Handbook on

Wildlife Law Enforcement in India

Cat-legged Spider or the Indian Tarantula *Poecilotheria regalis*, a favourite in the pet trade

Handbook on
Wildlife Law Enforcement in India

Samir Sinha

Foreword
Jairam Ramesh

TRAFFIC India
WWF-India

Natraj Publishers

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Some important wildlife species and products in trade

Peregrine Falcon *Falco peregrinus*

In general, in battle
one engages
with the orthodox and
gains victory through
the unorthodox…

Sun Tzu, *Art of War*

Snow Leopard *Uncia uncia*

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JAIRAM RAMESH

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FOREWORD

It gives me great pleasure to introduce this book on Handbook on Wildlife Law Enforcement in India.

This book is of particular relevance at this stage as wildlife crimes are emerging as a major threat to natural resources worldwide. In addition to this, illegal wildlife trade has been acknowledged as one of the largest forms of organised transnational crime.

Unsustainable wildlife trade often undermines efforts of governments and other civil society institutions to conserve biological resources. India, as one of the most diverse countries of the world and being especially endowed with these resources, is particularly vulnerable to such threats. This publication comes out at a time when the need for a compendium of this sort is becoming increasingly necessary. We have to ensure that the poachers, the smugglers who strip our forests with reckless disregard for the law are made to answer for their crimes. In other words the Sansar Chands of this world must be brought to justice.

This handbook is a comprehensive document on the nature and scope of such threats to India's biodiversity and offers valuable information on identifying and responding to such threats. I am sure it will be found most useful by field practitioners, enforcement and policing authorities and anyone with a keen interest in protecting our national natural heritage for future generations.

I welcome this work as a significant contribution to our efforts against wildlife crime and congratulate Sri Samir Sinha, TRAFFIC India and WWF on this publication.

Jairam Ramesh
(Jairam Ramesh)
19.10.2009

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Preface

Two years ago, following on a discussion in the field, I had suggested to Samir that given his field knowledge and enquiring spirit, he should attempt a written work on wildlife crime, sharing his knowledge on issues of wildlife trade, the factors of its mitigation and training guidance that would be both in a readable form and useful for field managers and trainers. We had discussed the compilation of reference works on wildlife trade on many occasions and it was clear that gaps existed in practitioners' guides for India. From this modest beginning, the work of collection of material and to giving it a final, readable shape—the process has been an arduous task, yet for the writer, a fulfilling one.

From a conservationists' point of view, the Handbook on Wildlife Law Enforcement in India is a vital input at the present stage of India's conservation history, being published at a time when many of our species and conservation landscapes are depreciating, some beyond even long term recovery. It is hoped that the Handbook will help the practitioner and concerned individuals in standing firm against the erosion of our natural heritage.

Thus, in a direct way, this Handbook is a contribution to the conservation of wildlife and forests in our country—one of many ways in which conservationists like Samir practice what they love and serve.

Ravi Singh

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Dr. S. Theodore Baskaran

Acknowledgements

I have accumulated many debts in the course of my career in wildlife and in putting together this handbook. It is a pleasure to acknowledge some of them here.

Heartfelt thanks are due to Dr. Ashok Singh, Dr. A.J.T. Johnsingh, Sri V.B. Sawarkar, Sri Vinod Rishi and Sri P.K. Sen for always encouraging me, influencing my thinking and guiding me with their vision; Sri Brijendra Singh, for the long foot patrols shared with him in Corbett and for sharing his intimate knowledge of the field; D.V.S. Khati and Dhananjai Mohan, for their everlasting belief in me; Subodh Mittal, for being a friend and anchor; Harak Singh, Motilal, Chintamani Dhyani, H.S. Maindola, Trilok Singh Bisht and other field staff I have worked with, for sharing their field skills and knowledge. I also owe gratitude to a large number of colleagues and friends, too numerous to mention here, for all their help and support.

Dr. A.K. Bapuly, Director, Forensics, Govt. of Jharkhand readily shared his vast experience and detailed notes on various themes which have been liberally used throughout this handbook.

Dr. S.P. Goyal of the Wildlife Institute of India (WII) provided major inputs for the section on wildlife forensics while Dr. Parag Nigam, also from WII, provided major inputs on the section on Post-mortem and sample collection.

The sections on CITES and Interpol have been adapted from their respective websites and are included to highlight the roles of the respective agencies in the sphere of management of wildlife trade and related crime. The Guidelines on arrest, issued by the National Human Rights Commission have been also included here for ready reference.

Data compilation for Part III was done by Reena Haorokcham, with support from Khalid Pasha. Rahul Dutta and Akhilesh Kumar provided additional support in collection and collation of trade and enforcement data while Dilpreet Chhabra has contributed immensely in proof reading and editing the text. My thanks to all other colleagues in TRAFFIC India for their support .

Virender Kumar has contributed the maps and diagrams while Ashish Rohilla has done the design and layout. Divya Arora of Natraj Publishers has worked very hard to give a final shape to this publication.

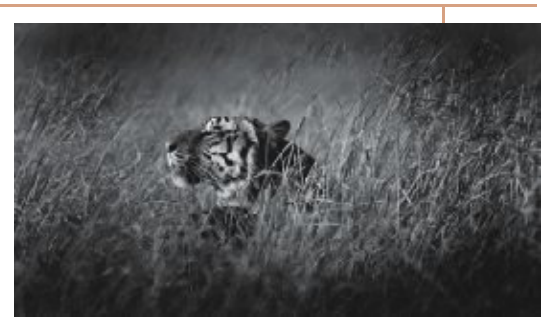
Stephanie Pendry, Roland Melisch and Richard Thomas of TRAFFIC International provided valuable comments and feedback on the manuscript. Steven Broad carried out the final review of the same.

Sri Ravi Singh, Secretary General and CEO, WWF-India has been very generous in his support to this project. His keen interest and encouragement is central to our work in TRAFFIC India.

My parents, Rajendra and Maya Prasad, for encouraging me to dream and giving me the freedom to try and chase those dreams.

My wife Anjali and children Kislaya and Kopal, for all their support and for bearing with my erratic work and travel schedules without much complaint. This is for you, Kislaya and Kopal, in the hope that when you grow up, you will still be able to experience the magic of seeing wild Elephants and Tigers in Corbett and elsewhere. To all of you, my sincere gratitude.

Introduction



Tiger *Panthera tigris*

Our country has a glorious tradition of conservation, with codified laws being in place from as early as the 3rd Century B.C., when Asoka laid down rules for elephant preservation in his stone edicts. Over the years, the agenda of conservation has undergone numerous changes, in response to changing human needs, cultural, social and political norms. Accordingly, wildlife enforcement in India has also changed, with the most dramatic changes occurring over the last few years.

India, as one of the mega diverse countries of this world, plays an important global role in the trade of wildlife, which includes all diverse life forms found wild in nature. Wildlife trade is not just about charismatic and flagship species but includes a large variety of medicinal plants, marine products and other lesser known forms of wildlife. *The Wildlife (Protection) Act, 1972* is the umbrella legislation for wildlife conservation in India. India is also one of the earliest signatories to CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora).

Despite the avowed intentions of the official machinery and a host of policies and laws on this issue, illegal wildlife trade continues to flourish. In fact, with the changes in the way the world communicates, especially with the internet and the easy access to international travel, the trade continues to acquire new dimensions and forms. It is increasingly being seen as a form of organised transnational crime with an overlap with other forms of organised crime.

This handbook was conceived out of several discussions with senior enforcement officials, who clearly identified the need for a comprehensive and detailed publication carrying information on various forms of wildlife crime and trade. Its special features include detailed sections such as Prevention of Offences: Identifying Early Warning Signs, Scene of Wildlife Crime, Internet as a Tool for Illegal Wildlife Trade and Securing Electronic Evidence.

The book is illustrated with a large number of colour photographs and diagrams which will be of help in better elucidation of the subject.

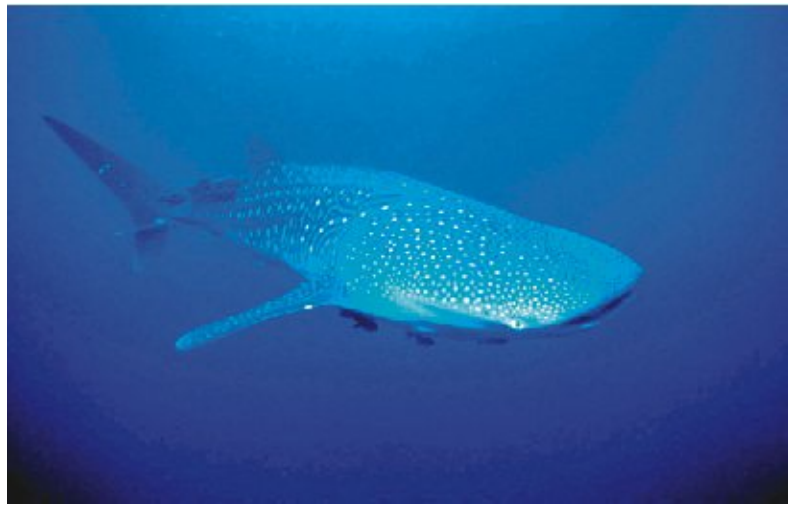
The handbook is for use of senior officials of various enforcement agencies such as the Forest Department, Police, the Central Bureau of Investigation, Coast Guard, Border Security Force, Indo-Tibetan Border Police, Department of Revenue Intelligence, Protected Area Managers, Honorary Wildlife Wardens and all others with a concern and role in preserving our natural heritage. It is also intended to be used by trainers in various enforcement agencies to share the technical aspects of wildlife enforcement with a larger audience. The emphasis is on providing the right amount of detail, so that the issue can be understood in its entirety.

It is hoped that this handbook will be a useful tool in the battle against illegal wildlife crime in India.

Part - I

“One who knows when he can fight, and when he cannot fight, will be victorious.
One who recognises how to employ large and small numbers will be victorious.
One whose upper and lower ranks have the same desires will be victorious.
One who, fully prepared, awaits the unprepared will be victorious.
One whose general is capable and not interfered with by the ruler will be victorious.
These five are the way to victory.”

Sun Tzu, *Art of War*



Whale Shark *Rhincodon typus*

About TRAFFIC

Slender Loris *Loris lydekkerianus*

In 1976, the year after the entry into force of the Convention on International Trade in Endangered Species of Wild Fauna and Flora **(**CITES**),** the Species Survival Commission of **IUCN** established (the Trade Records Analysis of Flora and Fauna in Commerce) **TRAFFIC** to monitor wildlife trade and the implementation of the treaty.

TRAFFIC has since then evolved as a joint wildlife trade-monitoring programme of **WWF,** the global conservation organisation**,** and **IUCN,** the International Union for Conservation of Nature.

TRAFFIC is an international network, consisting of TRAFFIC International, based in Cambridge, UK and offices in five continents, seven regional programmes in 25 countries and territories, with ongoing research and activities in dozens of others.

Since it was founded in 1976, **TRAFFIC** has grown to become the world's largest wildlife trade monitoring programme, and a global expert on wildlife trade issues. **TRAFFIC** actively monitors and investigates wildlife trade, and provides its information to a diverse audience world-wide, as a basis for effective conservation policies and programmes.

This non-governmental organisation undertakes its activities in close collaboration with governments and others.

The regional and national offices of the **TRAFFIC** network have been recognised and designated by the CITES Secretariat as CITES Capacity Building Collaborating Centres (CBCC), in order to develop jointly, with the CITES Secretariat, capacity building activities with a regional and sub-regional emphasis.

In 1991, **TRAFFIC** established its India office hosted by **WWF-India,** giving a tremendous boost to the trade monitoring capabilities of the organisation. After a brief hiatus, the **TRAFFIC** India office reopened in December 2006 as a division of **WWF-India. TRAFFIC's** work is research-driven and motivated by the belief that sound knowledge is a key factor in developing sustainable conservation solutions.

TRAFFIC's programme is built to deliver change in the behaviour (policy and practice) of specific target groups (individuals and institutions) who are in a position to ensure that wildlife trade is not a threat to the conservation of nature. The first layer defines what types of response (behavioural shift) **TRAFFIC** should try to prompt through its work. In simple terms, the responses fall under the following headings:

- **Effective regulation**
- **Positive economic incentives**
- **Sustainable consumptive behaviour**
- **Mobilised knowledge**

The second critical level of strategy defines what type of interventions or actions **TRAFFIC** will implement in order to prompt such responses. This includes undertaking research and investigation through market surveys; assessment of trade mechanisms, routes, economics and motivations; analysis of official trade statistics; collation of observations and findings of other researchers; and specific investigations of illegal trade activities.

TRAFFIC's analysis of conservation problems and solutions is objective, multi-disciplinary and knowledge-driven and is carried out in conjunction with specialists in a wide variety of disciplines, including species conservation, ecology, economics and law. Recommendations resulting from this work are based on direct experience of developing and assisting with the implementation of practical solutions to wildlife trade problems. Further, **TRAFFIC** supports the development of policies and action to address conservation challenges it has identified, exploring innovative solutions and strategies and learning from analyses of the effectiveness of previous approaches.

TRAFFIC India

As part of its mandate, **TRAFFIC India** is actively engaged on wildlife trade related issues across the country and the South Asian region. It is taking up a number of activities providing policy inputs, supporting and strengthening field level enforcement and enhancing capacity across various levels and institutions to address wildlife trade related issues.

Tiger & Leopard Skins

About WWF-India

WWF-India is the country's largest non-governmental organisation working towards the conservation of biodiversity and natural habitats. It engages with multiple stakeholders including local communities, teachers and students, state and central governments, industry and civil society organisations, to work towards ensuring a living planet for future generations. **WWF-India** works through a network of state and field offices spread across the country to implement its mission and work. The Secretariat is based in New Delhi and the organisation is a part of **WWF's** international network, with its headquarters located in Gland, Switzerland.

WWF-India has several programme divisions that work on specific areas of conservation and sustainable development.

WWF Secretariat in New Delhi

An Overview of Wildlife Trade

What is wildlife?
As per the *Wildlife (Protection) Act, 1972* (Sec. 2 (37),wildlife includes any animal, aquatic or land vegetation which forms part of any habitat. Thus, the term wildlife effectively encompasses all forms of life, whether plant or animal which are found wild in nature. This would also include marine, freshwater and coastal ecosystems.

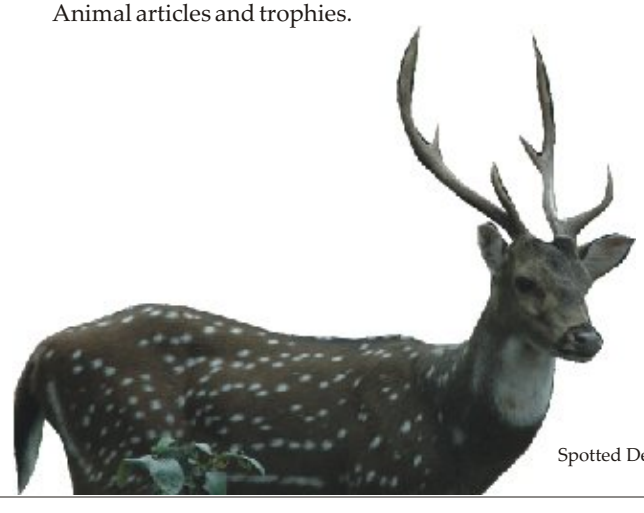
The Wildlife (Protection) Act, 1972
An Act to provide for the protection of wild animals, birds and plants and for matters connected therewith or ancillary or incidental thereto with a view to ensuring the ecological and environmental security of the country.

This is the umbrella legislation for wildlife conservation in India. It extends to the whole of India except for the state of Jammu and Kashmir which has a separate Wildlife Act.

Wildlife *includes* any animal, aquatic or land vegetation which forms part of any habitat (Section 2 (37)).

Wild Animal means any animal specified in Schedules I to IV and found wild in nature (Section 2 (36)).

What is Wildlife Trade?
"Wildlife Trade" refers to the sale and exchange of animal and plant resources. This includes ornamental animal products such as corals for aquaria, reptile skins for the leather industry, tortoise shell, as well as ornamental plants such as orchids and cacti. It also includes timber products, medicinal and aromatic products such as taxol, agarwood, musk, fisheries products and live animals for the pet trade including parrots, raptors, primates, and a wide variety of reptiles and ornamental fish. In India, while the term "wildlife trade" is not specifically defined under the *Wildlife (Protection) Act, 1972* Chapter V of the Act specifically deals with Trade or Commerce in Wild Animals, Animal articles and trophies.



Spotted Deer *Axis axis*

Parrotfish sp.

Brahm Kamal *Saussurea obrallata*

Red Sander logs *Pterocarpus santalinus*

Himalayan Monal *Cophophorus impejanus*

As per Article 1 (c) of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), as signed at Washington, D.C., on 3 March 1973 and amended at Bonn, on 22 June 1979, "Trade" means export, re-export, import and introduction from the sea.

Wildlife trade involves hundreds of millions of individual plants and animals from tens of thousands of species.The trade in wildlife is diverse, ranging from live animals and plants to a vast array of wildlife products derived from them, including food products, exotic leather goods, wooden musical instruments, timber, tourist curios , fish, other food products and medicines. Most wildlife trade is probably within national borders, but there is a large volume of wildlife in trade internationally. Many forms of wildlife trade are legal but a significant part of the trade is illegal and in violation of international and national regulations and legislations.

Why is wildlife traded?
Wildlife is traded for many reasons in India. Some of these are mentioned below.

Food—Wild fruits, mushrooms, nuts, leaves and tubers are particularly important resources in sustaining livelihoods in many rural areas.

Fish caught from the wild , e.g. from rivers and seas are also an important source of nutrition and livelihoods.

Fuel and fodder—Trees and plants are an important source of fuel for cooking and heating, especially in rural areas.

Fodder is also considered a very important non-wood forest product in several parts of India.

Handicrafts—Many products are made out of bamboo, cane or other materials for local use or as handicrafts .

Building materials—For example, timber for furniture and housing to ingredients in manufacturing processes, such as gums and resins .

Clothing and Ornaments—Peacock tail feathers, hornbill casques, musk deer canines etc.

Healthcare—Everything from herbal remedies, traditional medicines to ingredients for industrial pharmaceuticals. An estimated 80% of the world's population are said to rely for primary health care on traditional medicines.

Sport—From falconry to trophy hunting. While these activities are illegal in India, they can still form a driver for illegal trade in several species.

Pets—Many species of birds or mammals are kept as pets, sometimes in contravention of the law. In India, it is illegal to keep any species protected under the *Wildlife (Protection) Act,1972* in captivity.

Private or scientific collections—Scientific and research institutions can maintain collections of protected species only with a proper prior granted permit from the Chief Wildlife Warden or the Authorised Officer.

Religion and traditional beliefs—Many animals and plants or their derivatives are used for religious purposes or because of traditional beliefs, such as owls used in witchcraft.

Caviar, a major wildlife product

What is the nature of this trade?

The primary motivating factor for wildlife traders is economic, ranging from efforts to secure basic survival and everyday livelihoods, via small scale local income generation to a major profit-oriented business, such as marine fisheries and logging companies. Between collectors of wildlife and the ultimate users, any number of middlemen may be involved in wildlife trade, including specialists involved in storage, handling, transport, taxidermy and preservation, manufacturing, processing and extraction, industrial production, marketing, and the export and retail businesses.

In fact, most of us are involved in wildlife trade in some way, even if just as end consumers of wildlife products of flora and fauna.

In India, trade in wildlife resources has always been pivotal in the livelihoods of a large number of people especially the tribals. Communities living around forest areas have been dependent on natural resources for their survival. They have engaged in trade of forest produce either for cash or on a barter system to be able to meet their household requirements. However, such trade was mostly sustainable and did not severely impact the survival of the plant and animal species.

Of late, this scenario has changed. Driven by an overall human population increase and related consumer demand, including "modernised" collection, harvesting and transport means, the need within people involved in the trade has become commercialised and, when illegal, has evolved into a well organised clandestine operation. At the source of the operation are the harvesters, collectors or poachers who often reside in rural areas without direct access to channels of distribution. They rely on visiting buyers to market their goods. In addition, there are numerous middlemen who run a well organised nexus to transport and market illegal wildlife products.

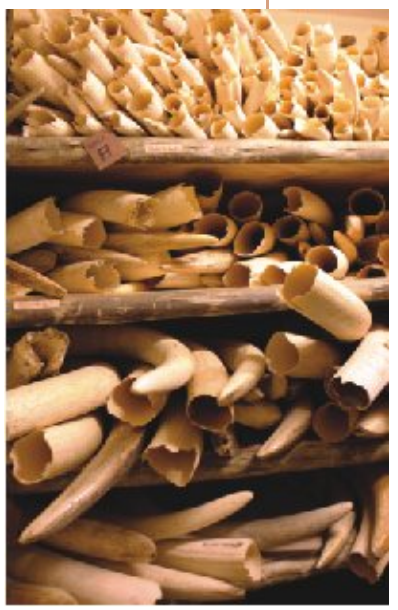
A large part of this trade is meant for the international market and has no direct demand in India. Some examples are the Tiger, otter and Leopard skins that are used to make chubas (traditional robes worn by Tibetans); Tiger, Rhino and Musk Deer body parts and derivatives meant for use in traditional Chinese medicines and rhino horns used to make dagger handles in countries like Yemen etc.

What is the value and volume of this trade?

There is a huge trade in wildlife goods world-wide, with China being the largest market followed by

Russian Sturgeon *Acipenser gueldenstaedtii*, Caviar is obtained from this spp.

