved national wildlife legislation, and controls on imports and exports. The backlash against businesses involved in the high-end fashion industry was obvious. It simply became unfashionable to wear furs made from spotted cats or carry handbags made from crocodile or snake skin.

2.3 The introduction of CITES

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) came into force in 1975 and now has more than 175 nations as contracting parties. It was a landmark international effort to ensure the use of wildlife for international trade was not so excessive that it drove wildlife species to extinction. CITES identified species already considered severely depleted by trade and at risk of extinction by trade, and imposed an international trade ban on them (by listing the species in Appendix I). The aim was to foster a population recovery, but in the eyes of many NGOs, the aim was to stop trade completely.

Many more species were identified as likely to become endangered by trade unless the extent of wild harvest was regulated and not detrimental to the survival of the species (listed in Appendix II). All international trade in Appendix-II reptile species, parts (including skin, meat, teeth, claws, blood, etc.) or products made from them (luxury leather goods), now needed a CITES export permit, issued by the exporting state. Many states required the presentation of a reciprocal CITES import permit, although this represented the adoption of stricter domestic measures.

The main focus of CITES was thus to:

- Identify species currently endangered by trade (Appendix I) or vulnerable to reaching that state (Appendix II).
- To stop trade where it was known or suspected to be causing extinction (Appendix I).
- To use a permit system for trade in Appendix-II species that essentially certified that trade was legal and sustainable (not detrimental to the survival of the species).

There are four other provisions of the CITES Convention, whose interpretation has over time been clarified by various resolutions of the parties, which are important to the reptile leather industry:

- If Appendix-I species are bred in captivity they can be traded as specimens of Appendix-II species.
- Species not themselves threatened by trade could be listed in Appendix II if they looked like a threatened species, and could not be easily identified and distinguished from CITES-listed species by border control officials.

- Exemptions from requiring CITES export and import permits were nominally agreed for personal products, although interpretation and implementation remains ambiguous.
- Parties to the Convention could impose domestic measures about the import and export of CITES-listed species that were stricter than required by the Convention.

Trade in reptile species not listed in the appendices of CITES was not subject to CITES import and export permits, but it was increasingly regulated in many countries by permits issued under improved domestic legislation.

2.4 The impact of CITES on the reptile skin trade

During the early years of CITES generic listings were implemented for some of the main reptile groups traded. This meant that all crocodilian species, sea turtles, boids (pythons and boas) and varanid lizard (monitors) were listed on either Appendix I or Appendix II of CITES, regardless of whether they were involved in trade or threatened. Generic listing relied on the “look-a-like” provisions of CITES. This was designed to prevent trade in threatened species continuing on the basis of claims that skins came from other species, not in the CITES’ appendices.

For the parties to CITES with reptile skin businesses under their jurisdiction, this meant that trade in Appendix-I species essentially ceased (captive breeding was in its infancy), and trade in Appendix-II species was delayed while management programmes were developed that could achieve and demonstrate non-detrimental effects from trade. A prevailing paradigm at the time was that trade in wildlife was simply wrong, and was even worse if it utilized wild rather than captive-bred populations.

The USA spearheaded efforts to reinstate legal trade in American alligators (transferred from Appendix I back to Appendix II in 1979), which required a massive research effort and great political will. Captive breeding appeared to be the only guaranteed way of producing crocodilian skins for the future, so research and investment in this method of production flourished.

The adoption of ranching (collecting wild eggs for commercial raising on farms), first devised but never used for sea turtles, proved highly successful for

crocodilians. This ranching technique led to many populations being transferred from Appendix I to Appendix II, thus permitting utilization and trade, which extended the benefits of trade back to landowners.

The CITES appendices in which different crocodilian species were listed in 1975 have changed continually over time, mostly by transfers from Appendix I to Appendix II (enhancing trade), and rarely from Appendix II to Appendix I (constraining trade). However, with snake and lizard skins, the situation post-CITES has been quite different. Virtually all snake and lizard species in the appendices of CITES have remained in the same appendix in which they were originally listed. The reasons for this appear to be:

- The unit value of snake and lizard skins is appreciably lower than for crocodilian skins, which constrains domestic expenditure on research and management.
- Captive production and rearing of large snake and lizard species for the commercial production of skins is thought to be uneconomic and has not attracted serious investment.
- The most sought after species are difficult and expensive to study.
- Trade in key species of python and *Varanus salvator* in Indonesia, has been sustained over decades (Scott and Siegel, 1992), and the sustainability is thought to reflect biological traits such as high reproductive output and an ability to thrive in altered habitats (Shine *et al.*, 1996, 1999a, 1999b).
- Until recently relatively few interest groups have focussed their long-term attention on snakes and lizards.
- The application of trade controls appropriate for snake and lizard skins (such as universal tagging in crocodilian skins) have not been thoroughly investigated.

2.5 The future impact of CITES on the reptile skin trade

It is likely that the parties to CITES will seek significant improvements in the protocols for managing international trade in snake and lizard skins in the future. It is also likely that more snakes will be listed in the appendices of CITES as new information on trade and status in the wild emerges – for example 6 million (more than 700 tonnes) of water snakes are harvested annually from Cambodia and the population is declining. It has become increasingly obvious in recent years that illegal trade between countries in

Southeast Asia occurs at a much higher level than previously thought. This appears to be partly fuelled by the demands of the market, particularly in Europe, to obtain “raw salted” skins (which neither Indonesia

nor Thailand allow to be exported), and to obtain skins with CITES export permits claiming “captive bred”, regardless of the real origin, which some countries quite correctly refuse to issue.

3. THE CURRENT STATUS OF TRADE – “WHERE WE ARE NOW”

3.1 Crocodylians

Of the 23 species of living crocodylians, in some 100 countries, 13 species are in commercial international trade (*Alligator mississippiensis*, *Crocodylus porosus*, *C. niloticus*, *C. siamensis*, *C. novaeguineae*, *C. johnstoni*, *C. fuscus*, *C. rhombifer*, *C. acutus*, *C. moreletii*, *Caiman crocodilus*, *C. latirostris*, *C. yacare*). One species (*Melanosuchus niger*) in Brazil has been approved for commercial trade but has not yet been traded. No commercial skin exports were reported between 2000 and 2008 for 10 crocodylian species, for a variety of reasons (*Crocodylus cataphractus*, *C. intermedius*, *C. palustris*, *C. mindorensis*, *Alligator sinensis*, *Ostelaemus tetraspis*, *Paleosuchus trigonatus*, *P. palpebrosus*, *Gavialis gangeticus*, *Tomistoma schlegelii*). Some are on Appendix I, with no commercial captive breeding, others have no commercial value.

Reported international trade in crocodylian skins has ranged between 1.1 million and 1.8 million skins per year between 1999 and 2008. The skins that are traded (Table 1) are generally divided into two groups, “classic” and “caiman” skins, used for different

markets. They are derived from wild harvest, ranching and captive breeding operations (Table 1).

The country of origin of skins of different crocodylian species in international trade (1999-2008) are in Annex 2. Exports of four species (*C. moreletii*, *C. johnstoni*, *C. rhombifer*, *A. mississippiensis*) are limited to single countries (Mexico, Australia, Cuba and USA respectively), due to endemism (3) or management practices (1). *Caiman latirostris* is almost exclusively produced in Argentina, and *C. novaeguineae* is restricted to Indonesia and Papua New Guinea. *Crocodylus niloticus* is traded by around 15 countries, with ranching being the main form of production. *Crocodylus porosus* is produced mainly in Australia, Papua New Guinea and Indonesia (Papua Province) through a combination of ranching, captive breeding and wild harvest. In Thailand, Malaysia, Vietnam, Singapore, the Philippines and most areas of Indonesia, where the species is listed on Appendix I, captive breeding is the form of production.