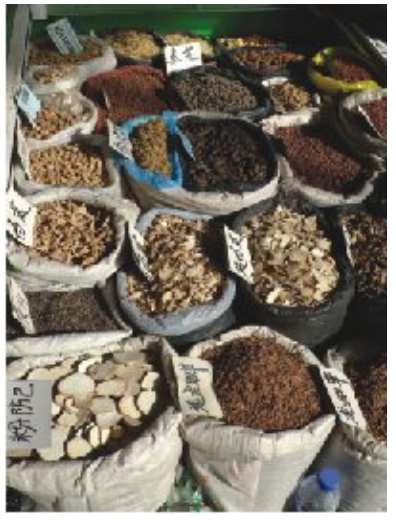
significant markets in the United States of America and the European Union. Trade is both international and domestic, with large volumes of the latter particularly within developing nations. The European Union (EU) tops the list of major importer by value for many wild animal and plant products, including tropical timber, caviar, reptile skins and live reptiles. The legal trade of wildlife products into the EU alone was worth an estimated EUR 93 billion in 2005. The value of legal global international wildlife trade, including non-CITES species and based on declared import values in 2005, is conservatively estimated to be about EUR 249 billion per year, with timber and fisheries accounting for about 90% of this value. As a comparison, the UN Statistics Division records the declared import value of the global trade in coffee, tea, and spices in 2005 at about EUR 14 billion, while domestic sales of medicinal plants in China was valued at around EUR 19 billion in 2002, and has increased by 8% a year since 1994.



An ivory stockpile

Wildlife trade involves hundreds of millions of individual plants and animals from tens of thousands of species. Timber and seafood are the most important categories of international wildlife trade, in terms of both volume and value. According to the United Nations Food and Agriculture Organisation (FAO), more than 100 million tonnes of fish were traded in 1998, and more than a billion cubic metres of wood products were exported globally in 1999.

TRAFFIC estimates that from 2000—2005, 3.4 million lizard skins, 2.9 million crocodile skins and 3.4 million snake skins, all species listed under CITES, were imported into the EU, along with 3 00 000 live snakes for the pet trade. In 2004 alone, the EU imported more than 10 million cubic metres of tropical timber from Africa, South America and Asia, worth USD 1.9 billion.



Wholesale market for TCM (Traditional Chinese Medicine)

In 1996, global international trade in medicinal and aromatic plants amounted to more than 4 40 000 tonnes.

International trade in species of conservation concern is regulated by CITES. From 1995 to 1999, CITES recorded an annual average of more than 1.5 million live birds, 6 40 000 live reptiles, 3 00 000 crocodilian skins, 1.6 million lizard skins, 1.1 million snake skins, 1 50 000 furs, almost 300 tonnes of caviar, more than 1 million coral pieces and 21 000 hunting trophies.

Some characteristics of wildlife resources in India

Some characteristics typical of wildlife resources in India are:

- They represent an open treasury, with generally free or very limited restrictions to access for most.
- Generally poor understanding in policy and enforcement circles of value of biodiversity, forests and wildlife and hence limited appreciation of the nature of threats to them.
- Poor human resources and infrastructure within agencies responsible for enforcement, awareness and extension work.
- Generally no social stigma attached to offenders in forest and wildlife crimes.
- Paradigm shift in management of such resources from almost NO control a few decades ago to total control, which is difficult to enforce.
- Poor co-ordination amongst the different enforcement agencies responsible for crime prevention and detection.
- Lack of specialised skills such as for crime prevention, detection, investigation and prosecution .
- Low volume, high number of offenders .
- Rural communities living in close vicinity of wildlife resources often do not have access to viable alternatives for their requirements of sustenance and livelihoods derived from such resources.

Table 1: The role of South Asia and selected neighbouring countries in the world trade in medicinal and aromatic plants

Year	1998	1999	2000	2001	2002	2003		
Country of import	Pharma-ceutical plants, total Volume (Metric) tonnes	Pharma-ceutical plants, total Volume (Metric) tonnes	Pharma-ceutical plants, total Volume (Metric) tonnes	Pharma-ceutical plants, total Volume (Metric) tonnes	Pharma-ceutical plants, total Volume (Metric) tonnes	Pharma-ceutical plants, total Volume (Metric) tonnes	Average 1991-2003	world import position
Pakistan	8094	9214	10 303	10 328	10 314	7275	9255	9
Malaysia	13 621	13 997	12 690	14 900	10 256	10 383	12 641	11
India	**6194**	**5775**	**8474**	**7156**	**8196**	**12 510**	**8051**	**13**
Singapore	4582	5171	5200	4609	5196	5338	5016	14
Thailand	4089	5350	5377	8650		10 346	6762	17
Indonesia	1581	4153	3281	3203	3114	2979	3052	26
Maldives	0	10	12	7	0	10 049	1680	36
Bangladesh	1093	N.A	N.A	0	N.A	0	364	41
Sri Lanka	N.A	895	N.A	1045	1215	883	1010	42
Philippines	140	142	75	114	99	102	112	68
Nepal	0	0	0			1277	319	78
Bhutan	0	27	N.A				14	

Table 2: Catch of sharks by major catchers, 2005

Catcher	Catch (tonnes)	% of Global Catch
1. Indonesia	1 09 055	14.11
2. India	**62 171**	**8.04**
3. Taiwan	45 945	5.94
4. Mexico	39 106	5.06
5. Spain	38 069	4.92
6. Argentina	37 161	4.81
7. USA	29 969	3.88
8. Japan	26 274	3.40
9. Thailand	25 219	3.26
10. Malaysia	25 094	3.25
11. Brazil	23 749	3.07
12. Pakistan	22 877	2.96
13. France	21 345	2.76
14. New Zealand	18 030	2.33
15. Iran	17 443	2.26
16. Portugal	15 360	1.99
17. Nigeria	13 882	1.80
18. Yemen	13 060	1.69
19. Venezuela	11 294	1.46
20. Australia	11 161	1.44
Other	1 66 846	21.58
Global Catch	**7 73 110**	

Source: FAO Capture Production database

Scalloped Hammerhead Shark *Sphyma lewini*

Table 3 : Overview of Quantity of Global Wildlife Trade in Major Categories*, 2000—2005

Taxa	European Union		US		Rest of World	
	Rank	% Trade	Rank	% Trade	Rank	% Trade
African Teak	1	66	3	3	2	31
Caviar	1	49	3	24	2	27
Live Birds	1	70	3	2	2	28
Corals	2	20	1	63	3	17
Live Reptiles	2	20	1	62	3	17
Ramin	2	35	3	7	1	58
Reptile Skins	2	32	3	8	1	60
Cacti	3	29	2	33	1	38
Mahogany	3	2	2	48	1	50
Orchids	3	10	2	25	1	65

* Major Categories of selected Taxa only
Adapted from UNEP-WCMC CITES Trade Database

What is illegal wildlife trade?

Illegal wildlife trade in simple terms refers to sale or exchange of wild animals or plant resources, trade of which is prohibited under the law. This may involve live or dead animals or plants and their derivatives. The trade may be for the pet or horticultural trades, or trade in wild animal and plant products such as skins, medicinal ingredients, tourist curios, timber, wild meat and other food products sought after by humans.

What is this illegal trade worth financially?

Due to the clandestine nature of the illegal wildlife trade, it is very difficult to estimate its exact value. Interpol has stated on its website that various Governmental and Non-governmental agencies have estimated that the value of the illegal wildlife trade may be in excess of USD 20 billion annually. The United States of America's State Department estimates that the market value of illegal wildlife products has reached USD 10 billion a year and possibly twice that. The actual figure may never be known, as much of the trade occurs in less developed parts of the world, but could in fact be significantly higher.

Bile recovered at an international airport in India

Why is illegal wildlife trade a problem?

In many cases, illegal wildlife trade has led to over-exploitation of the targeted species, to the point where the very survival of these species is becoming difficult. This aspect has been well publicised in the case of Tigers, rhinos, elephants, Star Tortoises and others. Over harvesting for trade has also affected populations of many freshwater and marine species such as otters, freshwater and marine turtles, corals, sharks, tuna and other sea fish.

Furthermore, illegal wildlife trade indirectly threatens the livelihoods of a large part of our human population who are dependent on wildlife products from forest and coastal biomes to sustain them. These inhabitants not only depend on the resources from the wild for food but also for their livelihood and healthcare. It is therefore crucial that these wildlife resources are managed sustainably and conserved according to the law.

According to William Clark, chairman of the Interpol Working Group on Wildlife Crime, illegal trafficking in wildlife is linked to violence, corruption, fraud, smuggling, conspiracy, robbery, health violations, drug trafficking and weapons trafficking. There is also significant money laundering and tax evasion involved.

Combating illegal wildlife trade is not just about saving animals from extinction. It is also about promoting economic development and the rule of law, and protecting public health.

Illegal wildlife trade can also be a source of serious health threats, as some diseases, such as avian influenza, SARS, the Ebola virus and tuberculosis, can jump from animals to humans, especially when those animals are removed from the wild and move in commerce.

Illegal wildlife trade

Illegal trade is by definition a hidden activity. As such it is almost impossible to obtain reliable figures, but it is estimated that the total value of illegal wildlife trade runs into billions of dollars.

However, the black market value for some wildlife products can be very high.

In the black market, one Ploughshare Tortoise *Astrochelys yniphora* can fetch EUR 30 000 and a pair of Radiated Tortoises *Geochelone radiata*, popular in the pet trade, can fetch over EUR 7370 (Broad *et al*., 2003; Theile, *et al*., 2004; TRAFFIC, 2006).

In 2006, Tiger bones were being sold in China for as much as USD 1250/ kg. (Nowell *et al*, 2007)

The value of the illegal trade in caviar is thought to be several times greater than the value of the legal trade, which was estimated at over EUR 244 million in 2005 (UNSD, 2006).

In the 1990s, more specimens of Egyptian Tortoise *Testudo kleinmanni* were seized in illegal trade than are estimated to survive in the wild today (IUCN Red List, 2003; TRAFFIC, 2006b).

The Egyptian Tortoise is listed in CITES Appendix I (which prohibits international trade) and is classified as Critically Endangered on the IUCN 2003 Red List.

From 2003 to 2004, enforcement authorities in the EU made over 7000 seizures involving over 3.5 million CITES-listed specimens;

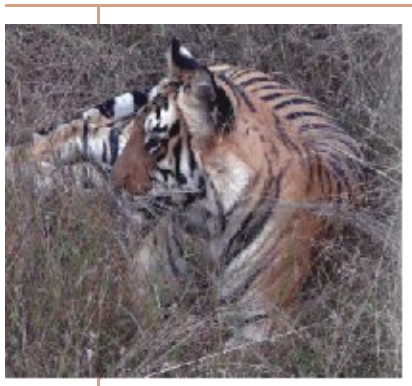
Radiated Tortoise
Geochelone radiata

Tiger bones

Caviar

Egyptian Tortoise *Testudo kleinmanni*

Wildlife Trade in India



India is ranked sixth amongst the 12 mega diverse countries of the world. Managing this diversity is an enormous challenge and responsibility. Increasingly, this is made difficult by the growing number of threats—illegal trade of wild species of flora and fauna is one of the significant ones. Trade investigations and seizure reports in recent years have indicated that wildlife crime fuelled by trade has been spiralling. China and the Far East have strongly emerged as a burgeoning market for wildlife derivatives from the Indian wilderness.

Have you seen a tiger at Sariska since June? If yes, you're the only one

At Tiger Point in Sariska, tourists wait, hope in vain

JAY MAZOOMDAAR | SARISKA | JANUARY 22

WHERE have the tigers of Sariska gone? The last official count was last summer when there were at least 15 tigers in this 866-sq-km reserve in Rajasthan—the previous Census had put it at 24—but for six months now, except for two sightings by tourists, not one tiger has been seen, not one pug mark by any official.

Experts are so worried that Project Tiger director Rajesh Gopal says he has asked for a report from Sariska authorities. "It's unnatural if no pug mark is found. Natural death cannot happen at that scale. I will visit Sariska soon."

His alarm isn't misplaced. Consider these:

■ Traditionally, tigers retreat to the hills due to abundance of water during July-August rains before returning to the plains by October. And the "peak" season for tiger-sightings is December-January. But no forest official has spotted a tiger since June last year.

■ Says Deputy Field Direc-

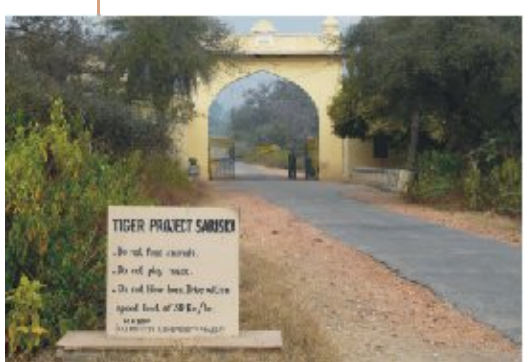
'It's a mystery'

PRIYO RANJAN
DFO, Sariska

I haven't seen any tiger here since I joined last Septem-

The realisation that Tigers *Panthera tigris* had vanished from the Sariska Tiger Reserve in 2005 was a rude wake-up call to conservationists. Poaching was the single most important contributing factor for this local extinction. Very recently, in early 2009, Panna Tiger Reserve, in Central India also lost all its tigers. While the local extinction of charismatic species like the Tiger raises a lot of hue and cry, ground realities in many other field areas may not be significantly different. The standard of training, equipment and infrastructure of Protected Areas and other wildlife rich areas for carrying out anti-poaching activities is extremely poor. The Sariska experience being repeated in Panna in 2009 also suggests that at times the local enforcement and management mechanism may be in self-denial, and response to such problems may often be sluggish and inadequate.

Poaching of key species is generally done by well connected criminal gangs, often with financial support by outside traders and on ground support of some locals. The promised economic gain from such crime is very high for poor local communities with limited economic opportunities. Furthermore, certain communities in India have been traditionally engaged in hunting and trade of wildlife across the country. Such "specialists" can inflict maximum damage in a short while on populations of endangered wildlife.



Wildlife crime has clearly emerged as a form of organised transnational crime.

What are the key species in illegal wildlife trade in India?

The species in trade represent a truly diverse mix, ranging from high profile products such as Tiger *Panthera tigris* and Leopard *Panthera pardus* derivatives, Rhino *Rhinoceros unicornis* horn, ivory, musk pods, bear bile and Shahtoosh etc. to relatively lesser known products such as orchids and other ornamental plants, Red Sanders logs *Pterocarpus santalinus*, marine species including corals, seahorses, bird species, turtles and tortoises, reptiles, insects and medicinal plants.

Seahorse

Leopard skin

Timber from a neighbouring country makes its way across a border post

Musk pod

Elephant ivory and molar

Parakeet for sale

A Gharial as a lab specimen

Demand for specimens for school/college collections fuels illegal wildlife trade in India

In September 2006, Forest Department officials in Agra seized over 30 000 specimens of rare and endangered species from the premises of a local firm involved in the trade of zoological specimens, chemicals and laboratory equipment. Documents recovered during the raid showed that the main purchasers of these specimens included various schools, colleges and other educational institutions across the country.

The firm had been operating for several decades without any permission under the *Wildlife (Protection) Act, 1972*.

The list of specimens seized included cobras, Olive Ridley Turtles, Gharials, Saw-scaled Viper *Echis carinatus*, Russell's Viper, python *Lepidochelys olivacea*, monitor lizard, seahorses, corals, sponges, butterflies and birds.

Agra is known to be the hub of such trade and there are reportedly over 50 firms engaged in such supplies. Several of these were investigated as a follow up and more endangered species seized. A large number of specimens of wildlife were also recovered from a road side ditch on the Agra-Delhi highway in January 2007. These included Gharials, crocodiles, monitor lizards, Olive Ridley Turtles, Russell's Viper and Saw-scaled Vipers etc. It is believed that these were dumped by illegal traders out of fear of the enforcement efforts of the Forest Department.

Snakes recovered from Agra

Seahorses

Is all trade in wild species illegal in India?

The trade in wild animals, plants and their derivatives, of species which are specified in Schedules I to IV and Schedule VI of the Wildlife (Protection) Act, 1972 is illegal in India. This Act provides protection to these species against hunting, trading and any other form of exploitation.

India has been a party to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) since 1976. About 5000 species of animals and 28 000 species of plants are protected by CITES against over-exploitation through international trade.

As per the EXIM Policy of the Government of India, plants, plant portions, their derivatives and extracts as specified in Appendix I and Appendix II of CITES as well as a list of 29 taxa specified at Export Licensing Note 1 and orchids obtained from the wild are prohibited for export. Special exemption can be granted for the purpose of research, education and life saving drugs on a case by case basis by the Director General of Foreign Trade-DGFT on the recommendation of the Ministry of Environment & Forests.

Mongoose and paint brushes made of its hair

Varanus skins

Sea cucumbers, listed in Schedule I of the Wildlife (Protection) Act,1972

What are the important international trade routes for illegal wildlife trade to and from India?

Within India, cities like New Delhi, Kolkata, Mumbai, Chennai, Jabalpur, Jaipur, Siliguri Haridwar, Pithoragarh, Lucknow and Amritsar are some of the important centres for wildlife trade. India's porous land borders with Nepal, Bhutan, China, Myanmar and Bangladesh have become major transit points for this trade. Access routes also exist between Nepal and China (Tibet Autonomous Region). Trans-border movement of contraband for trade has become relatively easy between these countries. In addition, sea and air routes between India and Southeast Asia, Japan and the Middle East are used for the illegal trade.

Due to weak enforcement and lack of adequate trans-border co-operation between countries, illegal wildlife trade is thriving.

Disclaimer: Map not to scale

Table 4: International Traffic (Freight Movement) at some Important Airports in India (2005—2006 and 2006—2007)

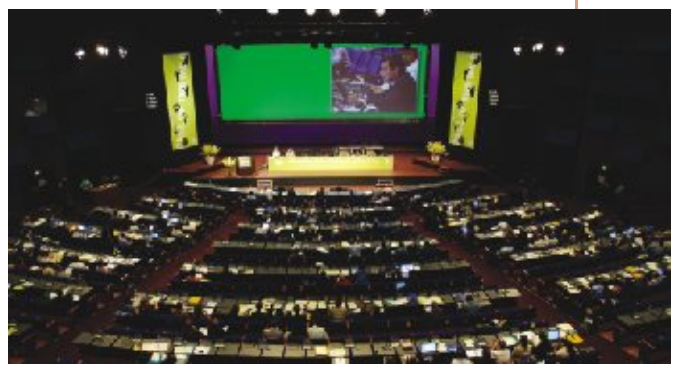
Airport	(Freight Movements in Tonnes)	
	2006-2007	2005-2006
Mumbai	3 28 022	2 88 960
Delhi	2 73 463	2 73 410
Chennai	1 95 195	1 67 853
Bangalore	97 704	81 991
Kolkata	36 379	32 164
Hyderabad	21 715	16 949
Ahmedabad	4126	3614
Goa	964	1356
Trivandrum	30 465	23 280
Calicut	10 691	9193
Guwahati	50	140

What are the key agencies contributing to wildlife crime enforcement:

Wildlife Institute of India

The major agencies contributing to wildlife enforcement in India and their broad roles are listed as follows:

1. **Directorate of Wildlife Preservation, Ministry of Environment and Forests, Government of India:** CITES Management Authority. Works on national policy and legislation related issues on wildlife.
2. **Wildlife Crime Control Bureau:** A newly created federal agency on enforcement and regulation of wildlife crime and has multi agency representation.
3. **State Forest Departments:** Responsible for the management of forest and wildlife resources and related enforcement within respective states.
4. **State Police Departments:** Enforcement and crime investigation within respective states.
5. **Central Bureau of Investigation:** A federal agency entrusted with criminal investigations and the nodal agency for Interpol in India.
6. **Indian Customs:** A federal agency for regulating trade across international borders.
7. **Department of Revenue Intelligence:** A federal agency working on collection of intelligence about smuggling of contraband goods, narcotics, under-invoicing, over-invoicing etc. through sources in India and abroad and analysis and dissemination of such intelligence to the field formations for action;
8. **Indian Army:** Present along remote border areas, it helps to monitor trans-border activities.
9. **Paramilitary including Coast Guard, ITBP, SSB, BSF, CISF etc.:** Present on all international borders, airports, seaports etc., it monitors trans-border activities.
10. **Directorate of Forensic Sciences, Ministry of Home Affairs, Government of India:** A premier federal agency on forensics that provides specialised support to enforcement agencies.
11. **State Forensic Directorates:** State agencies providing support to state enforcement agencies on forensics.
12. **Director, Wildlife Institute of India (WII):** CITES Scientific Authority. WII is a premier autonomous institution providing support in research and training on wildlife management and enforcement issues. It also has a modern facility for wildlife forensics.
13. **Director, Zoological Survey of India:** CITES Scientific Authority
14. **Director, Botanical Survey of India:** CITES Scientific Authority
15. **Director, Central Marine Fisheries Research Institute:** CITES Scientific Authority



CITES Conference of Parties meeting in progress

CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) is an international agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival.

Widespread information nowadays about the endangered status of many prominent species, such as the Tiger and elephants, might make the need for such a convention seem obvious. But in the 1960s, at the time when the ideas for CITES were first formed, international discussion of the regulation of wildlife trade for conservation purposes was relatively new. With hindsight, the need for CITES is apparent.

Annually, international wildlife trade is estimated to be worth billions of dollars and to include hundreds of millions of plant and animal specimens. Levels of exploitation of some animal and plant species are high and the trade in them, together with other factors, such as habitat loss, is capable of heavily depleting their populations and even bringing some species close to extinction. Many wildlife species in trade are not endangered, but the existence of an agreement to ensure the sustainability of the trade is important in order to safeguard these resources for the future.