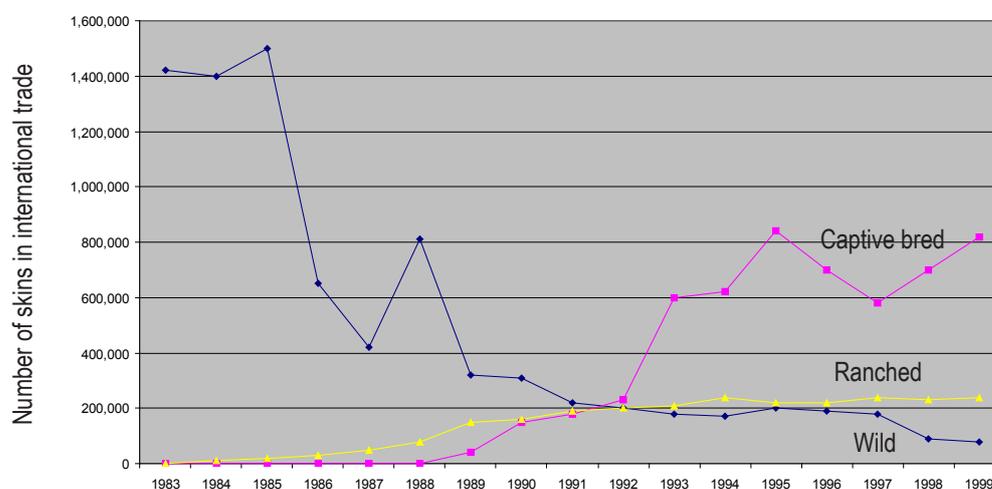
The main importers of crocodylian skins are France, Italy, Japan and Singapore, but many of these skins are re-exported when tanned. Other significant importers

Table 1. Levels of international trade in crocodylian skins (2000, 2004, 2008)

Species	2000	2004	2008
<i>Alligator mississippiensis</i> (R, W)	249 155	368 409	230 464
<i>Crocodylus acutus</i> (CB, R)	0	227	1371
<i>Crocodylus johnstoni</i> (R)	10	0	0
<i>Crocodylus moreletii</i> (CB)	1228	549	724
<i>Crocodylus niloticus</i> (W, R, CB)	147 311	140 497	169 295
<i>Crocodylus novaeguineae</i> (W, R)	23 233	39 796	28 217
<i>Crocodylus porosus</i> (W, R, CB)	25 791	30 728	53 888
<i>Crocodylus rhombifer</i> (CB)	0	2	0
<i>Crocodylus siamensis</i> (CB)	2417	20 930	63 471
Subtotal (classics)	449 145	601 138	547 430
<i>Caiman crocodilus</i> (W, R)	38 155	70 722	36 989
<i>Caiman c. fuscus</i> (W, CB)	840 993	621 691	533 549
<i>Caiman latirostris</i> (R)	0	215	809
<i>Caiman yacare</i> (W, R)	15 629	41 882	56 194
Subtotal (caimans)	894 777	734 510	627 541
Total	1 224 116	1 335 648	1 174 971

System of production: W = wild harvest, R = ranching, CB = captive breeding.

Source: data from Caldwell (2010).

Figure 1. Changes in the origin of crocodilian skins in trade (1983–99)

Source: from MacGregor, 2002.

are: Korea, Mexico, Panama, Thailand, Germany, UK, USA and Spain. With crocodilians, there has been a major shift over time, towards fewer wild harvested skins and more skins derived through both ranching (mainly wild harvest of eggs) and captive breeding (McGregor, 2002; Figure 1).

With the exception of *C. siamensis* (Cambodia, Viet Nam, Laos, Indonesia, Thailand), the skin trade is not considered to be a significant threat to any of the other crocodilian species.

3.2 Lizards

The main lizard species traded internationally in the skin trade are *Varanus salvator* (Southeast Asia), *V. niloticus* (Africa) and *Tupinambis* sp. (South America). These species have a wide geographical range, and the international skin trade statistics do not reflect the additional relatively high use of lizard skin for domestic markets (e.g. *V. salvator* in Southeast Asia). Reported international trade in lizard skin has declined from around 1.4 million skins in 2000 to 0.7 million skins in

Table 2. Net skin exports of wild and ranched *Varanus salvator* (Malaysia and Indonesia), *V. niloticus* (Africa) and *Tupinambis merianae* and *T. rufescens* (South America)

Year	<i>V. salvator</i> Indonesia	<i>V. salvator</i> Malaysia	<i>V. niloticus</i> Africa	<i>T. merianae</i> South America	<i>T. rufescens</i> South America
2000	538 005	254 801	265 389	122 292	242 924
2001	469 839	225 659	239 179	323 005	144 101
2002	439 949	140 482	198 387	184 193	115 991
2003	432 365	257 930	150 671	253 242	108 922
2004	427 737	213 442	180 222	225 722	124 370
2005	512 914	240 677	136 329	259 106	204 676
2006	426 844	168 962	184 631	272 036	248 454
2007	441 878	97 631	121 191	175 722	76 143
2008	325 666	113 477	100 746	163 760	67 138
2009	275 727	79 157	36 857		

Source: CITES database.

2008 (Table 2), but there is insufficient information to determine whether this reflects changing markets or decline in abundance. This is, once again, a reflection that few people are accurately monitoring trade in these species, despite them being listed on CITES.

3.3 Snakes

Raw international trade data are available for CITES-listed snake species on the CITES Trade Database, managed by the United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC), and they indicate the main species in trade are *Eunectes notaeus* (South America), *Python reticulatus*, *P. curtus*, *P. brongersmai*, *P. breitensteini*, *P. molurus*, *Ptyas mucosus*, *Naja naja*, *N. sputatrix* (Southeast Asia) and *P. sebae* (Africa). Unfortunately, there remain limited data with which to interpret the trade figures and thus at best they are a guide to what may be going on. The general situation with the main species in trade appears to be:

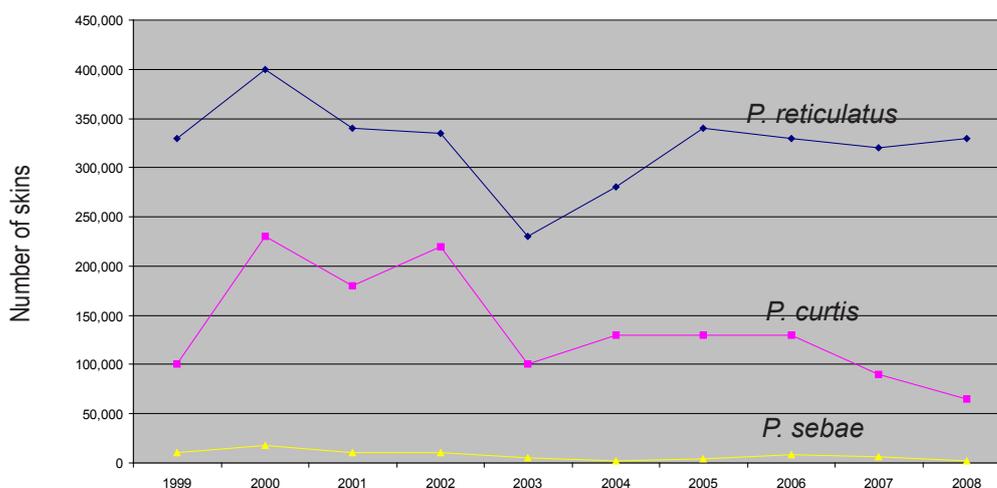
- *Eunectes notaeus*: main exporters are Argentina and Paraguay (pre-2004); main importers are Germany, Italy and the United States of America.
- *Python molurus*: ranches and wild harvested skins essentially ceased over the last few years, and have been replaced by specimens claimed to be “captive bred”, mainly from Viet Nam (average of 130 276 skins per year between 2005 and 2009), and with some from Malaysia (1790 in 2009). Net

exports reported from Singapore are considered to be re-exports.

- *Python reticulatus*: main exporters are Indonesia (wild harvest; mean of 161 311 per year for 2000–2009), Malaysia (wild harvest; average of 177 035 per year for 2000–2009) and Viet Nam (“captive breeding”; average of 107 956 per year for 2006–2009). Main importers are Brazil; China, Hong Kong; Spain; France; Italy; Germany; Japan; Republic of Korea; Mexico; Singapore; United States of America and Viet Nam (Figure 2).
- *P. breitensteini*: main exporters are Indonesia and Malaysia, with main importers being Italy, Singapore, United States of America, Brazil and Mexico.
- *P. brongersmai*: Indonesia and Malaysia are main exporters, and main importers are Brazil; China, Hong Kong; Italy; Japan; Republic of Korea; Singapore and United States of America.
- *P. curtus*: the main exporters are Indonesia and Malaysia with the main importers being Brazil, China, Spain, Germany, Italy, Japan, Republic of Korea, Mexico, United States of America and Singapore.
- *P. sebae*: mainly exported by Mali, Chad and the Sudan (data to 2009) with low quantities from Senegal, Niger and Ghana. The main importers are in Europe (mainly Italy), China and Egypt (Figure 2).