Since the trade in wild animals and plants crosses borders between countries, the effort to regulate it requires international co-operation to safeguard certain species from over-exploitation. CITES was conceived in the spirit of such co-operation. Today, it accords varying degrees of protection to more than 5000 species of animals and 28 000 species of plants.

CITES was drafted as a result of a resolution adopted in 1963 at a meeting of members of IUCN, the International Union for the Conservation of Nature. The text of the Convention was finally agreed at a meeting of representatives of 80 countries in Washington DC., on 3 March, 1973. On 1 July, 1975, CITES entered into force. The original text of the Convention was deposited with the Depositary Government in the Chinese, English, French, Russian and Spanish languages, each version being equally authentic.

CITES is an international agreement to which States (countries) adhere voluntarily. States that have agreed to be bound by the Convention (joined CITES) are known as Parties. Although CITES is legally binding on the Parties —in other words they have to implement the Convention—it does not take the place of national laws. Rather it provides a framework to be respected by each Party, which

has to adopt its own domestic legislation to ensure that CITES is implemented at the national level. For many years, CITES has been among the conservation agreements with the largest membership, currently 175 Parties.

How CITES works

CITES works by subjecting international trade in specimens of selected species to certain controls. All import, export, re-export and introduction from the sea of species covered by the Convention has to be authorised through a licensing system. Each Party to the Convention must designate one or more Management Authorities in charge of administering that licensing system and one or more Scientific Authorities to advise them on the effects of trade on the status of the species.

The CITES species

Roughly 5000 species of animals and 28 000 species of plants are listed in the three CITES Appendices. The species are grouped in the Appendices according to how threatened they are by international trade. They include some whole groups, such as primates, cetaceans (whales, dolphins and porpoises), sea turtles, parrots, corals, cacti and orchids and in some cases only a subspecies or geographically separate population of a species (for example the population of just one country).

The Conference of the Parties (CoP), which is the supreme decision-making body of the Convention and comprises of all its Member States, has agreed on a set of biological and trade criteria to help determine whether a species should be included in Appendices I or II in Resolution Conf. 9.24 (Rev. CoP13). At each regular meeting of the CoP, Parties submit proposals based on those criteria to amend these two Appendices. Those amendment proposals are discussed and then submitted to a vote.

The Convention also allows for amendments by a postal procedure between meetings of the CoP (see Article XV, paragraph 2, of the Convention), but this procedure is rarely used.

Snow Leopard *Uncia uncia* skin

The range of wildlife species included in the Appendices extends from leeches to Lions and from pine trees to pitcher plants. While the more charismatic creatures such as bears and whales may be the better known examples of species protected under CITES, the most numerous groups include many lesser known plants and animals such as aloes, corals, mussels and frogs.

The Appendices

Appendix I includes species threatened with extinction. Commercial trade in specimens of these species is permitted only in exceptional circumstances.

Appendix II includes species not necessarily threatened with extinction, but in which trade must be controlled in order to avoid utilisation incompatible with their survival.

Appendix III contains species that are protected in at least one country, which has asked other CITES Parties for assistance in controlling the trade. Changes to Appendix III follow a distinct procedure from changes to Appendices I and II, as each Party is entitled to make unilateral amendments to it.

A specimen of a CITES-listed species may be imported into or exported (or re-exported) from a State party to the Convention only if the appropriate document has been obtained and presented for clearance at the port of entry or exit. There is some variation of the requirements from one country to another and it is always necessary to check on the national laws that may be stricter. The basic conditions that apply for Appendices I and II are described below.

Appendix I Specimens

1. An import permit issued by the Management Authority of the State of import is required. This may be issued only if the specimen is not to be used for primarily commercial purposes and if the import will be for purposes that are not detrimental to the survival of the species. In the case of a live animal or plant, the Scientific Authority must be satisfied that the proposed recipient is suitably equipped to house and care for it.
2. An export permit or re-export certificate issued by the Management Authority of the State of export or re-export is also required. An export permit may be issued only if the specimen was legally obtained, the trade will not be detrimental to the survival of the species and an import permit has already been issued.

Hawksbill Turtle *Eretmochelys imbricata*, CITES Appendix I

A re-export certificate may be issued only if the specimen was imported in accordance with the provisions of the Convention and, in the case of a live animal or plant, if an import permit has been issued.

In the case of a live animal or plant, it must be prepared and shipped to minimize any risk of injury, damage to health or cruel treatment.

Appendix II Specimens

1. An export permit or re-export certificate issued by the Management Authority of the State of export or re-export is required. An export permit may be issued only if the specimen was legally obtained and if the export will not be detrimental to the survival of the species. A re-export certificate may be issued only if the specimen was imported in accordance with the Convention.
2. In the case of a live animal or plant, it must be prepared and shipped to minimize any risk of injury, damage to health or cruel treatment.
3. No import permit is needed unless required by national law. In the case of specimens introduced from the sea, a certificate has to be issued by the Management Authority of the State into which the specimens are being brought. This is applicable to species listed in Appendix I or II. For further information, see the text of the Convention, Article III, paragraph 5 and Article IV, paragraph 6.

Appendix III Specimens

1. In the case of trade from a State that included the species in Appendix III, an export permit issued by the Management Authority of that State is required. This may be issued only if the specimen was legally obtained, and in the case of a live animal or plant, if it will be prepared and shipped to minimise any risk of injury, damage to health or cruel treatment.
2. In the case of export from any other State, a certificate of origin issued by its Management Authority is required.
3. In the case of re-export, a re-export certificate issued by the State of re-export is required.

In its Article VII, the Convention allows or requires Parties to make certain exceptions to the general principles described above, notably in the following cases:

- for specimens in transit or being transhipped [see also Resolution Conf. 9.7 (Rev. CoP13)];
- for specimens that were acquired before CITES provisions applied to them (known as pre-Convention specimens see also Resolution Conf. 13.6);
- for specimens that are personal or household effects (see also Resolution Conf. 13.7);
- for animals that were "bred in captivity" [see Resolution Conf. 10.16 (Rev.)];
- for plants that were "artificially propagated" [see Resolution Conf. 11.11 (Rev. CoP13)];
- for specimens that are destined for scientific research;
- for animals or plants forming part of a travelling collection or exhibition, such as a circus.

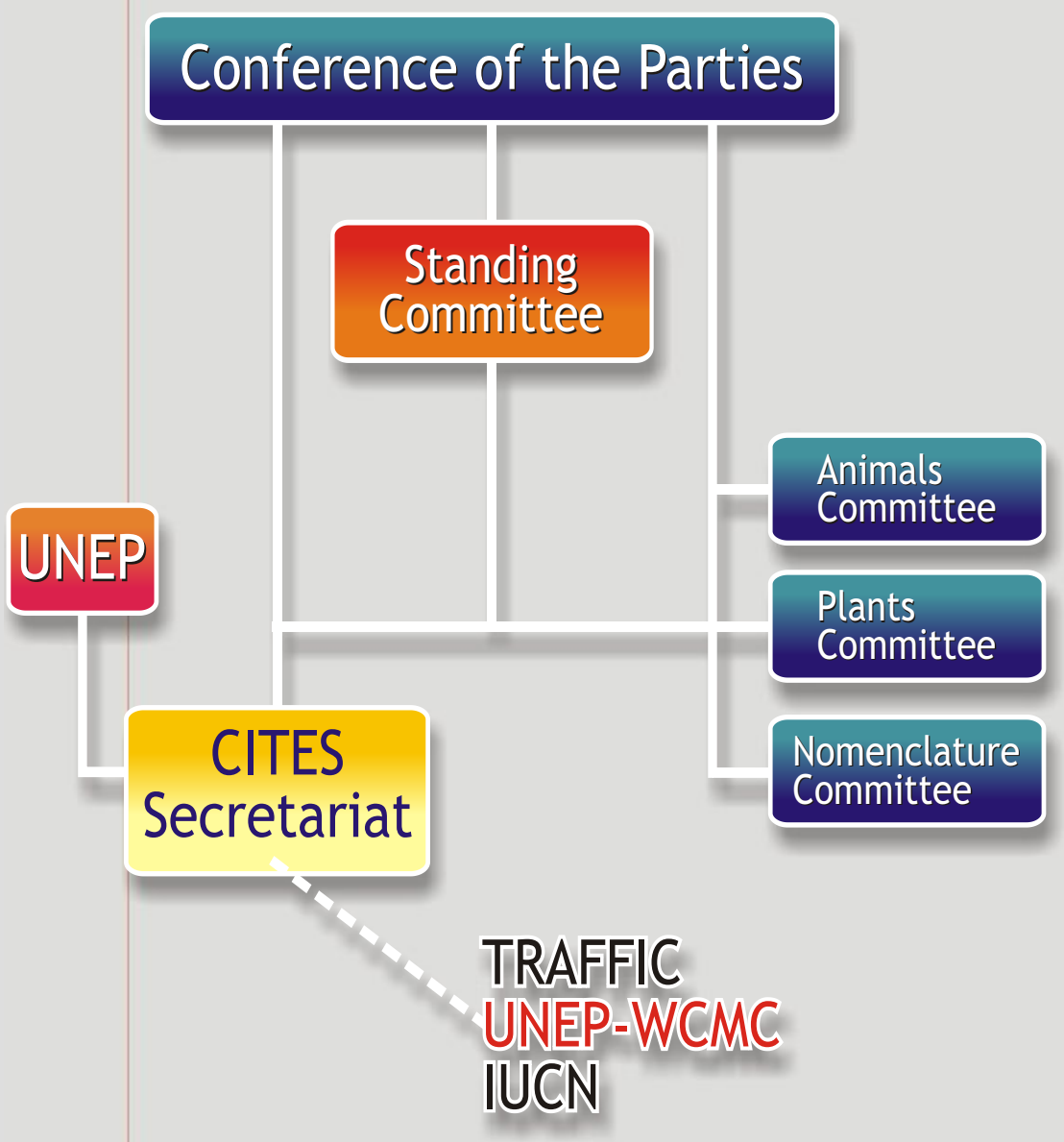
There are special rules in these cases and a permit or certificate will generally still be required. Anyone planning to import or export/re-export specimens of a CITES species should contact the national CITES Management Authorities of the countries of import and export/re-export for information on the rules that apply.

When a specimen of a CITES-listed species is transferred between a country that is a Party to CITES and a country that is not, the country that is a Party may accept documentation equivalent to the permits and certificates described above.

Agarwood *Aquilaria malaccensis,* widely used as a fragrance

Aquilaria spp. are included in CITES Appendix II

The Structure of CITES



Wildlife Crime as Transnational Organised Crime


Bear paws

"Transnational Crime" includes criminal offences which directly or indirectly involve more than one country.

Groups involved in such transnational crime vary considerably in structure, strength, size, geographical range, and the scope and diversity of their operations. Operating at the international level, they usually have a complex organisational structure run by a group of people acting together to commit one or more serious crimes with the purpose of obtaining, directly or indirectly, an economic or a material benefit. "Money laundering" or the recycling of illicitly obtained money has an important place in the activities of such a group.

Globalisation as a driving force for transnational organised crime

Increasing globalisation beginning in the 1990s has helped criminal organisations expand their activities and gain global reach. Globalisation of financial, commercial, transportation and communications networks has enabled buyers and sellers to locate each other—often without actual physical contact, identify points of common interest, and establish terms of co-operation.

In today's new world, the connectivity and communication among different parts of the world is easy and cheap. It is believed that these benefits of globalisation, including those such as expansion of trade and relaxation of stricter border controls, have also been effectively utilised by criminal networks to boost their criminal enterprise. Such transnational criminal organisations have also exploited expanding financial markets and rapid technological developments. In effect, such crime networks also indulge in a diverse range of criminal activities, benefiting from an in-depth understanding of the enforcement systems in place and the reach and ability to take risks to achieve their goals. The globalised world, with shrinking barriers, also aids the linkages between such organised criminal endeavours. The internet, as a virtual market for goods and services of all kinds and a tool that connects the entire globe seamlessly, is an apt illustration of this breaking of barriers.

Some characteristics of transnational organised crime

- Misuse of legitimate business structures and the transport sector in particular.
- Often thrives on the absence of effective governance regimes, especially in unstable political conditions, most often in the "developing world".
- Reliance on international infrastructure systems (financial, commercial, transportation, and communications) that offer high anonymity and numerous access points.
- May exercise significant influence on business, politics, press, public administration, and other spheres of public life.
- Launder their assets through legitimate businesses.

Some examples of transnational organised crime

- Drug trafficking, especially in synthetic drugs
- Smuggling and trafficking in human beings, especially linked to illegal immigration
- Commercial fraud, especially with respect to high taxation value goods
- Identity fraud, involving theft and misuse of credit card information
- Counterfeiting of currency
- Commodity counterfeiting and intellectual property theft
- Money laundering
- Illegal armaments

Wildlife crime as a transnational organised crime

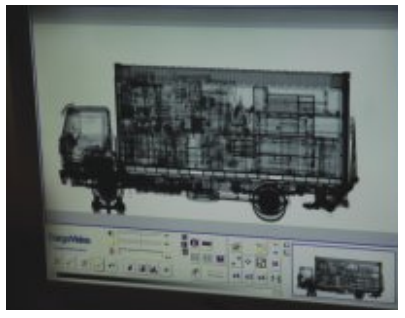
Given below are some snapshots of the *modus operandi* of transnational organised wildlife crime in India:

Cordyceps on sale

Truckloads of Red Sanders seized in Nepal

- A Tiger is poached in South India After a short gap, news of another Tiger poaching emerges from Western India. The *modus operandi* and even the players involved may be the same or closely related groups. Skins and bones from Tigers poached from various parts of India are collected as one consignment at one place, say Delhi or Siliguri. Such consignments may also have Leopard skins, otter skins and other wildlife products added to it from other sources. The bulk buyer, often from another country "inspects" the consignment and as a precaution against fraudulence, duly affixes his signature on the products. The products make their way to Nepal, China or other countries across a land route, sometimes wrapped in old newspapers from India. They are usually hidden in trucks carrying other legitimate merchandise or are mis-declared, e.g. as bales of cloth.
- Star Tortoises are collected in small numbers from various parts of the Indian mainland, to form consignments of hundreds, sometimes even thousands, which are then smuggled by air to Malaysia and other countries by carriers in their personal baggage. Traders in Malaysian pet shops confidently assure fresh supplies of the species, found only in India, Pakistan and Sri Lanka, indicating a well oiled regular supply chain in operation. The species is also found commonly in pet shops in Japan, indicating the spread of the trade. Incidentally, the species is not reported to breed in captivity!
- Red Sanders *Pterocarpus santalinus*, a high value timber found mainly in Andhra Pradesh and whose export in the form of logs is banned under CITES regulations, has advertisements on the internet from buyers asking for such logs sourced from India. The logs, traditionally smuggled from South Indian ports mainly to Japan are now increasingly being smuggled by land routes across the Himalayas into Nepal and onward to China.
- The major players in this trade are generally identified as few, most of whom have other "legitimate" businesses to cover their tracks with regards to the economic gains made by them.
- Many such players are from well identified localities and sometimes ethnic groups, with close family and social ties with each other.
- When such offenders are apprehended, they seem to manage access to high priced legal assistance with ease, even when such persons may outwardly appear to be of meagre financial means.
- Well organised groups try and monopolise collection of *Cordyceps sinesis*, the caterpillar fungus from high altitude grasslands, just after snow melt. The market for this, (sold at around INR 1 00 000 a kg at 2010 prices) is usually outside India in neighbouring countries. Often the same dealers that patronize other illegal products are also known to trade in *Cordyceps*.
- Surveys of the pet trade in Southeast Asia reveal the presence of many species, which could be of Indian origin. This demand is being regularly met from a "supply source" over several thousand kilometres away.

Star Tortoises on sale in a Japanese pet shop



Containers being scanned at an international port

All the above case scenarios are not fiction, but snapshots from various actual investigations in the illegal wildlife trade in India. They are nevertheless sufficient to establish the clear transnational and organised nature of the illegal wildlife trade.

This is serious and organised transnational crime, as defined by UNODC (United Nations Office on Drugs and Crime).

Terrorism/insurgency and organised transnational crime

Terrorism and insurgency are generally driven by ideology and involve violence aimed at striking terror into people or overthrowing sovereign governments. Such efforts require considerable financial support. However, with increasing transnational co-operation against terrorism, covert or overt state sponsorship of such activities is declining. This is forcing terrorist and insurgent groups to find alternative sources of financial support that can lead to alliances for mutual benefit, where terrorists/insurgents enter agreements with transnational crime syndicates solely to gain funding, without directly engaging in commercial activities or compromising their ideological identity. Profit dominates ideology as the main driving force for operations by terrorists/insurgents.

Ivory carvings

In the Indian context, this needs special attention, given that terrorist and insurgent groups may be active in some of the country's border areas and/or use them as crossing points. Enforcement and intelligence agencies working along such borders are likely to come across considerable intelligence on wildlife crime networks but the immediate relevance of such intelligence may not be fully understood or appreciated given other priorities and concerns of "national security". It may be pertinent to flag the fact that the same networks that indulge in illegal cross border wildlife trade may also be involved in other crimes including drug and armament running. Though evidence of such links is purely anecdotal and further research needs to be done, it is not inconceivable that ill-gotten economic benefits from such criminal activity may also be channelled to support acts of insurgency/ terrorism and other similar offences against the state/nation.

The response to organised transnational wildlife crime

The fight against organised transnational wildlife crime, therefore requires a multi-disciplinary intelligence-led approach in order to disrupt criminal activities (dismantle criminal organisation structures) effectively, bring offenders to exemplary justice and deprive them of the proceeds of crime; in effect, to demonstrate before the public that such crime does not pay and that the state is willing to go the extra mile to ensure that such criminal efforts will be targeted and destroyed.

This implies drawing on dedicated resources, generating specialised intelligence and creating a system to evaluate effectively and act upon all information that is available to law enforcement agencies, thus identifying and attacking the most threatening criminal groups. Law enforcement action should, wherever possible, focus mainly on the upper levels of the organised crime groups, including their logistics, financing, assets and those who facilitate their activities. Effective action with regard to the seizure of assets can be a very effective deterrent.

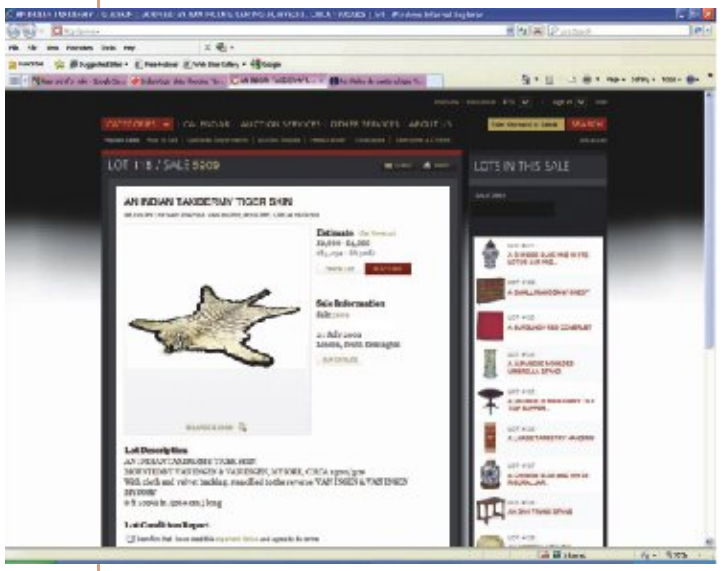
Information on the outcomes of and difficulties in such investigations and prosecutions should be freely shared with regional partners who may be equal victims of such crime. While fostering good relations, this will also help create a convivial environment for future sharing of intelligence and joint action. Constant upgrading of skills will be required through structured capacity building programmes, both for establishing preventive mechanisms through consultation on regulations, products, effective use of technology and with a view to improving crime detection and investigation, finally leading to successful conviction.

The development of standard curricula and modules to strengthen wildlife enforcement would include competencies for:

- strengthening field level crime prevention strategies
- the systematic use of financial and economic intelligence in discovery and investigation into organised crime
- fighting the use of technology by criminals by increased and effective use of technology by enforcement agencies.
- promoting multi-disciplinary intelligence-led law enforcement
- effective prosecution and successful conviction.

A large seizure of elephant tusks

The Internet as a Tool for Illegal Wildlife Trade



The use of computers and the internet has grown exponentially over the last decade. Indeed, for many individuals it is an integral part of their daily lives. With little more than a click of a mouse, people can communicate, transfer information, engage in commerce or share any other mutual interest.

Especially with respect to bringing together commercial interests, the internet has made physical location virtually redundant. Buyers and sellers can reach out to each other with ease and speed about their requirements and products, erstwhile constraints of time and space no longer being an insurmountable barrier before them. Unfortunately, wildlife criminals exploit these same technologies to offer products from threatened wildlife. Many such products are openly offered for sale on popular websites across the globe. These may include products from high profile species such as Tigers, rhinoceros, elephants and marine turtles.

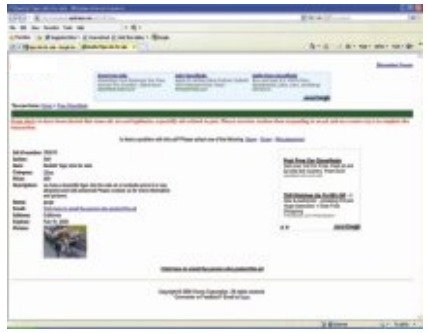
Recent studies by TRAFFIC have documented the growing trade in wildlife products on the internet. A TRAFFIC study published in July 2007 found 4291 advertisements for illegal wildlife products on auction sites serving mainland China, Hong Kong, and Taiwan over an eight-month period.