Data on the trade in non-CITES listed species of snakes is not readily available or is simply non-

Figure 2. Exports of three main species of python, 1999–2008



Note: data for *Python curtus* includes *P. brongersmai* and *P. breitensteini*, which were previously considered as subspecies of the former.

existent. In Indonesia, where national quotas are used to regulate harvests and exports, and where there

is an active reptile skin association (IRATA), some species-specific data are available.

4. THE FUTURE – “WHERE WE GO FROM HERE?”

4.1 The need for a multi-stakeholder forum with strong industry involvement

Recommendation 1

Options should be examined for the creation of a multi-stakeholder platform of industry actors, with a broader representation of stakeholders that can assist the industry through education, promotion and problem-solving.

The industry needs to examine options for improving collaboration between itself and other stakeholders on sourcing, and the starting point is to identify a series of common issues and priorities. The sustainable sourcing of reptile skins (especially for snakes and lizards) involves many complex issues, and the type of organization that can address these in a holistic and effective way for industry, with inputs from other stakeholders, remains unclear. Public pressure and scrutiny increases risks for individual stakeholders committing themselves to actions in isolation from a broader industry perspective that is well-reasoned and based in fact. A joint and collaborative effort is needed between companies that can involve governments, researchers and NGOs. This should maximize the use of resources, avoid duplication and create a conduit through which industry can participate more effectively in national and international policy discussions that impact upon them now and in the future.

As an example, with crocodylians, the Crocodile Specialist Group (CSG) provides a forum within which a broad range of industry stakeholders, such as farmers, tanners and manufacturers, can discuss issues with a broader range of other stakeholders with expertise in conservation, management, endangered species legislation, animal production, science and veterinary services. This serves conservation well, because what may appear to be a good strategy in the eyes of one stakeholder, based on the narrow context within which they operate, needs to be scrutinized and discussed with other stakeholders with expert knowledge of a much wider range of variables. No equivalent group, with such wide representation, operates with the major snake and lizard species in trade.

Although the global reptile skin industry has proved

highly adaptable to the changing paradigms of conservation, animal welfare and animal rights over time, it has tended to be reactive rather than proactive. The social context, within which the reptile skin industry exists, at all levels, is changing continually. There are sound reasons for industry to have a forum or platform through which this changing context can be discussed and better understood.

4.2 Legal versus illegal trade under CITES

Recommendation 2

More effective cooperation between industry and national CITES management authorities should be promoted to ensure that key suppliers are well aware of the consequences of involving the industry as a whole in illegal trade through fraudulent CITES export permits.

CITES requires that skins in trade have been acquired legally in the country of export, which means compliance with local, state and national laws prior to export. As discussed below, CITES export permits are designed to constitute certification by the country of export, that the skins are legal, that the source code accurately reflects the production system through which the skin was derived (e.g. R = ranching; W = wild harvest, C = captive breeding), and that the number of animals harvested has no detrimental impact on the status of the source population.

For a variety of reasons (lack of capacity, complications with source codes where skins from multiple sources are batched and exported, ignorance of CITES procedures, and sometimes gratuity and rogue permitting) CITES export permits are sometimes inaccurate, by accident or deliberately so. The CITES Standing Committee can recommend export bans if a state continually issues fraudulent CITES export permits.