A 2004 study by TRAFFIC on the status of ivory trade in the United States of America also found an active internet trade in ivory, advertised as being derived from elephant tusks procured via sellers based in China. TRAFFIC found that the operators of these web-based "stores" routinely ship elephant ivory to the United States of America via express delivery service, and even offer falsely to label the shipments as containing "bone carving."

Other reviews have also found evidence of such large scale trade on English language internet sites. For example, a one week intensive survey by the International Fund for Animal Welfare (IFAW) in January 2005 documented over 9000 wild animal products and specimens and live wild animals for sale, predominantly from species protected by law. The majority of these were offered for sale by private individuals.

Some typical characteristics of such internet based trade are as follows:

- Legal trade in CITES listed species and derivatives, particularly for those listed in Appendix II is possible and the illegality of trade cannot be determined simply from an offer for sale on the internet. Traders often take advantage of this.
- Domestic trade in many species of wildlife could be legal in specific countries, even when their international trade is illegal. Offers for sale could deliberately obscure this significant fact or bury it in fine print.
- There is rampant misdeclaration on the source of such products and many species could be offered for sale as "captive bred specimens" where no such facility may actually be registered with the relevant CITES authorities as required. In cases of ivory, carved specimens have also falsely been declared as pre-CITES Convention in Europe, although the actual depicted specimen on the web is certainly of very recent origin.
- Auction sites which trade in wildlife have often limited voluntary information for users. Such information, if at all available, is often inadequate and difficult to access.
- Typically, offers for sale usually do not mention requirements for CITES or other required documentation and when such documentation is promised, their authenticity and veracity also needs to be established.
- All buyers and sellers may not be knowingly breaking the law. In the lack of clear, easily accessible information, people may unwittingly continue to be attracted to this trade.
- Possibly, a significant part of the trade could involve fraudulence. Non delivery fraud is common for a wide range of consumer products in parts of the world and there is reason to believe that it is no different for wildlife products.
- As websites have a virtual existence, it is even more difficult to track and verify products before the actual sale.
- The websites could typically be hosted on servers in countries different from the source of the products they trade in, making it difficult in terms of legal jurisdiction for enforcement officials.



The Indian Perspective:

India has emerged as a key focal point in the development and growth of the internet. Many websites, especially auction sites with region specific content have offered "illegal wildlife items" for sale from time to time.

Some snapshots are as follows:

- In early 2002, an e-auction website in India offered for sale a Tiger skin, touted as the world's largest at 11 ft 7 in, for USD 10 00 000! It turned out that the owner of the skin had a valid ownership certificate as prescribed under the *Wildlife (Protection) Act, 1972*.

By an amendment brought about in 2003 in the Wildlife (Protection) Act, 1972*, it has been prescribed that a person can obtain any captive animal, animal article, trophy or uncured trophy specified in Schedule I and Part II of Schedule II,* ***only by way of inheritance.*** *(Sec. 40 (2A & B). Thus commercial trading in all such wildlife products is prohibited.*

The website mentioned above has now added items covered by the *Wildlife (Protection) Act, 1972* to its list of items forbidden for sale.

- The International Fund for Animal Welfare (IFAW) has also documented Shahtoosh shawls for sale on an Indian website on 19 January 2005. These expensive shawls are made from the wool of the Tibetan Antelope *Pantholops hodgsonii*. Although prices were not advertised, on enquiry it was suggested that shawls started from GBP 450 and that delivery of the same to the UK could be "arranged".
- Social networking sites are the current rage in connecting with the larger world. The arrest of two wildlife traders in Meerut, Uttar Pradesh, on 26 August, 2008 suggests that they were using such sites for promoting illegal sale of wildlife products. Several endangered species including Hill Mynas and Peacock chicks were recovered from their possession.

Enforcement challenges:

The internet presents new and significant challenges for law enforcement across all levels. These include:

- the need to track down and identify the actual face of the criminal behind such internet based wildlife offences .
- Once they are identified, a jurisdictional authority needs to be established for enforcement as often the criminal may be in a different country.
- Electronic data are perishable, easily deleted, manipulated and modified with little effort. Thus the collection, collation, evaluation and presentation of electronic evidence is a challenge.
- The need for trained and well-equipped personnel to gather evidence, investigate and prosecute these cases.
- Increasing consumer awareness in key markets.

Enforcement actions include:

- Keeping a track of such websites and the products they may offer.
- Acting as decoy customers to explore and establish the nature of the products on offer and their specific illegality.
- Identifying key players and apprehending them with evidence.
- Interfacing with site managers to stop advertising of such merchandise and initiate appropriate legal action where such support is not forthcoming. Sec 52 (abetment) of the *Wildlife (Protection) Act, 1972* could be a good beginning!

- Effective prosecution.

As a response to this growing menace, Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) at the 14th meeting of the Conference of the Parties (CoP) at The Hague, Netherlands, in June 2007 adopted a Decision to convene a workshop to confront escalating levels of this anonymous and as-of-yet unregulated form of trade posing a threat to our biodiversity.

Part - II

“One who knows the enemy and knows himself will not be endangered in a hundred engagements. One who does not know the enemy but knows himself will sometimes be victorious, sometimes meet with defeat. One who knows neither the enemy nor himself will invariably be defeated in every engagement.”

Sun Tzu, *Art of War*

Some Methods of Poaching in India

Criminals use a variety of tools and methods to poach wild species. Some of the commonly known methods are listed below:

Firearms:
Target: Most mammals, especially elephants & rhinos, birds etc.
Shooting remains a popular tool for poaching wild animals and birds. The choice of weapon depends upon the target species and its value. Common privately owned weapons such as 12 bore single or double barrelled guns and. 315 rifles are usually the weapons of choice. However in many cases, use of semi automatic or automatic weapons has also been recorded. In the interior areas of the country, use of muzzle loader guns is still prevalent.

Guns make a lot of noise and can help pinpoint a scene of crime. Hence, they are generally used only when the species is of sufficiently high value and/or the poacher is confident of a quick getaway.

Guns are not preferred in cases where the skin of the species commands a high value.


Cartridges recovered from a poacher


Gun shot marks on a skin

Leg traps:
Target: Tigers, Leopards, otters, deer species etc.
Leg traps have emerged as the most dangerous threat to species like the Tiger, Leopard and otters. Made of low cost local materials, these spring-triggered traps are concealed along forest trails that are frequently used by the target species. One end is tied with a steel chain to a nearby tree. Once any animal steps on the concealed trap, the spring is released and the foot of the animal is immediately trapped in the jaws of the trap. Usually, the animal cannot escape from the trap and is easily killed by poachers.


Leg traps

Wire traps and snares:
Target: Smaller mammals, may even trap larger animals by accident.
These traps are usually made of high strength wires or motorcycle gear wires etc. They are a very crude but deadly method of poaching. A wire loop or a series of wire loops is laid across an animal trail in the forest. The animal accidentally gets its legs or neck caught in this and the more it struggles, the more the noose tightens, leading to incapacitation. The trapped animal is easy prey for poachers. On several occasions, larger animals like Leopards and Tigers are also known to be caught in such snares.


A Leopard killed in a snare

Poisoning:
Target: Tigers, Leopards, elephants.
This is a preferred mode for retaliatory killings, where the sole aim is to get rid of any species causing damage. A cattle killed by a predator like the Tiger or Leopard may be located and laced with commonly available pesticides and insecticides. When the carnivore returns to feed on the kill, due to a poor sense of smell that does not allow it to notice the deadly chemical added to the kill, it feasts on it and dies a painful death. For elephants, the poison is usually mixed with the local brew, which the pachyderms are very fond of. Poachers are known to add poison to waterholes in summer to target wild species.

Poisoned arrows:
Target: From birds to elephants
This is a special poaching tool in which a specific community from Arunachal Pradesh is believed to excel. Tubers of highly poisonous species (believed to be aconites) are collected from high altitude areas. These tubers are crushed and a thread dipped in the poisonous extract is wound on the shaft of an arrow which is then fired using a crossbow or a muzzle loader. The crossbow is silent and can be locally assembled. Once the poison comes into contact with the broken skin, it is easily absorbed in the blood stream and causes strong neurotoxic reactions that lead to a total loss of muscular control and finally death. Many tuskers were killed in Corbett National Park in Uttarakhand in 2001-2002 using this technique. It has also been used in Orissa for elephant poaching.


Poisoned arrows; the larger arrows were used to kill wild elephants

Electrocution:
Target: Small mammals to elephants
Metal wires erected around agricultural fields are sometimes energised using domestic electric supply (220 Volts AC). Any animal which comes into contact with such energised lines meets a painful death. From small mammals like wild boars to wild elephants, a diverse range of species can be killed by such illegal electrical fencing.

In Eastern India, loops are run from high tension electrical transmission lines and left hanging on rhino trails. Rhinos coming into contact with such high voltage lines are killed and their horns are removed by poachers. Other animals such as Tigers, elephants, wild boar etc. are also killed by such deliberate electrocution.

Pit Method:
Target: Rhinos, elephants
This is derived from ancient techniques of capturing large wild mammals, including elephants. The method comprises of digging a large pit on the regular trail of a species like the rhino and concealing it. Once the animal falls into the pit, it can be killed by the poachers. The method is still used occasionally for poaching of rhinos in Assam.

An elephant killed by electrocution

Netting:
Target: Small mammals, birds, butterflies etc. and marine species.
The size of the nets is determined by the target species. Many nets used for capture of butterflies etc. are very specialised in nature and indicate well organised poaching efforts i.e. a premeditation to commit the crime. Nets could also be used for illegal fishing from water bodies in forests and protected areas.

Netting is also used by trawlers to capture marine species in the high seas. Marine turtles can be caught accidentally in fishing trawler nets.

A net used to trap small wildlife species

Harpooning:
Target: Marine species such as whales and Whale Shark *Rhincodon typus.*
A sharp projectile is used to hook the species which is allowed to run, while it is being gradually reeled in. After the species tires of running around, hunters can move in close and kill it.

A harpooned Grey Reef Shark *Caschashinus amblyrhynchos*

Bird trapping:
Target: Birds
A variety of techniques are prevalent for capturing birds. These range from a latex and bamboo method to using mice bait. Decoys are also used for attracting the target species. These may comprise of other bird species or even recordings of calls of some species. A wire mesh-encased cage with a protruding wooden platform is placed in a forest with a decoy inside it. Other birds attracted by the captive's cries alight on the platform and trigger an umbrella net that snaps them captive as well. Owls are often captured using such techniques. Chicks are also occasionally removed from their nests.

1.

2.

3.

1. A bird trapper with Rain Quail *Cotuinix coromandelica* **2.** A Pardi sets up a trap
3. Setting up a trap

Peregrine Falcon *Falco peregrinus* with eyelids stiched during training

Prevention of Wildlife Offences: Identifying Early Warning Signs

As a major strategy in the fight against wildlife crime, it is important to identify and interpret early warning signs. These signs can be read by most field personnel if they have the inclination for it and spend sufficient time in the field.

For a Protected Area or any other wildlife habitat to be secure, it is essential for the field manager to establish tactical dominance over the area. While it is critical to cover the area inside the Protected Area boundaries, referred to in intelligence parlance as the **"Area of Influence"**, it is equally important to know intimately the area immediately on the periphery of such an area, known as the **"Area of Interest"**.

- The first step is to establish intimate knowledge of the "Area of Influence".
- Maintaining detailed maps of neighbouring villages and habitations with important landmarks can be very vital. Similarly, a file with details of important community leaders, other influential persons, infrastructure and other places of interest will be very useful. By maintaining these over time, one can develop a clearer picture of the habits, influences, movement patterns, economic activities and key associations etc. of certain persons in the communities around the "Area of Influence" and in the "Area of Interest".
- Identifying places of group interactions such as liquor shops, tea stalls etc. in a village can yield very important information.
- If there are any known poachers or wildlife traders in such villages, any unexplained absence from their normal place of residence or a gathering at a certain place should arouse suspicion.
- Agricultural fields abutting forest areas, streams and forest trails at the edge of forests should be monitored for signs of snaring, trapping etc.
- Consumption patterns of cartridges for licensed guns around the Protected Areas should be carefully monitored and any sudden increase should be analysed and investigated.
- Livestock kills should also be monitored, particularly with reference to the possibility of poisoning of carcasses. Any unexplained or mass mortality of domestic species should be investigated as this could be a test run of a technique before use on wildlife species.
- Inside the "Area of Influence", it is important to monitor entry and exit points.
- A forest is an open resource and provides unlimited opportunities for anyone to enter it. To monitor such unwanted ingress, all forest trails leading into the forest, as also nullahs and streambeds should be monitored regularly for signs of unwanted human presence. Some trails are more preferred than others. Sometimes, the criminals might take a detour from the edge of the forest and join the trail at a later point, just to leave a false trail.
- Field staff regularly patrolling forest areas should be aware of the presence and movement patterns of major species such as Tigers, Leopards and Elephants in such areas. They should actively look for direct and indirect evidence of such species' presence on a regular basis. Any inconsistencies should be immediately investigated.
- Water bodies should be examined for signs of poisoning or of attempts at snaring or trapping around it. Sometimes, fish are killed using chemical additives. This can be detected by telltale signs of small fish floating dead on the surface. Signs of poison such as sulphur and other chemicals ground on rocks near the water are also a pointer to such criminal activity.
- Any signs of small fires or of camping in the forest should be investigated seriously as this could be an indication of a poacher's presence in the area. Some poacher communities are experts in lighting slow fires using twigs, which does not draw attention normally.
- The flight distance of animals and birds and their general demeanour in human presence is also an indicator of disturbance. In areas where hunting is common, animals are generally wary and keep a larger distance between them and humans. This is also true for areas which have less frequent human visitation and this needs to be factored in. Thus, animals in the relatively undisturbed "Core Zone" of a Protected Area generally have a larger flight distance than those in the "Tourism Zone". This is also one of the reasons that the sighting of wildlife can be generally lower in such "Core Zones".

A small fire lit by poachers

Scene of Wildlife Crime

The place where a wildlife offence has been committed or a probable accident leading to wildlife mortality has occurred is referred to as a scene of crime in this Handbook.

As soon as any such incident is reported, the Investigating Officer (I.O.), usually not below the rank of Ranger, should rush to the scene of crime. He should also inform other senior officials about the incident.

Significance of the scene of wildlife crime

1. The scene of crime holds the key to successful investigation of the case. The offender is likely to leave behind **vital clues** at the scene of crime. Many critical evidences are likely to be lost if the place is overrun by a large number of people, which is often the case.
2. The **quality and quantity of evidence** available at the scene of crime are likely to change rapidly with the passage of time. Gathering of people at the scene, weather conditions, light conditions etc. are some of the important factors that contribute to the destruction of much important evidence. Delay in visiting the scene of crime might affect the quality of investigation drastically.
3. **Prompt action** at the scene of crime may also lead to the arrest of culprits.
4. Promptness in reaching the scene of crime might lead to obtaining valuable information from the persons who may have information related to the offence. The **first set of information** received from such persons may be very valuable in establishing the direction of the investigation while the version obtained at a later stage is likely to be modified or edited due to various other considerations.
5. It is important for the investigating officers to understand that in many wildlife offences, the carcass may have been moved, often by other carnivores etc. to a place other than where the offence was actually committed, thus further complicating the scenario. As such, there can be a primary scene of crime and **it is possible to have several extensions**.
6. In order to investigate a crime successfully, it is absolutely essential for the investigating officer to **pay undivided attention** to protect, observe, process and record the scene of crime properly. Any damage, or tampering of the scene of crime, whether intentional or otherwise, would adversely affect the quality of investigation.
7. It is the job of the I.O. to **establish linkages** between the scene of crime and the suspect(s) through the circumstantial, corroborative and physical evidences. From the forensic point of view, it is only the physical evidences that provide the I.O. and the court the following information about the crime:
   i. Nature of crime
   ii. Time and place of commission
   iii. Targeted species
   iv. Manner in which the crime was committed i.e. *modus operandi*
   v. Particular weapon/tool used
   vi. Number and nature of persons involved (any specific group, tribe etc.)

From the interpretation and thorough analysis of the physical evidence, the I.O. decides about the follow up actions and the direction of investigation which may lead to recovery of the wildlife products removed and arrest of the suspect(s) .

Processing of the scene of wildlife crime

Processing of the scene of crime (SoC) is a highly systematic task for the investigating officer. The various steps are as under:

1. Usually, the wildlife crime related offences in the field are detected by forest staff at the level of forest guards and foresters during their patrols or on the basis of specific information. Their first step should be to ensure that **onlookers and undesirable persons do not disturb the scene** or end up destroying valuable evidence.
2. The senior- most field official at the spot should usually **assume responsibility** for the crime scene. He should take necessary steps to inform the Range Officer in whose jurisdiction the crime has occurred and secure the scene of crime till the arrival of the Range Officer. The actual scene of occurrence should be cordoned off.
3. Once the Range Officer or equivalent official has reached the scene of crime, he should take upon himself the responsibility of **securing the scene of crime** and undertake investigations till such time some one else is specifically nominated for this purpose by the Divisional Forest Officer/Wildlife Warden/Field Director to investigate the crime.
4. **Search boundary** - On the basis of a preliminary look at the scene of crime, the I.O. should decide the search boundary. This is especially important as most wildlife offences are likely to take place in forest areas. Natural features such as nullahs, trails etc. should be included within this search boundary as these are likely to yield more evidences about the crime.
5. In cases where poisoning appears to be a strong probable cause of death, a

Collecting evidence at the scene of crime

This button could link clothes recovered from a suspect, and hence the suspect to the scene of crime

larger area needs to be searched in order to **detect any other dead or affected wildlife or detect possible source(s) of poisoning** and secure it before any further damage is done.

6. After deciding the search boundary, the I.O. should systematically and thoroughly **search the scene** of occurrence.

a. The time required to search the scene of crime varies considerably and depends upon several factors such as size and nature of the area to be searched, complexity of crime, abundance or scarcity of physical evidences, weather and light conditions, availability of support facilities, manpower etc.

b. While searching a crime scene, the I.O. should not restrict his search at the eye level only as there may be many important physical evidences both below and above the eye level.

Sealing and labelling of evidence

c. Tree tops around the scene should be especially examined in detail as these are likely to be used as vantage points by criminals.

d. The search should always be conducted by persons in pairs so that nothing is lost.

e. The I.O. should mark and assign a number to each physical piece of evidence discovered during the search.

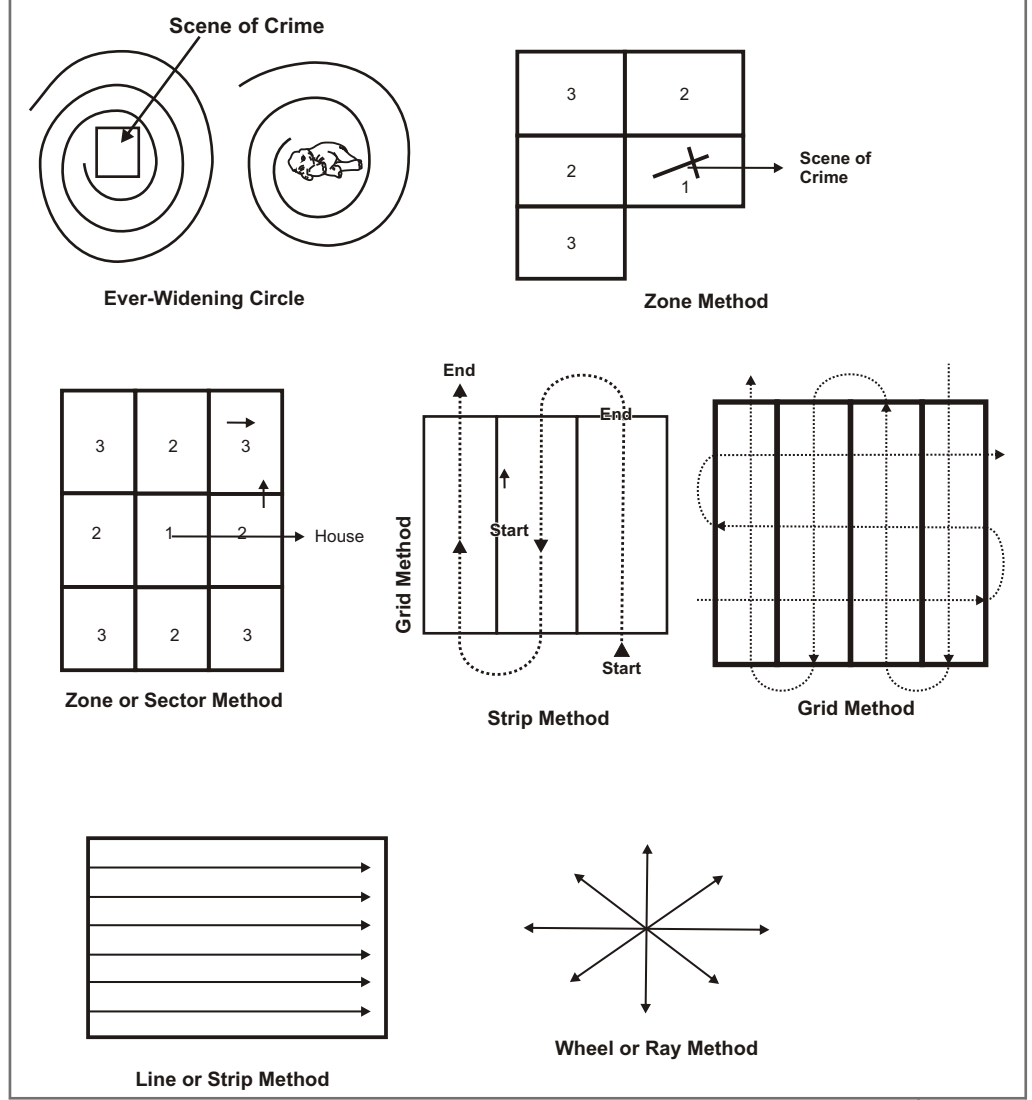
f. The I.O. should not leave the scene without completing the marking, numbering, recording (photography and sketch), collecting and packaging of all the physical evidences. It should be ensured that at any cost or at any stage of investigation, physical evidences are not damaged/destroyed or contaminated.

g. The chain of custody of the physical evidences should be maintained properly and recorded till these are handed over to the Forensic Science and/or Veterinary Laboratory for examination.

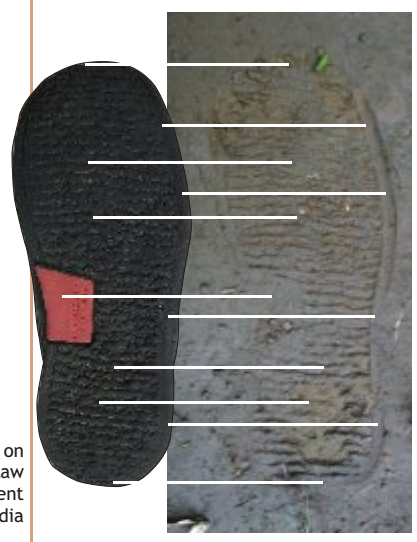
Every piece of evidence from a wildlife crime scene is important

7. **Different search methods** singly or in combination may be followed by the I.O. depending upon the nature of the area to be searched. Some of these are documented here. If the area of the scene of crime is small, strip or grid patterns should be followed. When the area is of significant size, the zone method should be adopted.

A blood trail



8. The search parties should be clearly briefed so that **they know what to look for**. They must not ignore anything, however small or insignificant this may appear to be. Some of the things they may look for are:
   a. Blood spoors
   b. Cloth or other fibres, caught on bushes
   c. Footprints
   d. Tyre marks
   e. Cartridge cases
   f. Implements possibly used for carrying out the crime
   g. Places where the offender(s) may have stayed or sheltered or laid an ambush in the forest. This could be above ground, on tree branches etc. These may yield other supplementary information such as wrappers of cigarettes or *bidis* smoked, of newspapers in which food or any other item may have been wrapped, salt packets, etc .
9. **Analysing foot or shoe prints**: Barefoot or shoe impressions are found in many crime situations. In forest areas, these are likely to be found on trails, water points near the crime scene etc. and as such an active search needs to be carried out specifically for this.
   a. Evidence may be available at the scene of crime in the form of a shoe, or a foot impression in blood, mud, dust or some other medium.
   b. Shoe or barefoot impressions are unique and individualistic.
   c. Whether barefoot or shoe, the impressions may be classified in two categories:
      i. Sunken impression created when a person walks on a soft surface such as mud and a depression results due to body weight.
      ii. Surface impression created when a person walks on a hard surface such as a hard forest trail and leaves behind impressions which may be due to mud, blood or any other materials.
   d. At all stages of processing footprints detailed photographs, preferably in colour, should be taken. A scale (usually a metre tape) should be placed by the side of the impression while taking photographs.



   e. Upon arrest, all shoes of the suspect should also be seized and examined. The details of the shoes should be mentioned in the arrest memo.
   f. Details of the shoes should be noted and similarly physical abnormalities of the foot should also be taken note of.
   g. Any soil or other particles that may cling to the shoes may be matched with the soil found at the scene of crime.
   h. The barefoot or shoe impressions found at the scene of crime are compared with the impressions obtained from the suspect.
   i. An inked impression of the sole of foot/shoe of the suspect should be obtained may be with or without socks.
   j. Study of the overall structure of barefoot
      i. Length
      ii. Width
      iii. Size of the toes
      iv. Distance between toes
      v. Size of the heel
      vi. Congenital abnormalities, if any
      vii. Occupational mark, if any
      viii. Injuries
      ix. Scars
      x. Any other detail
   k. Study of the Shoe
      i. Size
      ii. Make
      iii. Wear and tear
      iv. Condition of the sole
      v. Nature of materials adhering to the sole (e.g. mud on the shoe may be similar to the typical soil type from the scene of crime)
      vi. Blood or other stains

Collecting evidence at the scene of crime

A site map of the scene of crime

vii. Mark of wear
viii. Repairs
ix. Age of the shoe
x. Any other observation

10. **Sketch:** Once the marking and numbering is over, the I.O. should take measurements of the area and relative distances of the carcass and other physical evidences and attributes such as a nearby tree. He should then draw a sketch showing these details. Photographs and sketches are complementary to each other. The I.O. is required to draw a neat and clean sketch of the scene showing every important and relevant detail such as an accurate depiction of the dimensions of the scene, the location of all physical evidence and any other important features of the crime scene. It is important that the distances shown on the sketch be accurate and not the result of a guess or an estimate.
11. **Photography:** "A picture is worth a thousand words". The I.O. should ensure that the scene of crime is photographed in detail. These would include long, intermediary and close-up photographs. A metre tape or any such well known article may be placed alongside to give an idea of scale. Macro close-up photographs of individual material evidence found at the scene of crime such as nature of cuts, wounds, spent cartridges etc. may be very useful.
12. **Preliminary examination of the carcass:** While conducting the search, the I.O. should search the carcass systematically and thoroughly to collect physical evidence. This would primarily include any wounds, punctures etc. on the body, any discharges from any orifices and any body parts missing (e.g. could include claws, canines etc. in case of carnivores and ivory, molars, tail hairs in case of elephants). Any abnormality or unique feature that may also contribute towards establishing the unique identity of the individual animal may also be noted.
13. An **ultraviolet lamp** may be used to scan the carcass to bring out evidences which may hitherto be unseen to the human eye. This is especially true for fingerprints etc.
14. **Post-mortem:** After the preliminary examination by the I.O., the carcass may be subjected to post-mortem examination. The post-mortem should focus on probable cause and time of death and any special factors leading towards this. Any and every factor brought out by the I.O. during the preliminary investigation should be studied in detail during the post-mortem. Special procedures such as collection, preservation, labelling and packing of viscera, skin tissue, blood and hair samples, body fluid discharges, scats around the carcass etc. should be carried out with care and as per established procedure. In serious crimes, it may be useful to have the post-mortem video-graphed and photographed.

15. **Use of metal detectors**: Wherever there is suspicion of gunshot injuries leading to death, the use of a metal detector is highly recommended. A handheld or plate metal detector may be used on the carcass during post-mortem and during search of the crime scene. This may lead to the discovery of any remains of gunshot, spent cartridges etc. Plate metal detectors should be preferred as they provide deep search opportunities.
16. All the persons concerned with the crime including the person(s) who first noticed the crime should be **interviewed and their statements recorded.**
17. In case the statements yield vital information about the crime, the same should be **recorded before a Forest Officer not below the rank of an Astt. Conservator of Forests or a magistrate** so that later it is admissible as evidence during prosecution.
18. The I.O. should **write a detailed observation report** about the scene of crime. This needs to be re-emphasised as everything should be written down, irrespective of its immediate apparent significance. The faintest ink is more lasting than the strongest memory.
19. **Follow up**: On the basis of the circumstantial, oral and physical evidence, the I.O. should reconstruct the scene and decide follow up actions.
20. **Some forensic tools**: While specialised forensic tools developed by institutions like the Wildlife Institute of India and the Centre for Cellular and Molecular Biology, Hyderabad, deal with species and subspecies level identification of samples from scat, hair, meat etc., some other basic forensic tools previously used only for human related criminal offences are increasingly gaining popularity in investigation of wildlife offences.

Search using a metal detector

The Central Forensic Laboratories of the Directorate of Forensic Sciences, Ministry of Home Affairs, Government of India, located at Hyderabad and Chandigarh provide state of the art technologies for cracking digital crimes, criminal identification through DNA profiling, forensic analysis of explosives etc. and ballistic related crimes. The Government Examiners of Questionable Documents at Shimla, Kolkata and Hyderabad also provide support in identification of any important documents whose veracity and authenticity is needed to be established.

Post-mortem

Post-mortem in progress

A post-mortem can be a very valuable tool for collecting evidence that can lead to apprehension of the offenders in a poaching case.

It is important to approach the post-mortem with an open mind. Too often, even before the carcass has been opened, people on the spot have already concluded their opinion about the cause of death. This is compounded when such opinions are voiced by senior officials. This adds pressure on the personnel responsible for conducting the post-mortem and creates an unnecessary bias.

It is also useful to have the post-mortem conducted by veterinary doctors who have previous experience and expertise of working with wildlife.

In serious cases, the post-mortem should preferably be done by a specialised team of veterinary doctors.

It should be done in a clean and sterile manner so as to avoid any contamination of probable evidences and to ensure the safety of the personnel involved. All persons conducting the post-mortem should wear surgical gloves.

Finally, a post-mortem procedure is a specialist job and should be left to suitably qualified persons. These notes are aimed to guide the understanding of the process by other personnel with a professional interest in these proceedings.

Every detail of the procedure must be dutifully recorded using a voice recorder or a note pad. Never trust these to memory or keep it pending for writing at some later stage.

Doubtful cases should also be photographed and videographed. Please remember that this can be useful for training your own staff later.

A post-mortem procedure should address the following issues:

- General history and management of previous ailments in case of captive animals.
- General condition in which carcass was found: good photographs will be of great help.
- External examination
- Species
- Sex
- Age
- General condition: healthy or otherwise, external injuries if any, swellings, punctures or lacerations, trauma wounds, sign of capture or trapping, discharge, if any, from body orifices, position of penis - extended or relaxed, skin condition, eye condition etc.
- **All external punctures and wounds must be fully opened and investigated in detail to understand the probable cause of such a puncture or wound.**
- Any stool or blood at site of death should be collected for later examination.

***Rigor mortis* and post-mortem changes:**

- A carcass takes up to 24 hours to cool down. This is governed also by the general health condition of the animal, ambient temperature and the exposure of the carcass to rain and wind.
- Sometimes, body temperature may rise for some time after death, due to tissue metabolism.
- *Rigor mortis* or stiffening of the carcass sets in early in weak and emaciated animals. Usually, this begins to appear within 1-4 hrs. after death and lasts for about 20 h or even longer in exceptional cases. When decomposition sets in, the muscles soften and become reddish and watery.

Examination of internal organs:

All parts of an organ must be examined carefully and in detail. The following should be observed:

- Location and orientation
- Size and shape, including swelling, shrinkage, colour change etc., if any
- Presence of abnormal fluid including blood in body cavities: quantity, consistency and colour of such fluids should be noted and samples should be collected for further examination.
- Nature of contents in hollow organs
- Examination of eyes, pericardium, heart, lungs, liver, kidneys, spleen, stomach and intestine should be carried out in detail.
- Parasites, if any, should be recorded.
- The consistency of blood in the heart should be carefully examined.
- In ruminants, the rumen should be examined.

- All samples should be clearly labelled.
- Samples for histopathological examination:
  - ◊ Tissue samples collected should be fixed in a solution of 10% buffered neutral solution. While collecting tissues, samples from different locations, including some from normal portions, should be collected.
  - ◊ The fixing solution should be atleast 10 times the volume of the samples.
- For forensic examination, usually in cases of suspected poisoning, the samples are collected in rectified spirit or in saturated salt solution. The following is generally collected:
  - ◊ Stomach contents and walls~ 1 kg
  - ◊ Intestinal contents~ 1 kg
  - ◊ Liver~ small portion
  - ◊ Spleen~ small portion
  - ◊ Kidney~ small portion

All these are collected separately, sealed and kept under safe custody. A clear record of the chain of custody should be retained.

Note:
Wildlife Institute of India does not undertake histopathological or forensic examination of samples obtained during post mortem. Such samples are best sent to veterinary colleges or research institutions (like IVRI, Bareilly) for histopathological examination and to state and regional forensic labs for investigation of suspected poisoning cases.

Cause of death:
All deaths can be attributed to the failure of one or more of the essential pillars of life—the heart, lungs and the brain.

Common indicators of cause of death:
- **Lung Failure:**
  - ◊ Right ventricle dilated and filled with blood
  - ◊ Left side of heart dilated and filled with blood
  - ◊ Lung congested
  - ◊ Spleen contracted
- **Heart Failure:**
  - ◊ Pale colour of carcass
  - ◊ Heart contracted and empty
- **Brain Failure:**
  - ◊ Haemorrhage and infraction in brain
- **Electrocution:** Burn marks on points of contact and exit of electrical current.
  - ◊ Nature and intensity of external marks will depend on strength and duration of electrical current
  - ◊ Hardening of the brain
  - ◊ Endocardial haemorrhage
  - ◊ Ventricular fibrillisation

Alexandrine Parakeet *Psittacula cupatria,* a highly preferred species in bird trade

An AK-47 rifle and other arms recovered from poachers

While several implements, tools or weapons may be used to commit a wildlife crime in the field, use of a fire arm is usually a preferred mode.

Firearms:
The use of firearms in India is regulated by the Arms Act. In effect, every firearm requires an authorisation for its possession and use. However, there is also a thriving underground market in firearms where illegal weapons, either manufactured illegally or stolen or otherwise illegally obtained, are used for committing an offence.

The basic working of a firearm is as follows:
As the trigger is pulled, a hammer strikes the primer in the cartridge. This ignites the powder which releases a large amount of gases that subsequently expand very rapidly. These rapidly expanding gases propel the bullet along the barrel. If there are rifling grooves in the barrel, the bullet acquires a circular motion. Since the bullets are oblong shaped, they must spin in flight to be accurate. Generally, a bullet has a speed of between 250 to 1250 m/sec when it leaves the barrel.

Usually, field personnel will come across the following scenarios:

1. Recovery of a gun and/or spent/live cartridges from a suspect
2. Poaching, suspected to have been done using firearms

In case of recovery of a gun, it is important to establish a direct credible linkage between the gun recovered, the offence that has been committed and the accused. Towards this, the following needs to be established:

- **i.** That the gun is in working condition
- **ii.** That it has been fired recently
- **iii.** That there are fingerprints or other evidence establishing that the accused was in possession of or fired the gun
- **iv.** That the gun has a legible serial or other identification number
- **v.** That the person in custody of the gun has valid authorisation to own and carry the gun
- **vi.** That the cartridges match those recovered, if any, from the scene of crime or with those used for committing the crime

The serial number of a firearm is its most common identity

In situations where an offence appears *prima facie* to have been committed using a firearm, the following need to be done:

- **i.** Establish that the use of a firearm is the primary factor in the crime.
- **ii.** Try and recover guns, spent cartridges or any other evidence linked with the crime.

For achieving the above objectives, the following must be carefully remembered:
The trigger, trigger guard and the portion of the butt held for aiming are the most likely places to carry fingerprints. As such, the gun must not be held or carried by these parts as these will remove the fingerprints of the suspect.

The gun must not be cleaned or altered in any way. A recently fired gun is likely to have traces of powder in its barrel and sometimes even a fired cartridge in the chamber. These would establish the working condition of the gun and also sometimes link with any cartridge case recovered from the crime scene.

The gun, along with any cartridges, spent cases etc. must be immediately forwarded to a Government forensic lab to carry out scientific examination of the same. The forwarding is usually done by the Magistrate handling the case. As such, the investigating officer must present the firearm and other supporting material before the competent court with a prayer to have this forensically examined.

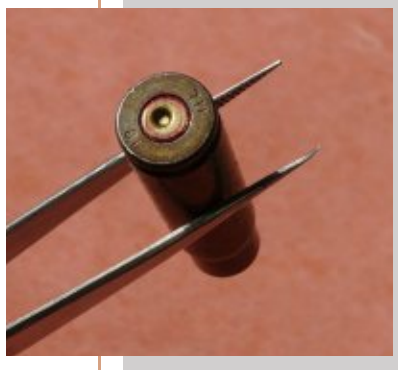
Principles of forensic examination of firearms:
No two firearms, even if of the same make and model, will produce identical marks on fired bullets and cartridge cases. Usually, most firearms leave a consistent set of marks on bullets and cartridge cases that pass through them. This leads to individual identification of firearms based on such patterns.

Characteristics of a firearm:

1. **Caliber :** Diameter of a bullet expressed in hundredths of an inch eg. 30 caliber. In Europe, the metric system is used and thus a 30 caliber would correspond to 7.62 mm here.
2. **Rifling pattern:** Grooves cut or formed in a spiral nature lengthwise down the barrel of a firearm. Most firearms have standard rifling patterns which can be used for identification.

Characteristics of a bullet or spent cartridge case:

1. **Caliber**
2. **Rifling impressions:** Impressions of the rifling which can be used to identify the firearm
3. **Firing pin impressions:** Indentations created by the pin of the firearm striking the primer of a cartridge. Sometimes, these can be unique in nature.
4. **Breech marks:** Created by impact with the breech face which holds the cartridge case in the firearm.
5. **Extractor marks:** From self loading or repeater weapons
6. **Ejector marks:** Ejectors are designed to expel the cartridge case from the firearm.



All these are generally used in combination with other characteristics for identification.

At the field level, the I.O.'s role would be limited to finding the weapon and any other bullets, cartridge case, accessories etc., securing them so that key evidences are not lost, establishing custody and sending them to an authorised forensic examiner. However, it is important to know what kind of conclusions can be drawn from these pieces of evidence so that adequate care is taken in collecting and securing them .

Important steps when a firearm is recovered:

- In case a person is found in possession of a firearm, the first step is to ask him/her for the license/authorisation for the same.
- Licences, if offered, should be checked for time and area of validity since most licences are valid for a particular state. Licenses can be valid for all India on special permission by the Home Department of a state.
- Each licence holder is authorised to carry only a certain number of cartridges at a given time. Check if this matches with those in their actual possession.
- All arms licences within a 10 km radius of any National Park or Sanctuary need to be registered with the Chief Wildlife Warden or the Authorised Officer, usually the Park Director (Section 34, *Wildlife (Protection) Act, 1972*). This also needs to be checked and if not done, should be treated as a violation of the WLPA 1972.

- The Forest Department is not the competent authority to take action under the Arms Act. As such, cases of recovery of arms should be immediately brought to the notice of the nearest police station where they can be proceeded against as a separate criminal offence.
- In poaching offences, the I. O. can press for cancellation of the Arms licence quoting illegal use of the firearm.
- In case the weapon is unlicenced, this can be used to establish enhanced criminality and demonstrates mens rea (i.e. premeditated criminal intent) on the part of the accused.
- The firearm must be sealed as it is and sent to the nearest forensic laboratory for examination, along with any cartridges, empties etc. recovered.

Intelligence Gathering

Setting up an intelligence network to fight wildlife crimes:
The prevention and control of most wildlife offences is governed by the typical ground situation in which these resources are found naturally. Intelligence is a key tool in the battle against wildlife crime. Any serious effort to identify individuals and groups indulging in wildlife crime requires a systematic approach to information collection and analysis.

Intelligence gathering for law enforcement refers to the collection, collation, evaluation, analysis, and dissemination for appropriate enforcement action, of information relating to criminal or suspected criminal activities.

Simply stated, intelligence is active information which is valued for its relevance rather than its detail or accuracy. This is typically in contrast with "data" which refers to information which is precise or particular, or "fact," which typically refers to verified information.

The key thing that distinguishes intelligence from news or other information is that it is based on analysis of primary information that can be acted upon to meet a specific set of objectives. Basic information, howsoever collected, is not intelligence in the practical sense until it has undergone a series of analytical processes that determine its utility for tactical or strategic law enforcement purposes.

Intelligence is valuable as it helps pre-empt criminal action, identifies offenders and their *modus operandi*, provides evidence for their conviction and generally helps prepare a proactive response to crime rather than a reactive one. "Intelligence" refers integrally to active data as well as the process and the result of gathering and analysing such information.

Good intelligence begins by trying to understand what needs to be known.

A Leopard skin seizure

Intelligence gathering:
Intelligence gathering is basically of two types:

- Covert intelligence: This is the gathering of intelligence using undercover operators, informers and informants in a clandestine/secret manner.
- Overt intelligence: This is intelligence gathered openly. The strength of this form of intelligence gathering is that it is based on facts, mostly already available and based on excellent analysis. Open and regular interaction with communities living around the Protected Area is a good example of such a technique.

  While the collection of intelligence may be done either covertly or overtly, using human resources **(HUMINT)** or electronic resources **(ELINT)** including communications intercepts **(COMINT)**, spy satellites **(IMINT)** to specialised technical methods **(MASINT)**, it is the analysis and assessment which provides the cutting edge to such intelligence.

Source of intelligence:
The primary source of intelligence on wildlife crimes can be communities who live on the periphery of wildlife resource rich areas such as Protected Areas. These would include forest dwelling communities or those living in the neighbourhood of forests. Other sources of intelligence could be:

- Persons from amongst communities/groups traditionally involved in wildlife crime.
- Well meaning and motivated citizens, who may be interested in preserving biodiversity.
- Paid informers or bounty hunters, interested in reward money.
- Interested parties/persons who may want to seek other favours in return for information.
- Other enforcement agencies.
- NGOs working for conservation, who in turn gather information from one or several of the sources above.