Industry is seldom held responsible for importing skins with “legal” CITES export permits that misrepresent the origin of skins, but they are often well aware of what is happening. The worst situation from a CITES perspective is arguably where wild skins, illegally taken from within a country (or imported illegally from another country), are laundered through legal farms that claim the skins were produced through

legal ranching or captive breeding programmes. Importantly, the issuing of spurious CITES permits:

- Undermines CITES as a legal framework for international trade in wildlife generally.
- Undermines the certification role that CITES export permits were designed to play, encouraging third-party organizations to market alternative certification systems, often at great cost.
- Potentially encourages illegal trade and laundering of skins through countries that will issue CITES export permits of convenience.
- Penalizes countries that abide by CITES protocols.
- Potentially distorts market values on the basis of source code manipulation.
- Misleads the consumer.
- Opens avenues through which reputable companies can be rightly accused of involvement in illegal trade.
- In the case of wild skins being exported as captive bred skins, releases the exporting country from any obligation to manage the wild resource and demonstrate no detrimental impact.

4.3 Certification

Recommendation 3

If industry decides certification is warranted, it should investigate the strengths and weakness of enhancing the certification role of CITES as the most cost-effective way of providing consumers with confidence that the skins used in product manufacture have been obtained legally.

When faced with claims of impropriety in supply chains, corporations often look to third-party certification systems to ensure their corporate image is not tarnished. With regard to the reptile skin trade there are two key issues: the first is the certification of the legal origin of skins; and the second is the certification of the systems and processes used in production.

CITES is designed to be a certification system that a skin has been legally obtained, and that the survival of the wild population has not been detrimentally affected by providing it. CITES certification does not extend to the social costs and benefits associated with its provision. Regardless, the CITES certification role has some major advantages over any third-party certification systems. The CITES system is already well-grounded in national and international law, in

some 175 countries. The investment needed to create an equivalent certification system, for the reptile skin industry, on a global scale, would be enormous. It would thus seem that:

- For CITES-listed species, the most cost-effective way of improving certification is to improve compliance with CITES.
- For reptile species in the skin trade that are not listed on CITES:
 - They may be so abundant and trade so minor that certification is not required, in which case this needs to be established (by research).
 - They may merit listing on CITES because their status is declining due to trade (which would need to be confirmed by research) and/or because of “look-a-like” problems.
- There is a case to be made for all significant commercial species in the reptile skin trade to be treated equally under CITES, as occurs with crocodylians (all species are on the appendices of CITES). This may have regulatory advantages for industry.
- Within different nations there may be the opportunity for independent third-party verification systems to verify national production up to the stage at which the CITES export permits are issued.

4.4 The dilemma of captive breeding

Recommendation 4

Further information regarding the merits of sourcing python skins from captive breeding versus wild harvest or ranching is needed. Information and analysis should be commissioned to analyse the conservation and social and economic impacts of captive breeding relative to wild caught production systems. Those companies currently seeking to focus their imports on python skins with source code “C” on the CITES export permits may be undermining substantially the conservation value of the final product they are selling.

Since CITES was drafted (1973), it has been realized that production of wildlife species through captive breeding on farms may provide little if any incentive to better conserve and manage the wild populations of those species, and that it does not help local people who could potentially benefit from the sustainable use of those species from the wild. Indeed, production through captive breeding can be pursued outside

of range states altogether. The reptile industry may prefer skins from captive breeding in preference to those from the wild (CITES export permits with source code “C” versus source code “W”) because it may be easier to explain to a reasonably naive consumer that: “our skins all come from farmed animals not from the wild”. But this can undermine conservation. A recent workshop (CSG, 2011) on the global status of *Crocodylus siamensis* has confirmed that there has been serious depletion of the wild populations, partly to provide stock for farms. The wild *C. siamensis* population is now thought to be a few thousand individuals (essentially extinct in Thailand and Viet Nam), yet the population on farms is around 1.2 million individuals (Jelden *et al.* 2005, 2008; CSG unpublished).

4.5 Improving compliance with CITES

Recommendation 5

Industry needs to consider the benefits to themselves and others by being more actively engaged in CITES, to improve regulation and compliance, particularly with regard to lizards and snakes, and to better understand the benefits that can flow from trade

As a certification system, CITES is in some ways compromised by the inability to regulate trade in all species listed under CITES to equivalent levels of accuracy and precision. This in part reflects the lack of attention to implementation problems when the parties to CITES agree to list a species on the appendices. This in turn is partly due to industry not assessing issues prior to the parties evaluating them, and making sure that their industry perspective (based on trade experience) is an integral part of the knowledge base that the parties use.