Running an informer network:
The motivation of each of these sets of persons is very different and accordingly they need to be handled very differently. This is most critical in the running of a good intelligence network. The person running the operation, usually one individual known as the "handler", must be able to instil quiet confidence amongst those who wish to share this information with him and must outwardly be able to encourage people to approach him freely.

On several occasions, the person providing the information chooses to remain anonymous and establishes contact on his own choice randomly and by phone or letters etc. While erratic, many times such maverick informants come up with some of the most valuable nuggets of intelligence.

The gathering of information can be done generally in two ways—**Passive**, where the handler waits for information of all kinds to reach him and then sifts through this to choose what is relevant, as against **Active**, where the field agents are guided to collect information along particular lines. A mix of both is generally the norm as

A large seizure of skins

the immediate significance of the information collected may not always be evident to the person collecting it in the first place.

All intelligence must feed into a database, so as to institutionalise the flow of such information and to facilitate its analysis, sharing and planning of a response accordingly.

Pre-requisites of the flow of good intelligence

- Who/where to provide information must be widely publicised and the address/telephone contact numbers provided must be monitored regularly. This should be regularly verified by random check by senior officers.
- All information received must be screened and acted upon without delay.
- Identity of the informer must be concealed if so desired by him.
- Resources MUST be readily available to buy the information/provide reward whenever required.
- Promises made, if any, to the informer must be fulfilled without any delay.
- The person who handles the informant must enjoy the trust of the person/s providing information.
- Regular contact /meetings must be maintained with local communities.

Steps towards organising an intelligence network

- Do a SWOT (Strength Weakness Opportunities Threats) analysis of forest and wildlife security at local and regional level.
- Based on the SWOT analysis, create special intelligence units at vulnerable locations.
- Members of this unit must be carefully screened for aptitude.
- Provide specialised training, equipment and incentives to such units in surveillance and interception.
- Establish well-defined procedures for intelligence flow and analysis.
- Identify potential informers and cultivate them.
- Try and identify potential criminals, based on parameters such as past records, associations etc. Monitor their movements and associations.
- Provide for adequate resources under a Secret Fund.
- Conduct regular mock drills and random checks/cross-checks to verify readiness of teams and worthiness of information received.
- Coordinate with other units/agencies at regional and state levels to share intelligence and work together.

And finally, even the best of intelligence does not produce decisions. Decisions on the use of law enforcement, manpower and resources are made by command personnel who use intelligence constructively within the context of their professional experience. However, without good intelligence to direct the way and weigh the options, law enforcement executives are at a serious disadvantage.

Maintaining a Criminal Profile Directory

One of the major weaknesses identified in the prevention and control of illegal wildlife trade is the absence of a structured mechanism for collating, analysing and sharing of information on criminals engaged in such offences. A criminal profile directory is a useful tool for meeting these requirements.

The need:

- Understanding ethnic groups/communities/persons/regions which are more sensitive from the point of poaching and wildlife trade.
- Understanding linkages amongst criminal groups/persons
- Identifying their *modus operandi*
- Identifying repeat offenders
- Planning a response

The directory should ideally be centralised, which should be shared at various levels as per the need. Thus, while there could be a national database in Delhi at the National Wildlife Crime Control Bureau, states could have these at the level of the Chief Wildlife Wardens, with Field Directors of Tiger Reserves and other Protected Areas having these at their offices. Depending on the need, this could be shared at the range levels.

Elements of a criminal profile

- Photograph, frontal and profile
- Name, including *alias*
- Fingerprints
- Details of family members: Father/mother/spouse /children etc. with name and other identification details
- Date of birth
- Native village/town
- Ordinary place of residence
- Physical features, including distinguishing features: height, weight, colour of eyes, hair, beard, shape of nose, chin, face & other attributes such as tattoos, scars, amputations.
- Identification documents: voter ID card details/ration card/bank account details/ PAN No. etc.
- Languages spoken
- Details of arms licence, if any
- Past activities/offences including those in which a prosecution is pending in any court of law
- *Modus operandi*
- Close associates
- Pending warrants, including details of court that issued the warrant, date of issue and other details.
- Convictions, if any, under any act.
- Any other relevant details

Conducting Interrogation

Interrogation is essentially a mind game, aimed at establishing or verifying key facts related to an offence. The suspect may be a hardened criminal, well aware of legal provisions and their loopholes and hence, it is important for the interrogating official(s) to do their homework well.

The following five principles are the key to any successful interrogation:

- Planning
- Rapport building or gaining confidence
- Information gathering
- Clarifying
- Evaluation and analysis

A checklist:

- What are the facts known so far?
- What are the gaps?
- What are the points to be proven?
- What are the linkages?
- What is the possible defence that could be offered by the accused?

Purpose of the interview:

- Collect information
- Verify information and clear inconsistencies
- Establish clear linkages amongst suspects and their respective roles in the crime

The setting:

Choose a setting that is pleasant, free from distractions and disturbances. People walking in and out of the room distract from the process and break the chain of thoughts. They also offer the accused an opportunity to cover up any possible inconsistencies that may be emerging.

The accused should initially be interrogated individually. Subsequently, there may be the need to bring several accused face to face to bring out their inconsistencies.

Differences in statements or information given by different suspects of the same offence may be used to establish missing links in the chain of events and roles of different individuals etc.

Actual Interrogation:

- Name, background of the suspect
- Family and professional background
- Financial status
- Relatives, if any, in similar line of work (other potential suspects)
- Relationship or association with other accused
- Physical and psychological status: any history of disease or any condition that requires regular medication (diabetes etc.)
- Any previous criminal record?

Setting the time:

- Where were they a day (or days) before the crime?
- Where did they stay, and with whom just before the crime?
- How did they reach the crime scene?
- Who was with them?
- What were they wearing?
- What were they carrying?
- Addictions/likings (e.g. *bidi*/*gutka*/cigarettes? What brand? Can this be correlated to any *bidi*/*gutka* wrappers or cigarette packets found at the scene of crime?)
- What could be the motive for committing the crime?
- Were they working independently or for someone else?
- Did anybody see them while committing this crime?
- How was the animal or its product removed (how was the meat/tusk/skin etc. removed and carried out? What implements were used? How much time did this take?)
- What was the specific role of the individual in the crime? (This is an interesting question. Usually every accused likes to give a version reducing or negating their own role while amplifying that of the others, which can be used later when confronting the other accused.)

Building a rapport:

The suspects should not be threatened or offered any false inducements as this is counterproductive and also illegal.

- The suspects should also be made aware of the penalties prescribed under various laws for the offence, if found guilty.
- Assure fair play and demonstrate your willingness to go that extra yard to evaluate facts that may help clear the name of the suspect.
- The body language and attitude of the interrogator should not be overtly hostile. In fact, he should try and check any hostile attitude of others present, which will demonstrate and help establish his non-biased attitude.

Listen:

- Allow the accused to tell his version of the truth.
- Do not interrupt a speech by the accused, show interest but do not guide it in a certain direction.
- Do not ask long, winding questions. Questions should be short, specific and to the point.
- Ask open questions as far as possible. WHAT, WHY, WHEN, HOW, WHERE and WHO are good questions to ask.

For example;

- What actually happened when you were in Rajaji National Park yesterday?
- How did you trap the Tiger?
- Why did you kill the Tiger?
- When did this happen?
- How was the Tiger killed, its skin removed and later transported?
- Where did you obtain the leg trap and the muzzle loading gun?
- Who actually fired at the Tiger?

These allow details to be brought out and reveal more about the opinion and feelings of the accused.

When the interrogation threatens to ramble on into a long winding story, often with no direct relevance to the matter at hand, it may be necessary to intervene and put it back on track. Questions that are too open, which may elicit a response about the life history of the accused, starting from his childhood, may not be a good option!

However, when specific details are asked for, closed questions can be asked.

Closed questions help clarify key points and can often test the response of the accused by confronting him with conflicting facts.

- Is this your gun?
- Do all your friends go hunting?
- Do you know Roopchand, the poaching kingpin?
- When did you last meet him and where?

Leading questions, which pre-suppose and suggest answers are best avoided.
You are the one who killed the Tiger, aren't you?
You regularly indulge in poaching, don't you?

Evaluation of the interrogation:

- Have the gaps been covered?
- Does the evidence at hand still point a strong finger at the accused?
- What new evidence has been revealed during this interrogation?
- Is this admissible? Does this need further corroboration and/or lead to recovery of tools etc.?

Note:

It is important to record all information obtained in interrogation so that it can be used for understanding the nature of the offence and identifying the perpetrators. As such, it has to be documented very carefully. In important cases, confessions (if any), must be recorded in the presence of an officer not below the rank of an Astt. Conservator of Forests, as laid down in Section 50 (8) and (9) of the *Wildlife (Protection) Act, 1972*. Wherever needed, these may be recorded or videographed, preferably in the presence of an independent witnesses.

Scientific tools to assist interrogation:

Many modern tools are in vogue to assist in interrogation. Due to their recent use on some high profile accused, they have gained acknowledgement in the public domain. However, it will be useful to remember that the acceptability and admissibility of facts obtained using such tools as evidence is still not clearly established.

1. ***Polygraph or Lie Detector Tests:***
   This tool, introduced at the turn of the twentieth century, continuously and simultaneously measures the physiological responses of the person undergoing the test.

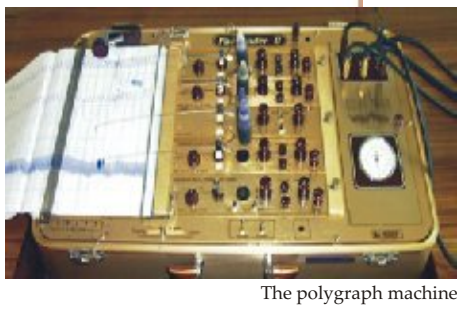
   It records the respiration, blood pressure and electro-dermal resistance. The method is useful to corroborate or refute the findings of the investigation.

   During examination, usually three types of questions are framed:

   Irrelevant questions: Questions not related to the case "Have you eaten food today ?"
   ***Control questions*:** To verify emotional response of the examinee e.g. his past crime.
   Relevant questions: Questions pertaining to the issue under investigation based on the facts of the case.

   After every 10—15 questions there should be a short gap.

Polygraph test in progress



The polygraph machine

2. ***Narco analysis or drug hypnosis:***
   This is a method of detecting deception which is based on recovering memory through questioning, after administering a chemical known as truth serum
   i. The technique was evolved in 1929.
   ii. Uses depressant substance such as Sodium Amytal, Sodium Pentothal.
   iii. A 5% or 10% solution of Sodium Amytal or Sodium Pentothal is injected slowly intravenously.
   iv. Dose of the drug varies from individual to individual.
   vi. Drug is injected under the close supervision of doctors.

vii. The medical history of the subject is a must. These drugs induce talkativeness and confidence. The individual under the influence of these drugs feels relaxed and uninhibited.

viii. The suspect under the influence of these drugs often comes up with the truth during the interview session.

Limitations:

Researchers have observed that sometimes, suspects also reveal crimes which they had imagined but had not actually committed.

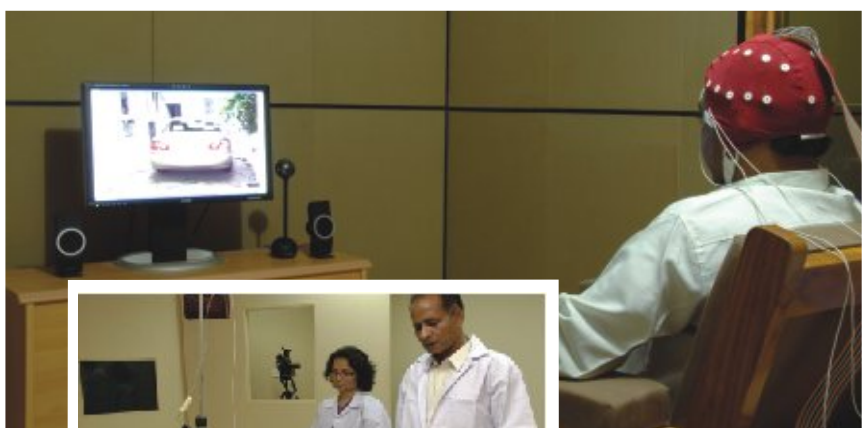
Response varies from person to person and depends a lot on the mental and physical conditions of the suspect.

The results are not considered reliable by the court. While courts refer cases for Narco-analysis, the findings are not given due importance.

3. ***Brain mapping or brain fingerprinting***

- Developed in 1985 by Lawrence Farwell in the USA.
- According to him the test is as unique and specific as the science of fingerprinting.
- Can be used with certainty to identify actual perpetrators and their accomplices.
- In India the technique is developed in the State Forensic Science Laboratories of Karnataka and Gujarat.
- Courts have referred cases not only to detect deceptions in the statements given but also to establish involvement of suspect(s) in various crimes particularly in white collar and serial crimes.
- Findings are yet to be evaluated by the respective courts.

The investigations into the poaching of Lions from Gir National Park in Gujarat in 2007, conducted by CID, Gujarat, were perhaps the first instance in India where such techniques were used to arrive at the details of a wildlife crime.



Brain mapping

Conducting narco-analysis

Computers and digital equipment in wildlife crime:

Computers and digital equipment including media are increasingly proving to be the fuel on which the wheels of the modern world spin. Increasingly, these tools are also being used for criminal activities, including wildlife crime. The computer may be used:

- as a tool for committing an offence.
- for storage of records, pictures etc. which have a bearing on the crime.

Digital media, including images, text, audio etc. are easily altered or destroyed. As such, it is important to recognise and protect such evidences in the interest of justice. Investigation itself may lead to generation of electronic evidence in the form of records.

Various memory cards used in mobile phones and cameras

Usually, during a search of any premises being conducted in the context of a wildlife crime investigation, one is likely to come across a computer device or accessories.

These could include:

- Computer, desktop or laptop/portable whether standalone or networked i.e. connected to other computers through an electronic network?
- Storage media such as external hard discs, CD ROMs, DVDs, pen drives, floppies, memory cards (CF cards, Memory Stick,Memory Stick Duo, SD Card, Mini SD Card etc.)
- Mobile phones including Personal Digital Assistants (PDAs)
- Memory Cards contained in Mobile Phones and PDAs

Each of the above should be seen as a potential source of evidence and should be processed accordingly.

If the computer is off, it should not be switched on. For a computer that is on and running, ideally, a computer analysis expert should be consulted. In the absence of the expert, the computer and its position with reference to the search scene, as also the open screen, should be photographed and then the system shut down and all power sources disconnected.

- All drive slots: CD/DVD/Floppy/USB should be sealed so as to disable any subsequent alteration/addition/deletion to the contents of the computer.
- The opening slots/screws in the cabinet should also be sealed to discourage tampering with the internal hard drive.
- The computer as also any other storage media should be kept away from any strong magnetic substances as these can cause permanent damage to the storage media and other hardware.

Potential evidence in Mobile Phones/PDAs.

- Last numbers called and received. Usually, the last 20 numbers are displayed by phones. Time and duration of calls are also important.
- List of contacts with name, address and contact numbers.

- Passwords/ PIN nos. etc. of any bank accounts credit cards etc.
- Details of any financial transactions etc.
- Speed Dial nos., could indicate close associates
- Other clips - sometimes an MMS clip or mobile phone camera picture could help establish association between individuals. Some conversations could also be recorded and stored.
- SIM cards used. The Service Provider can be asked by enforcement agencies to provide call logs for a given connection.
- IMEI (International Mobile Equipment Identity) number of the instrument used.

The IMEI number of a cell phone is usually found below the battery

The **IMEI** is a **15** or **17 digit code** number unique to every GSM mobile phone. It is also available on some other mobile platforms. This code can usually be found printed on the phone underneath the battery and can also be found by dialing the sequence *#06# into the phone.

The important evidentiary value of this number is that this is used by the service network to identify the specific phone instrument, irrespective of the SIM card being used. This, in effect, means that in cases where a criminal frequently changes SIM cards to communicate with others, he can still be identified on the basis of this unique digital signature being emitted by his phone instrument.

The IMEI number is used by the GSM networks to identify valid devices and therefore can be used to stop a stolen phone from accessing the network.

Potential evidence in fax machines:

- Faxes stored in memory
- Call numbers stored in fast dial/ fax memory

Potential evidence in scanners:

- Does it have internal memory? If yes, what is stored in this?
- Any documents/ slides etc. present in feed?

Storage media, including cards:

DVDs, CDs, media cards etc. can be used to store a large amount of diverse data.

- The writing surface of CDs & DVDs is also a good location to obtain fingerprints.
- Photographs, if examined for properties (Right click and click on the last entry on the drop down list: Properties) usually indicate the file type, size, date created, modified and accessed and the equipment used when they were created.

Still and video cameras:

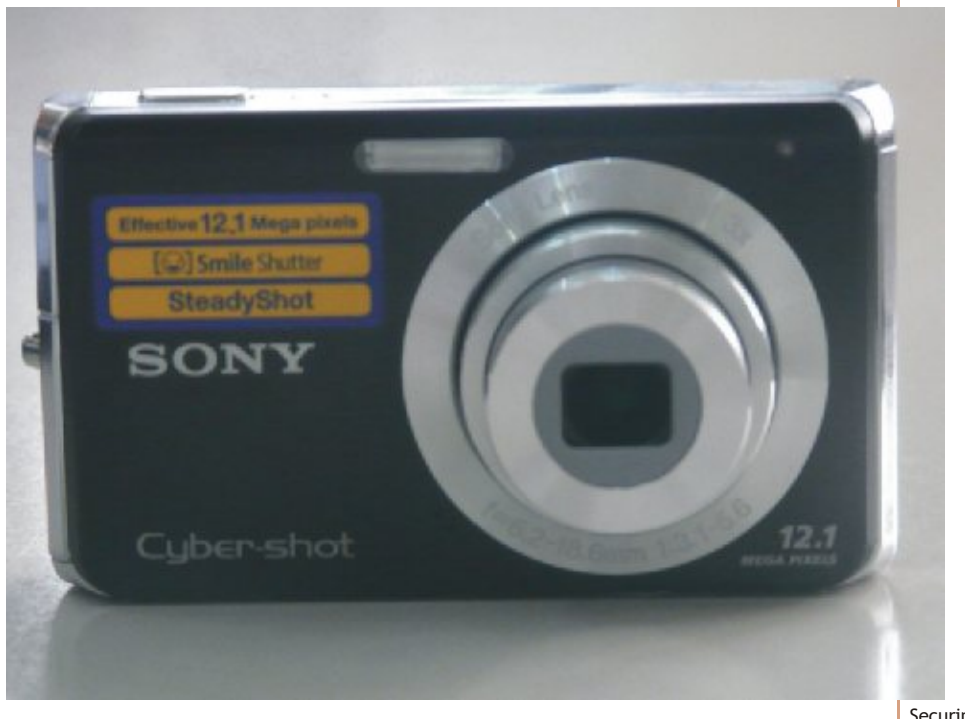
These store photographs or films on cassette tapes or storage media such as hard discs, CDs or DVDs. These must be secured.

For storage media as also for cameras, it is important to secure the storage device so that it cannot be accidentally rewritten or destroyed.

Security cameras or closed circuit televisions (CCTVs):

Surveillance cameras and CCTVs are becoming increasingly common across premises. These usually comprise one or a series of video cameras, strategically placed and connected to a central monitoring unit. This unit may display images from each camera in a preset sequence. Typically, the footage so generated is stored in a central hard drive or occasionally in the form of tapes. Generally, the record is rewritten after a designated time, usually after a week. This implies that for places where such installations are at work, it can be possible to have a direct photographic record of all activities at the premises over a given period.

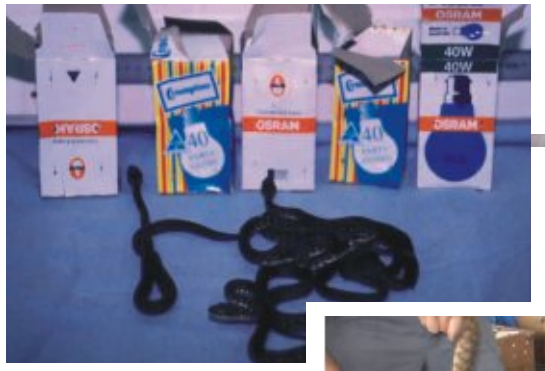
To re-emphasise, all electronic evidence must be evaluated and examined by trained experts. However, in order to enable them to do so, it is important to know what to look for and how to secure it for later expert evaluation and examination. Special Units in most Forensic Laboratories have facilities for retrieval of data from hard disks, CDs, floppies, pen drives, sim cards etc. In many cases, even data that was deleted can be retrieved, if the evidence has been properly secured.