A practical problem with CITES is the time taken for the CITES Secretariat, Standing Committee and Animals Committee to take decisive action when evidence of compliance problems emerge (which reflects the limited resources available to CITES). Despite these difficulties, which are to be expected in any bold system of control and regulation on a global scale such as CITES, involving the regulation of tens of thousands of species to a level of resolution of one part of one specimen in trade, there have been some significant success stories. In the reptile skin industry, crocodylians are generally regarded as one species

group for which CITES works well.

While appreciating reservations that the fashion industry may have in linking their products too closely to issues of conservation, which may detract from fashion values alone, there are clearly advantages in industry supporting individuals and organizations that are promoting the conservation values of wildlife products in trade.

4.6 Increasing concerns about animal welfare

Recommendation 6

Industry needs to be better informed about animal welfare issues associated with their supply chains and to adopt policies and standards based on the best science available.

Animal welfare is about reducing unnecessary pain and suffering within specific human-animal interactions. It is context specific. Thus animal welfare codes of practice, aimed at putting boundaries on animal welfare, are derived and tailored to specific forms of interaction. These codes require scientific research into the physiological basis of pain and suffering. Given that the public is often naive about the scientific basis of animal welfare, it is important that the industry is in a position to defend policies and programmes on the basis of science. This may at times be challenging, because some campaigns against the use of animals involve fabrication (e.g. see <http://www.furcommission.com/news/newsC7.htm>).

4.7 Identification difficulties

Recommendation 7

Industry is in a unique position to check existing identification guidelines for snakes and lizards, and if required, to develop in cooperation with CITES new and more effective mechanisms for customs officers to make more confident species identifications.

Identification of snake species, from skins and products made from skins, is difficult for the average customs officer to undertake at borders. Hence illegal trade is more likely to take place than it would be if the problems with identification were overcome.

Industry could play a role in reducing these difficulties and contribute to the capacity building of customs officials by, for example, creating a catalogue of the main skins exported from and imported into different countries.

4.8 Understanding supply chains

Recommendation 8

The expectation that high-end fashion manufacturers are in control of their entire supply chain may be unrealistic. But for companies to ignore the dynamics of their supply chains, so that they cannot answer informed or uninformed criticism will invite further criticism – unfounded or otherwise. Industry should ensure they have a sound working knowledge of their primary supply chains (from “nature to market” or “marsh to market”).

Supply chains are an integral part of the reptile skin industry, but they are often inherently complex (Figure 3) and poorly understood by the public. In reality, they are rarely linear and stable, as shown on Figure 3, and are more typically highly dynamic. Commercial competition means most links change continually as a result of changing pressures or circumstances, and regularly involve new supply chains with new stakeholders.

For Appendix-I listed species, CITES breaks the supply chain for wild harvested species at the point of export and import (Figure 4).

For Appendix-II listed species, the situation is

different. For a party to trade in Appendix-II species, they must invest resources in research, management and monitoring, in order to comply with the CITES protocols for issuing a CITES export permit, namely establishing non-detrimental impact (Figure 5). Industry is one of the beneficiaries of this increased investment and thus industry can and should consider investing more in conservation and management at this grassroots level.

Appendix II requires exporting parties to accept responsibility for the sustainable use of the species being exported. Their responsibility is greatly increased (larger links), and they need to invest much more in the management of the resource than they ever did previously. They often need help to do so.

Within the reptile skin industry, the individuals making high-end snake skin products are not the same people, with the same skills, as those hunting and skinning the snakes to supply the skins. Indeed, they may never meet each other. Hunters produce skins of different sizes, species and quality, and it is the role of middlemen, at various levels, to source, batch and value-add what they collect. This allows the manufacturer to obtain enough pieces of leather, meeting the exact specifications they need (species, size, imperfections, finished leather quality, colour, etc.) to produce and retail the particular products the consumers buy.