Some Modes of Concealment of Illegal Wildlife Products

Wildlife products recovered from a postal packet

Tortoises concealed in a suitcase

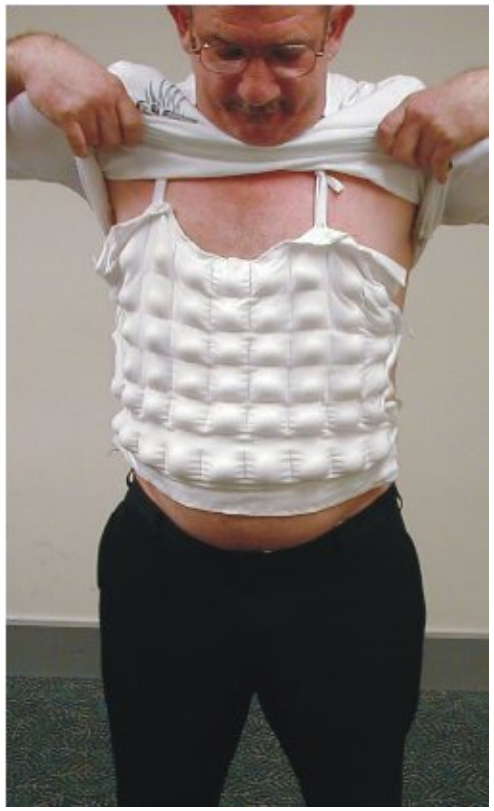


Snakes hidden in lamp boxes

Wildlife seizure at an international airport

Birds stuffed in tubes to prevent detection

Rollers, seized in the back of a car in Hungary, 2008



Egg smuggler arrested in New Zealand

Box-turtles in post parcel, Czech Republic, 2008

When a wildlife species or derivative is seized

Checklist for a seizure of wildlife products:

- Has the specimen in question been conclusively identified?
- If yes, what species?
- Is the species listed under the Wildlife (Protection) Act 1972?
- If yes, what schedule, and what serial number?
- Who is the person making the identification?
- If identification is not 100% sure, what is the probable species?
- Is the species listed under the EXIM policy?
- If yes, at what serial number?
- What are the specific notifications in the EXIM policy regarding this species?

*** **NOTE:** National CITES Scientific Authorities such as Wildlife Institute of India, Zoological Survey of India and Botanical Survey of India are designated for assistance in identification of specimens.

Documentation:

- Has the person, from whose possession this specimen has been obtained, been asked to produce any document/permit/certificate related to it?
- Has he produced or offered to produce this document/permit/certificate?
- Is this authentic/valid?
- Does it have contact details of the issuing authority so it can be verified?
- Do the products described in the documentation and those actually present match? Are their any discrepancies in quantity/quality/form etc.?

For international shipments:

- Does the cargo appear in the appropriate manifest?
- Is the packaging original or does it appear tampered with?
- For live specimens, does it comply with guidelines of the International Air Transport Association (IATA)?
- Does it have any CITES documentation?
- Which airline/shipping line was the cargo booked on?
- Which agents were handling this consignment?

- Who are the relevant contact persons in the airlines/shipping line/agency who can be questioned to obtain more information on the source of the cargo?

Seizures made from tourists:

- Are the persons actually tourists or are they acting as couriers?
- Who were they supposed to hand over this consignment to and where?
- Do they have any specialised tools /equipments etc. that establish a premeditated effort?
- How and where did they obtain the products?
- Do they know what these products are and why were they carrying them? (NOTE: Ignorance of the law is not a valid defence)
- How much money did they pay for it?
- Do they have any documentation?
- Do they have any similar items /products at home?

A red coral necklace

Seizures of live specimens:

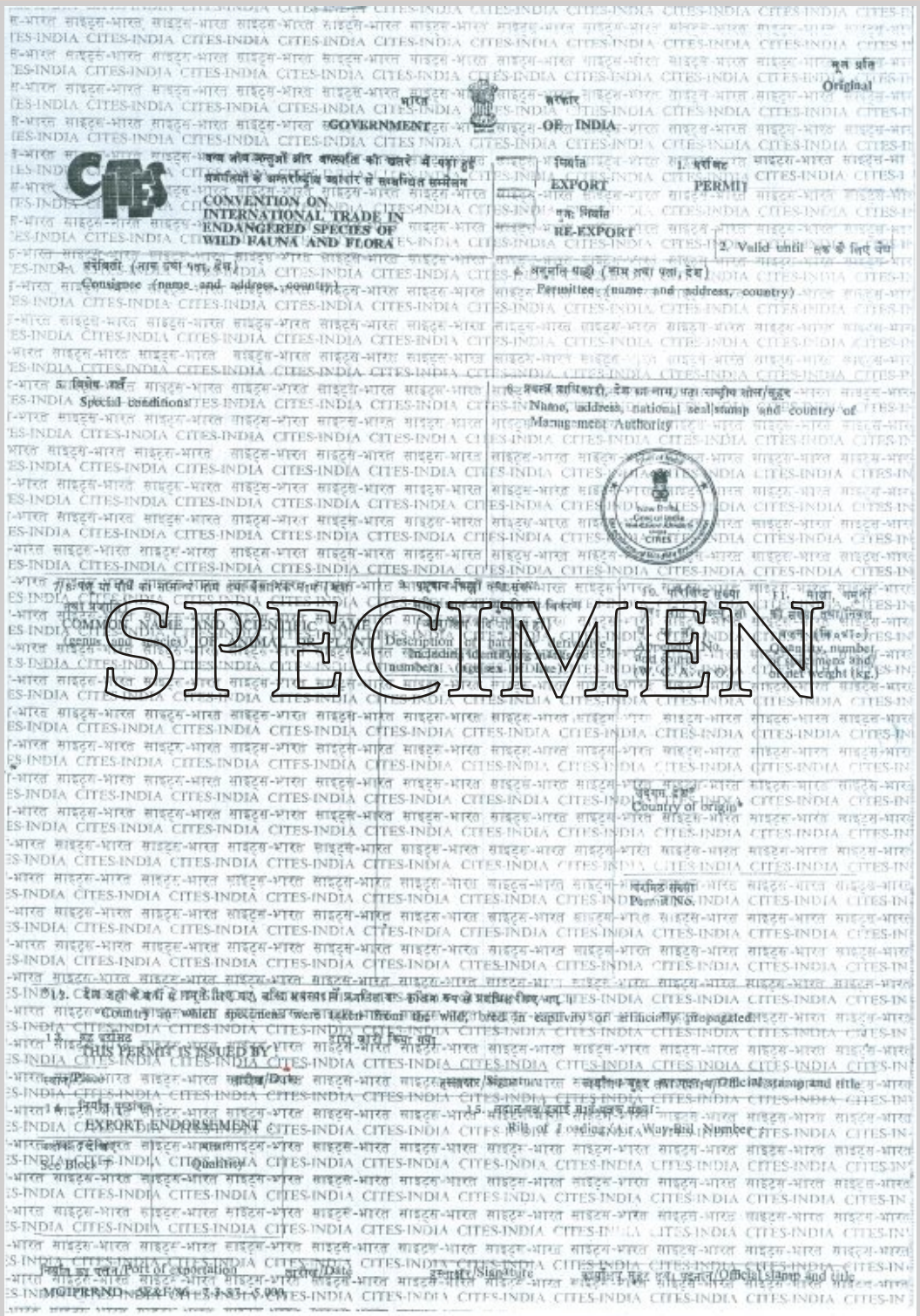
- Is the species poisonous or otherwise dangerous to handle?
- Is there a possibility of escape?
- Check for strength and possible breakage etc. of container/cage
- Do not mix species in enclosures!
- Cages/enclosures should be put away from extreme temperatures and moisture. They should not be placed in open areas or storage spaces cluttered with a lot of other goods. These provide for excellent hiding space for escaped specimens.
- Seek expert veterinary help as soon as possible.
- Do not take unnecessary risks. Safety of personnel is the first principle.
- Provide adequate food and water.

For plant specimens at international transit points:

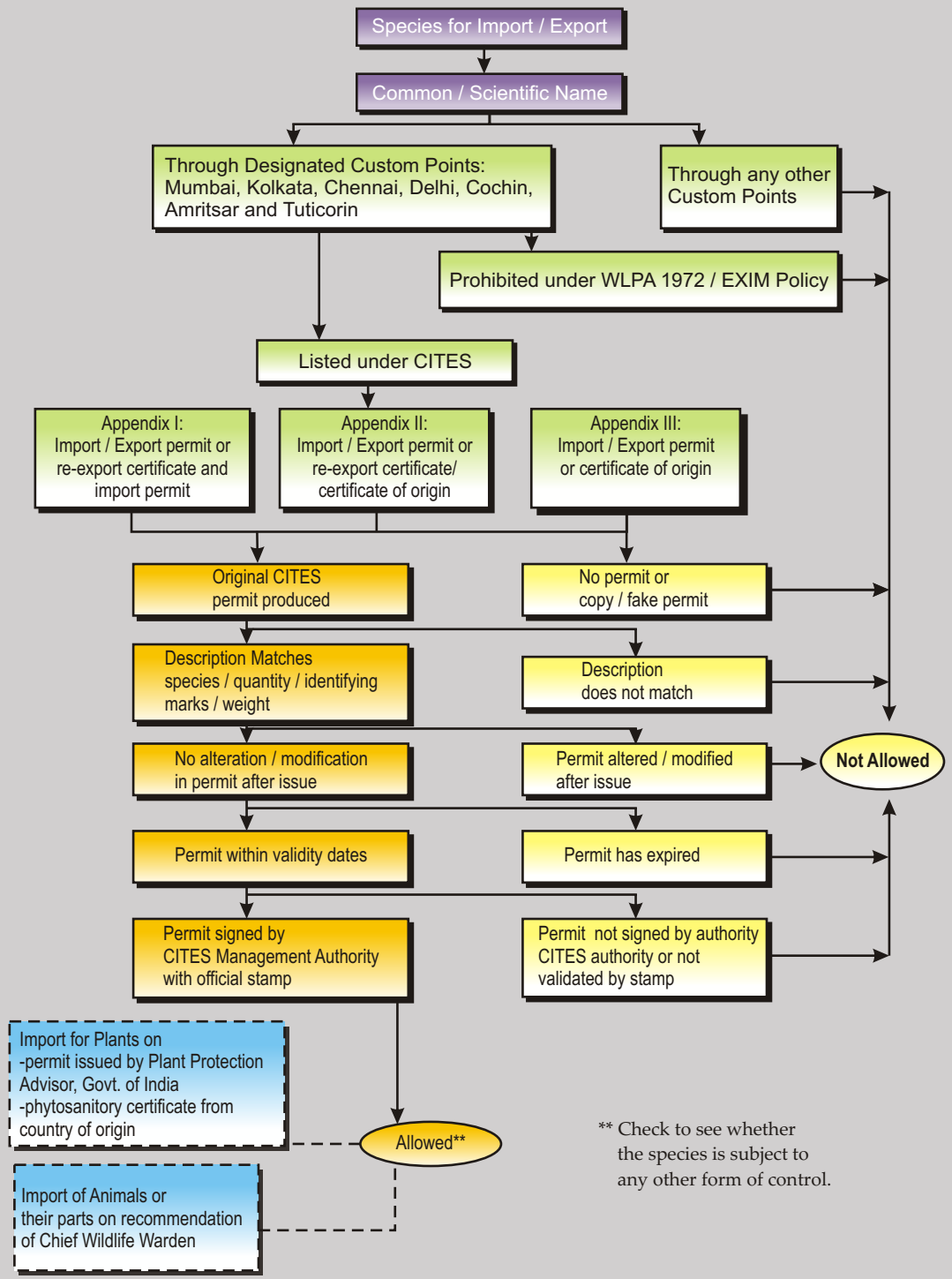
- Seek advice of quarantine officials at the earliest.
- Storage should be done at appropriate temperatures.

Follow up:

- Has the matter been brought to the notice of the Regional Deputy Director, National Wildlife Crime Bureau or any similar office?
- Has the matter been brought to the notice of other enforcement agencies through appropriate channels for additional follow-up?



A. CITES PERMIT



(AS LAID DOWN BY THE HON'BLE SUPREME COURT OF INDIA IN SHRI D.K. BASU *vs.* STATE OF WEST BENGAL, 1996)

A. The following requirements are to be followed in all cases of arrest or detention till legal provisions are made in that behalf as preventive measures:

1. Police personnel carrying out the arrest and handling the interrogation of the arrestee should bear accurate, visible and clear identification and name tags with their designations. The particulars of all such police personnel who handle interrogation of the arrestee must be recorded in a register.
2. That the police officer carrying out the arrest of the arrestee shall prepare a memo of arrest at the time of arrest and such memo shall be attested by at least one witness, who may be either a member of the family of the arrestee or a respectable person of the locality from where the arrest is made. It shall also be counter signed by the arrestee and shall contain the time and date of arrest.
3. A person who has been arrested or detained and is being held in custody in a police station or interrogation centre or other lock-up, shall be entitled to have one friend or relative or other person known to him or having interest in his welfare being informed, as soon as practicable, that he has been arrested and is being detained at the particular place, unless the attesting witness of the memo of arrest is himself such a friend or a relative of the arrestee.
4. The time, place of arrest and venue of custody of an arrestee must be notified by the police where the next friend or relative of the arrestee lives outside the district or town through the Legal Aid Organisation in the District and the police station of the area concerned telegraphically within a period of 8 to 12 hours after the arrest.
5. The person arrested must be made aware of this right to have someone informed of his arrest or detention as soon as he is put under arrest or is detained.
6. An entry must be made in the diary at the place of detention regarding the arrest of the person which shall also disclose the name of the next friend of the person who has been informed of the arrest and the names and particulars of the police officials in whose custody the arrestee is.
7. The arrestee should, where he so requests, be also examined at the time of his arrest and major and minor injuries, if any present on his/her being, must be recorded at that time. The "Inspection Memo" must be signed both by the arrestee and the police officer effecting the arrest and its copy provided to the arrestee.
8. The arrestee should be subjected to medical examination by a trained doctor every 48 hours during his detention in custody by a doctor on the panel of approved doctors appointed by Director, Health Services of the concerned State or Union Territory. Director, Health Services should prepare such a penal for all Tehsils and Districts as well.
9. Copies of all the documents including the memo of arrest, referred to above, should be sent to the Magistrate for his record.
10. The arrestee may be permitted to meet his lawyer during interrogation, though not throughout the interrogation.

11. A police control room should be provided at all district and State Headquarters, where information regarding the arrest and the place of custody of the arrestee shall be communicated by the officer causing the arrest, within 12 hrs of effecting the arrest, displayed on a conspicuous notice board. (Para 36)

B. These requirements are in addition to the constitutional and statutory safeguards and do not detract from various other directions given by the courts from time to time in connection with the safeguarding of the rights and dignity of arrestees. (Para 39)

GUIDELINES FOR ARREST AS LAID DOWN BY THE NATIONAL HUMAN RIGHTS COMMISSION (NHRC)

The National Human Rights Commission has laid down detailed guidelines on 22 November 1999, to be followed in the case of arrest of individuals. The same are reproduced here to assist enforcement officials in India to carry out their obligations with due deference and sensitivity to human rights.

NHRC GUIDELINES REGARDING ARREST

Need for Guidelines

Arrest involves the restriction of liberty of a person arrested and therefore infringes upon the basic human rights of liberty. Nevertheless the Constitution of India as well as the international human rights law recognise the power of the State to arrest any person as a part of its primary role in maintaining law and order. The Constitution requires a just, fair and reasonable procedure established by law.

Although Article 22(1) of the Constitution provides that every person placed under arrest shall be informed about the ground of the arrest and shall not be denied the right to consult and be defended by a lawyer of his choice and S.50 of the Code of Criminal Procedure, 1973 (Cr. PC) requires a police officer arresting any person to "forthwith communicate to him full particulars of the offence for which he is arrested or other grounds for such arrest", in actual practice these requirements are observed more in the breach. Likewise, the requirement of production of the arrested person before the court promptly which is mandated both under the Constitution [Article22(2)] and the Cr. PC (Section 57] is also not adhered to strictly.

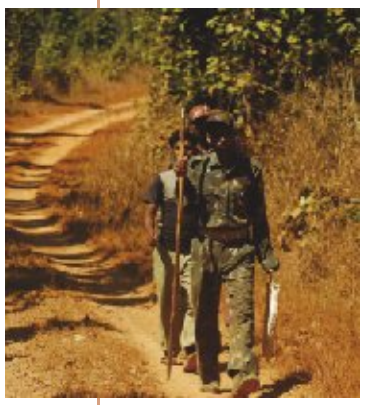
A large number of complaints pertaining to Human Rights violations are in the area of abuse of police powers, particularly those of arrest and detention. It has, therefore, become necessary, with a view to narrowing the gap between law and practice, to prescribe guidelines regarding arrest even while at the same time not unduly curtailing the power of the police to effectively maintain and enforce law and order and proper investigation.

PRE-ARREST

- The power to arrest without a warrant should be exercised only after a reasonable satisfaction is reached, after some investigation, as to the genuineness and bonafides of a complaint and a reasonable belief as to both the person's complicity as well as the need to effect arrest. [Joginder Kumar's case - (1994) 4 SCC 260).
- An arrest cannot be justified merely on the existence of power. As a matter of law, to arrest without a warrant in a cognisable case.
- After Joginder Kumar's pronouncement by the Supreme Court the question whether the power of arrest has been exercised reasonably or not is clearly a justiciable one.
- An arrest in cognizable cases may be considered justified in one or other of the following circumstances:
  - **i.** The case involves a grave offence like murder, dacoity, robbery, rape etc. and it is necessary to arrest the suspect to prevent him from escaping or evading the process of law.
  - **ii.** The suspect is given to violent behaviour and is likely to commit further offences.
  - **iii.** The suspect requires to be prevented from destroying evidence or interfering with witnesses or warning other suspects who have not yet been arrested.
  - **iv.** The suspect is a habitual offender who, unless arrested, is likely to commit similar or further offences. [3rd Report of National Police Commission]
- Except in heinous offences, as mentioned above, an arrest must be avoided if a police officer issues notice to the person to attend the police station and not leave the station without permission. (see Joginder Kumar's case (1994) SCC 260).
- The power to arrest must be avoided where the offences are bailable unless there is a strong apprehension of the suspect absconding .
- Police officers carrying out an arrest or interrogation should bear clear identification and name tags with designations. The particulars of police personnel carrying out the arrest or interrogation should be recorded contemporaneously, in a register kept at the police station.

ARREST

- As a rule, use of force should be avoided while effecting arrest. However, in case of forcible resistance to arrest, minimum force to overcome such resistance may be used. However, care must be taken to ensure that injuries to the person being arrested, visible or otherwise, are avoided.
- The dignity of the person being arrested should be protected. Public display or parading of the person arrested should not be permitted at any cost.
- Searches of the person arrested must be done with due respect to the dignity of the person, without force or aggression and with care for the person's right to privacy. Searches of women should only be made by other women with strict regard to decency. (S.51(2) Cr.PC.)
- The use of handcuffs or leg chains should be avoided and if at all, it should be resorted to strictly in accordance with the law repeatedly explained and mandated in judgment of the Supreme Court in Prem Shanker Shukla v. Delhi Administration [(1980) 3 SCC 526] and Citizen for Democracy v. State of Assam [(1995)].
- As far as is practicable women police officers should be associated where the person or persons being arrested are women. The arrest of women between sunset and sunrise should be avoided.
- Where children or juveniles are sought to be arrested, no force or beatings should be administered under any circumstances. Police Officers, may for this purpose, associate respectable citizens so that the children or juveniles are not terrorised and minimal coercion is used.
- Where the arrest is without a warrant, the person arrested has to be immediately informed of the grounds of arrest in a language which he or she understands. Again, for this purpose, the police, if necessary may take the help of respectable citizens. These rounds should already have been recorded in writing in police records. The person arrested should be shown the written reasons as well and also given a copy on demand. (S.50(1) Cr.PC.)
- The arrested person can, on a request made by him or her, demand that a friend, relative or other person known to him be informed of the fact of his arrest and the place of his detention. The police should record in a register the name of the person so informed. [Joginder Kumar's case (supra)].
- If a person is arrested for a bailable offence, the police officer should inform him of his entilement to be released on bail so that he may arrange for sureties. (S.50(2) Cr.PC.)
- Apart from informing the person arrested of the above rights, the police should also inform him of his right to consult and be defended by a lawyer of his choice. He should also be informed that he is entitled to free legal aid at state expense [D.K. Basu's case (1997) 1 SCC].
- When the person arrested is brought to the police station, he should, if he makes a request in this regard, be given prompt medical assistance. He must be informed of this right. Where the police officer finds that the arrested person is in a condition where he is unable to make such request but is in need of medical help, he should promptly arrange for the same. This must also be recorded contemporaneously in a register. The female requesting for medical help should be examined only by a female registered medical practitioner. (S.53 Cr.PC.)
- Information regarding the arrest and the place of detention should be communicated by the police officer effecting the arrest without any delay to the police Control Room and District / State Headquarters. There must be a monitoring mechanism working round the clock.
- As soon as the person is arrested, the police officer effecting the arrest shall make a mention of the existence or non-existence of any injury(s) on the person of the arrestee in the register of arrest. If any injuries are found on the person of the arrestee, full description and other particulars as to the manner in which the injuries were caused should be mentioned in the register, which entry shall also be signed by the police officer and the arrestee. At the time of release of the arrestee, a certificate to the above effect under the signature of the police officer shall be issued to the arrestee.



- If the arrestee has been remanded to police custody under the orders of the court, the arrestee should be subjected to medical examination by a trained Medical Officer every 48 hours during his detention in custody by a doctor on the panel of approved doctors appointed by Director, Health Services of the concerned State or Union Territory. At the time of his release from the police custody, the arrestee shall be medically examined and a certificate shall be issued to him stating therein the factual position of the existence or nonexistence of any injuries on his person.

POST ARREST

- The person under arrest must be produced before the appropriate court within 24 hours of the arrest (Ss 56 and 57 Cr.PC).
- The person arrested should be permitted to meet his lawyer at any time during the interrogation.
- The interrogation should be conducted in a clearly identifiable place, which has been notified for this purpose by the Government. The place must be accessible and the relatives or friend of the person arrested must be informed of the place of interrogation .
- The methods of interrogation must be consistent with the recognised rights to life, dignity and liberty and right against torture and degrading treatment.