That some consumers in some countries expect the retailer to be responsible for the integrity of the complete supply chain is a relatively new phenomenon, perhaps more based in idealism than practical reality. It may be

Figure 3. Hypothetical linear supply chain linking supply and demand for wildlife products in international trade (trade can be legal or illegal, and can bypass separate links in the chain)



Figure 4. CITES Appendix-I listing bans international trade where it is deemed to be causing wildlife extinction

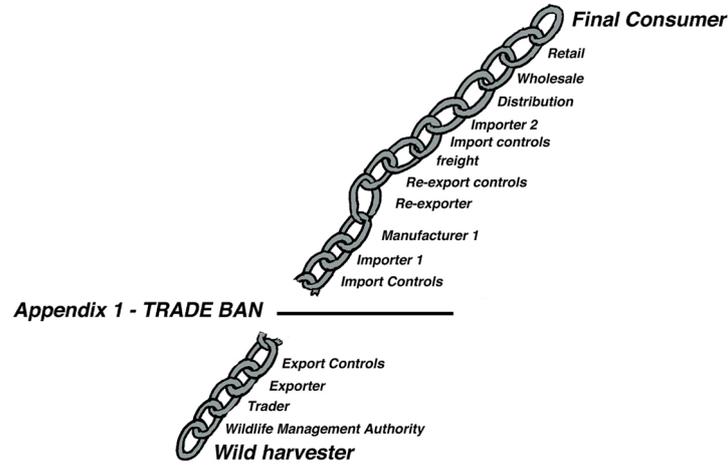


Figure 5. Increased responsibility in the supply chain for Appendix-II listed species



possible at a coarse level of resolution, for example ensuring skins have legitimate CITES certificates and that known production facilities meet certain standards of production that do not compromise animal welfare expectations. However, where skins come from village level hunters in remote parts of a country, it will clearly be much more difficult to establish and exert control on exactly how a particular process is undertaken.

If the public turns to anyone with expectations about the supply chain, then it will be to the luxury fashion houses that are easily recognized. They may not be able to provide the assurances required, but arguably do need to be better informed about the supply chain in question and its potential strengths and weaknesses.

4.9 Education and communication

Recommendation 9

Industry can and should play a larger role, through their own organization(s) or through others in education and communication about the whole concept of sustainable use and conservation. There are essentially two spheres where that education is needed: firstly, among immediate stakeholders within the industry, where industry can and should be more responsible; and secondly, the broader public, where various organizations are already involved in education but would benefit from industry assistance and guidance.

There is an increasing public expectation that wild reptile populations will not become threatened with extinction as a result of utilization and trade in reptile skins. What this means, in essence, is that the concept of conservation through sustainable use will continue to be a major factor underpinning the responsible use of reptile skins in trade.

Within the industry itself, education about wildlife conservation and the costs and benefits (biological, social, economic) that can be obtained through sustainable use are needed, and this will require knowledge-based tools tailored to that audience –

shareholders, producers, staff at all levels, retailers and customers. There is an industry need to keep this audience informed about the conservation status of the species used by industry, best practices for the sustainable use of reptile species, and the regulatory environment needed to ensure legal and sustainable trade.

At a broader level, many people and organizations, particularly in urban environments, view conservation as a simplistic issue (do not kill animals), and have difficulty accepting the concept of non-detrimental impact, let alone that conservation benefits can be generated through using wildlife. In “game management” and “fisheries management” there has long been a commitment to sustainable harvesting, with a goal of keeping the harvest going indefinitely (sustaining it). As a harvest cannot be sustained unless the resource is conserved, sustainable use of a resource is synonymous with its conservation.

But the public at large does not understand the linkages between the social, biological and economic variables that drive conservation. Local people, often living in poverty, cannot invest in wildlife conservation unless they get benefits from doing so. The ability to sell animals, derived through sustainable use, can create the incentives local people need to willingly conserve the wildlife they are using. This is incentive-driven-conservation.

The crocodile harvest programmes in Papua New Guinea, the ranching programmes for crocodiles in the Northern Territory of Australia, and for American alligators in Louisiana, Argentina’s programme for yellow anacondas and brown caimans, and the Bolivian programme for *Caiman yacare*, all successfully link reptile conservation with the economic benefits derived from sustainable use.

In all these cases the benefits which accrue to conservation and people depend totally on the ability of fashion houses to market reptile skin products. The more these linkages are understood, the more responsible reptile skin manufacturers should be seen to be involved in a socially responsible activity.

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