Enforcement of guidelines

1. The guidelines must be translated in as many languages as possible and distributed to every police station. They must also be incorporated in a handbook which should be given to every policeman.
2. Guidelines must receive maximum publicity in print or other electronic media. It should also be prominently displayed on a notice board, in more than one language, in every police station.
3. The police must set up a complaint redressal mechanism, which will promptly investigate complaints of violation of guidelines and take corrective action.
4. The notice board which displays guidelines must also indicate the location of the complaints redressal mechanism and how that body can be approached.
5. NGOs and public institutions including courts, hospitals, universities etc., must be involved in the dissemination of these guidelines to ensure the widest possible reach.
6. The functioning of the complaint redressal mechanism must be transparent and its reports accessible.
7. Prompt action must be taken against errant police officers for violation of the guidelines. This should not be limited to departmental enquiries but also set in motion the criminal justice mechanism.
8. Sensitisation and training of police officers is essential for effective implementation of the guidelines.

Given the emerging nature of wildlife crime as a transnational crime, there is often a need to pursue criminals across national borders and to seek support of the international community in apprehending and taking action against such criminal elements. Interpol is a good platform for moving against such criminals.

"The International Criminal Police Organisation Interpol" is the world's largest international police organisation, with 186 member countries as of December 2007. Created in 1923, it facilitates cross-border police co-operation, and supports and assists all organisations, authorities and services whose mission is to prevent or combat international crime.

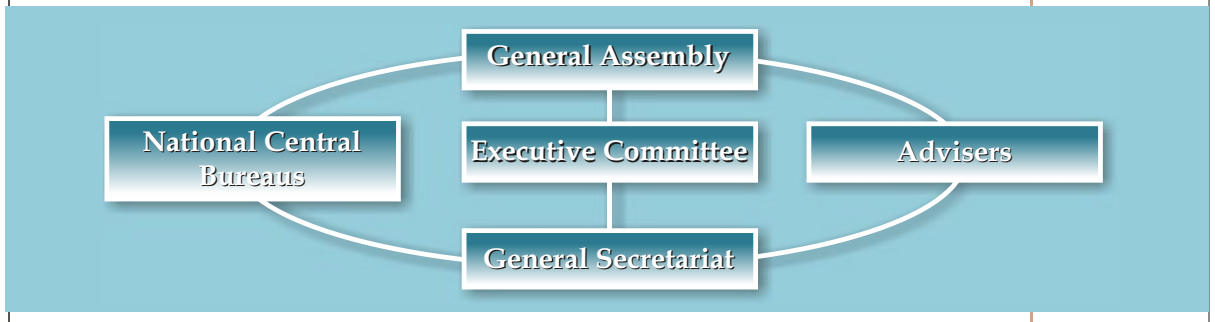
Interpol aims to facilitate international police co-operation even where diplomatic relations do not exist between particular countries. Action is taken within the limits of existing laws in different countries and in the spirit of the Universal Declaration of Human Rights. Interpol's constitution prohibits "any intervention or activities of a political, military, religious or racial character."

Interpol's Leadership

The President of Interpol and the Secretary General work closely together in providing strong leadership and direction to the organisation.

Interpol's Structure

The General Assembly and the Executive Committee form the organisation's Governance.



General Assembly: Interpol's supreme governing body meets annually and comprises of delegates appointed by each member country. The Assembly takes all important decisions related to policy, resources, working methods, finances, activities and programmes.

Executive Committee: This 13-member committee is elected by the General Assembly, and comprises of the president, three vice-presidents and nine delegates covering the four regions.

General Secretariat: Located in Lyon, France, the General Secretariat operates 24 hours a day, 365 days a year and is run by the Secretary General. Officials from more than 80 countries work side-by-side in any of the organisation's four official languages: Arabic, English, French and Spanish. The Secretariat has six regional

offices; in Argentina, Côte d'Ivoire, El Salvador, Kenya, Thailand and Zimbabwe, and a liaison office at the United Nations in New York.

National Central Bureaus (NCB): Each Interpol member country maintains a National Central Bureau, staffed by national law enforcement officers. The NCB is the designated contact point for the General Secretariat, regional offices and other member countries requiring assistance with overseas investigations and the location and apprehension of fugitives. The NCBs are national bodies, which are responsible for liaison between the member countries and with the General Secretariat.

In India, the Central Bureau of Investigation (CBI) is designated as the NCB.

Interpol Liaison Officers (ILOs): In India, the Home Department of each state has been asked by the NCB-CBI to earmark a small cell in a given police organisation in the state to deal exclusively with matters related to Interpol. This is generally the state **Crime Investigation Department.**

Interpol and Wildlife Crime

Interpol began to fight environmental crime in 1992, and its programme has grown significantly since then. In the beginning of 2006, a full-time officer was appointed to manage the wildlife crime programme, which is continuing to expand its activities in co-operation with many national, international and non-governmental agencies.

Wildlife Working Group

The Wildlife Working Group exists to help conserve, preserve and protect the ever-deteriorating and fragile ecosystem. The group's main aim is to co-ordinate the sharing of information on an international scale so as to optimise the global effort for combating crimes related to wildlife and plants. Another aim is to facilitate and co-ordinate operational enforcement activity.

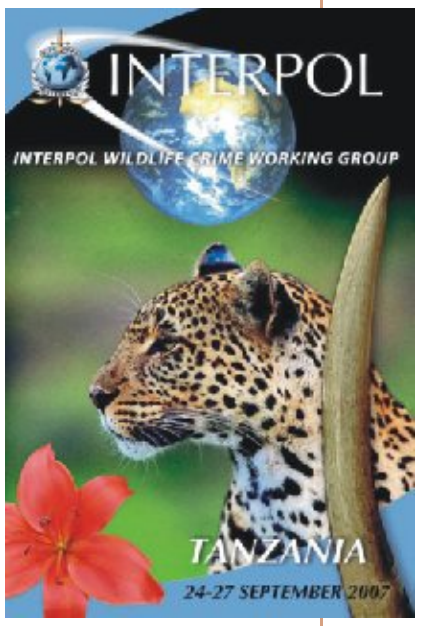
Through Interpol, the Wildlife Working Group aims to be the world's pre-eminent organisation in support of CITES-listed members, with the mission of detecting, preventing and reporting international wildlife crimes.

Activities

The Wildlife Working Group's main activities include:

- maintaining an international network within Interpol for the exchange of information on wildlife crime;
- enhancing domestic operations in each country through co-operation and co-ordination;
- assisting in the training of wildlife enforcement officers in developing countries;
- encouraging the integration of wildlife enforcement activities within broader international wildlife conservation initiatives; and
- improving international communication with member countries by co-ordinating and leading international meetings with regional representatives.

The 12th annual meeting of the Interpol Wildlife Crime Working Group was held in Tanzania in September 2007. In an effort to enhance collaboration between law enforcement and NGOs, for the first time one day of the four-day meeting was open to representatives of NGOs.



Tools of Interpol

To meet its objectives and to facilitate sharing of information for effective enforcement, Interpol has an elaborate system of sending information about the subjects—both human and material amongst member countries. These are in the form of seven notices as below:

A Series—Red Notices—for wanted criminals

A Red Corner Notice is requested against an offender only if all the following conditions are met:

1. The person against whom the notice is to be published has committed an offence against ordinary criminal law.
2. The offence is an "extraditable offence" under the Indian Extradition Act 1962.
3. A warrant of arrest has been issued for his/her arrest.
4. Extradition will be requested on his apprehension.

B Series—Blue Notices—also called "Enquiry Notices"

Issued in order to seek verification of a suspected criminal's identity or to obtain particulars of a person's criminal record or locate some identified or unidentified international criminal, whose extradition may be requested.

C Series—Green Notices—for warning

These are issued to provide information about habitual offenders operating in different countries or operating in at least two other countries who have committed or are likely to commit offences affecting countries. This notice is generally sent to member countries to verify whether such offenders are present in their territory.

D Series—Black Notices—for unidentified dead bodies

E Series—Stolen Property Notices—for stolen property (antiques, valuable artifacts, cultural property etc.)

F Series—Yellow Notices—for missing persons

G Series*—Modus operandi *Sheets.

These notices are easily identifiable by their colour coding. The Interpol logo appears in the given colour in the top right corner of the notice. Each has a fixed Proforma as prescribed by Interpol. Only those notices sent in the prescribed Pro-forma and through authorised channels are accepted and acted upon.

The Ecomessage:
Rapid and systematic exchange of pertinent information is crucial to any campaigns that target international environmental crime.

Interpol has also learned, however, that information exchange between various countries can suffer disruptive complications, because:

1. Required information often must be collected from widely scattered sources,
2. Countries do not have uniform reporting methods,
3. There has been no prior international repository for the collection, storage, analysis and circulation of information useful in efforts against environmental crime,
4. Investigators in one country often did not know which law enforcement agency or agencies were their appropriate contacts in other countries.

To overcome these handicaps, Interpol has created the Ecomessage.
This reporting form covers all major environmental crimes, including:

1. Illegal trans-boundary movements and illegal dumping of wastes.
2. Illegal trans-boundary activities involving radioactive substances.
3. Illegal traffic in species of wild flora and fauna.

Ecomessage: How it works
Environmental crime data received by Interpol through Ecomessages is entered into a computerised data collection facility at the Interpol General Secretariat in Lyon , France. The standard design permits:

1. Speedy and methodical entry of the report's details in a format that is compatible with the Interpol database,
2. Efficient cross-referencing of the data against other entries in the computerized database, and
3. Organised and meaningful extraction of that data in a way that facilitates applications such as criminal intelligence analysis.

An Ecomessage report must be transmitted to Interpol via standardised procedures and routing. This systematic approach helps to assure the validity and reliability of the data transmitted.

It is the NCB (in India, the Central Bureau of Investigation (CBI), which has the responsibility to transmit the details of an Ecomessage to the Interpol General Secretariat.

The Ecomessage form
A law enforcement agency can use this standard format to provide a report of environmental crime to its local Interpol NCB, which can then transmit these data to Lyon.

While preparing an Ecomessage form, it is necessary to keep all entries in the same numbered and lettered sequence. This is important to maintain compatibility with the Interpol database. A properly prepared form will enter easily into the database and is much more likely to produce results.

If the information for a particular item on the form is not available, it is to be marked as "unknown" or left blank.

5. ***The completed Ecomessage form is delivered to the local National Central Bureau (NCB). Only an NCB can transmit an Ecomessage to the Interpol General Secretariat.***

The Ecomessage

1. **Subject:** A brief description of the offence, Code name / Reference number Citation of legislation violated, legal description of the offence and legally possible penalties.
2. **Place and method of discovery:** Place where the offence was discovered (e.g., the name of a port or city. If on sea or open countryside, indicate distance and direction to a known reference point).
   Describe how the offence was discovered (e.g., customs control inspection, informant information, etc.,
3. **Date and time when the offence was discovered**
4. **a. Contraband products**: Specify the nature of wildlife products—scientific and common names of the species involved, with a precise description of the specimen (e.g., live, dead, part or derivative, age, sex, etc.)
   b. Quantity and estimated value: Specify the units of measure and the type of currency
5. **Identity of person(s) involved**
   a) Date of arrest
   b) Family name (& maiden name)
   c) First name(s)
   d) Sex
   e) Alias(es)
   f) Date and place of birth
   g) Nationality
   h) Address
   i) Information contained on passport or national ID: Include numbers, place & date of issue, period of validity etc.
   j) Profession
   k) If any, function in any of the companies mentioned in item 6
   l) Other information: Numbers of telephone, fax, vehicle, etc. plus subject's function in the offence (courier, dealer, etc.)

Note: Items 5.a to 5.l must be completed for each person involved.

6. Companies involved

- **a.** Type: Indicate the legal type of company
- **b.** Name: Specify both the legal name and any trade
- **c.** Names of activities
- **d.** Address and telecommunications: Details of headquarters
- **e.** Registration number
- **f.** Business addresses & phone/fax, If not the same as item

Note: Items 6.a to 6.f must be completed for each business involved.

7. **Means of transport and route**: Provide maximum details on means and route of transportation for violations involving transport of contraband.
8. **Locations**
   - **a.** Country and town of origin
   - **b.** Country of provenance: Country of last re-export
   - **c.** Country(ies) of transit: As much as can be determined
   - **d.** Country & address of destination: Both the destination declared on transport documents, and the real destination, if known.
9. **Identification of documents used**: Specify the types of documents, including authorisations, transport documents, permits and certificates, invoices, etc. Specify if such documents are altered or fraudulent.
10. **Law enforcement agency:** Specify the name and address of the agency with primary responsibility for the case, along with telecommunications information and a contact person, if possible.
11. ***Modus operandi***: Describe the *modus operandi* precisely, including technique of concealment, type of packaging, photocopies of paperwork (e.g. false documents) and photos (e.g. container) that illustrate the *modus operandi.*
12. **Additional information**: Any other details deemed relevant
13. **Information requested**: Do investigators need additional information available from foreign countries (e.g. details about a foreign national's arrest record or a freight forwarding company's history of violations).

Whale shark *Rhincodon typus,* feeding on zooplancton

Forensic sciences refers to a diverse spectrum of scientific tools used to answer legal questions, generally about criminal offences. Although the significance of such tools has begun to be truly recognised only now, the need for medico-legal investigations have been recognised by all civilisations.

Wildlife forensics is a relatively new field of forensic science. Here the focus of the investigation is crimes related to plant and animals and their derivatives. Wildlife forensic labs primarily help in two major ways:

- Identifying the specimen, i.e the species involved in the offence.
- Linking of the suspects, victim and the crime through scientific collection and analysis of physical evidence.

The major difference between forensic science as it is generally understood and wildlife forensics is that the victim is an animal or plant species and the victim cannot speak for itself. The use of tools for wildlife forensic investigation is generally made more difficult by the fact that rarely whole specimens are seized. The wildlife products seized are generally parts and derivatives, which may be modified, altered or finished in a way where immediate identification of the species may be very difficult.

Some examples may be:

- Meat
- Cooked meat
- Feathers
- Products like Shahtoosh shawls woven of animal hair
- Medicines containing Tiger bone parts
- Raw wool from animal hair
- Fur coats
- Animal skins
- Finished products made of reptile skin, such as purses, belts, and shoes
- Raw and carved ivory
- Sea turtle shell jewellery

Wildlife products for forensic examination at Wildlife Institute of India

This coat is made of 48 pieces from 4-5 different species of wildlife

- Bear bile
- Powdered rhinoceros horn

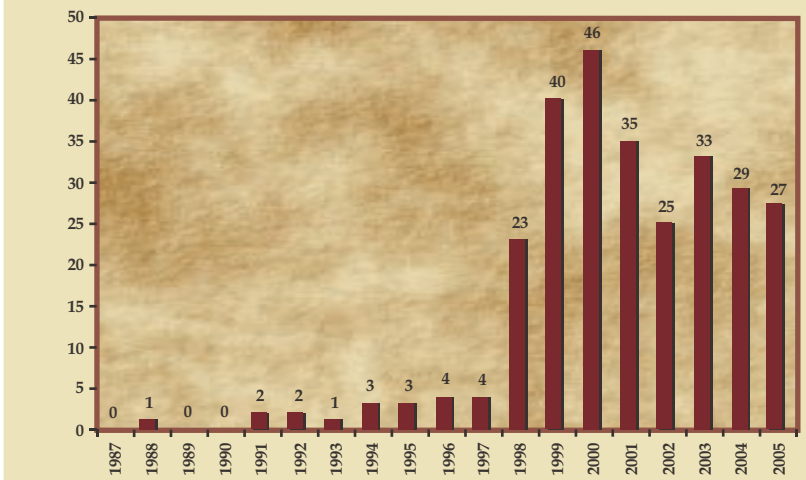
What further complicates matters is that many such products could be fake!

The challenge for wildlife forensic scientists is to develop new tools and techniques to measure characteristics that may define species and to reference these against known samples before it can be applied on new and unknown samples.

An additional challenge is that in contrast to forensic examinations that deal with crimes against human beings, wildlife forensics must deal with evidences that may be related to a huge number of species.

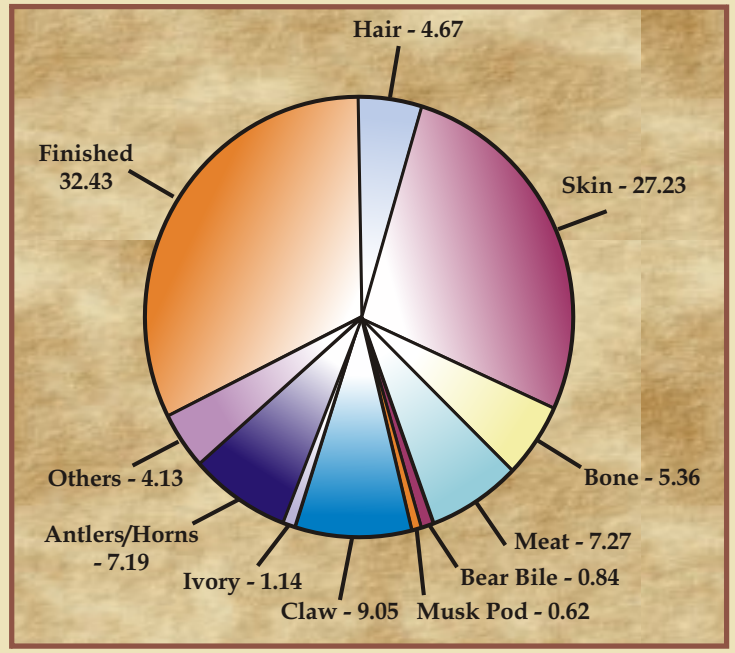
The Wildlife Forensic Facility at the Wildlife Institute of India (WII):

In India, the Wildlife Institute of India (WII) has a premier Wildlife Forensic Facility (WFF) that deals with forensic examination of wildlife samples. The facility of WII was set up with a primary goal to develop and standardise techniques for identifying the species of varied wildlife parts reported in wildlife trade and provide support to various enforcement agencies viz. Forest, Police, CBI, DRI, Courts, Government of India and Customs for implementing the *Wildlife (Protection) Act, 1972*.



Up To March 2005, the WFF at WII had received nearly 700 samples for investigation.

While WII has been receiving samples from wildlife offence cases from various enforcement agencies since 1987, the increased interest and demand for such forensic support necessitated the strengthening of such capabilities. Accordingly,



Diversity of samples for forensic examination received by WII up to 2005

samples comprise a variety of products, as is evident from the accompanying pie chart.

Some of the activities undertaken by the WFF include:

- Characterisation of species from canines
- Identification of species from hair
- Identifying species from claws and beaks
- Identifying species based on morphometry
- Identification of ivory

Recently, with support of the Ministry of Environment and Forests, Government of India, a DNA facility has also been established. This state of the art facility aims at the following:

- Establish a tissue repository: Tissues of about 125 wildlife species will be preserved here as reference samples for comparison with other samples.
- Development of species-specific molecular markers .
- Identification of the regional source of Tiger, Leopard & elephant products

These will help in identification of species from DNA sources including cooked meat and also help to locate the regional source of major wildlife products. Thus,

analysis of a seized Tiger skin would tell us which region of the country it came from. Thus, today WII has the facilities for identification of most samples of Indian wildlife species and their products based on hair, bone, skin, ivory, fur, feather, horn, meat (including cooked meat) etc.

The Centre for Cellular and Molecular Biology (CCMB) and wildlife forensics:
The Centre for Cellular and Molecular Biology (CCMB), Hyderabad, is one of India's premier national laboratories under the umbrella of the Council of Scientific and Industrial Research CSIR. It carries out high quality basic and applied research in various frontier areas of modern biology. CCMB also responds to requests for species level identification of wildlife species based on DNA techniques.

LaCONES (Laboratory for the Conservation of Endangered Species), is a specialized facility at CCMB dedicated to wildlife.

Sample collection:
The collection of samples for subsequent forensic examination is often the key to a successful investigation. All the effort in building a good case for prosecution can be undone if sample collection is not done properly. This may lead to contamination of the samples, thereby invalidating any subsequent investigations.

Samples for wildlife forensics:
Some of the samples that may be considered for wildlife forensic examination include the following:

- Hair
- Meat
- Blood
- Visceral organs
- Bones
- Faeces

Collection of samples:
The basic underlying principle of sample collection is that the collection process should not in any way contaminate the sample. Thus, the specimen to be collected should be handled carefully and sterile gloves and equipment must be used by personnel at all times. Containers and other chemicals used for storage and transport should also be free from any contamination.

Some general guidelines for sample collection are as follows:

Diagnostic Activity	Type of Specimen	Preservation Method	Type of Container	Comments
Histopathology	Tissues and lesions	10% buffered formalin	Wide mouthed, leak-proof glass or plastic	Sections no more than ¼ inch thick. Ratio of 10:1 formalin to tissue. Storage at room temperature.
Toxicology	Organs, fat, blood and ingesta or suspected contaminated foods. (All these are collected separately, sealed and kept under safe custody. A clear record of the chain of custody should be retained.)	Refrigeration or freezing, methanol	Clean glass, plastic, or metal foil	Accurate records are critical. Appropriate sampling varies with suspected toxin.
Parasitology	Worms	5% formalin	Glass or plastic	Storage at room temperature
	External parasites	70% alcohol or 5% formalin	Glass or plastic	Storage at room temperature
	Blood parasites	Air dried blood films or whole blood in anticoagulant	Glass slides or tubes	Blood slides stored at room temperature. Tubes of whole blood refrigerated

Chain of custody:
Chain of custody is an important consideration in any criminal investigation. It refers to the sequence of individuals who have held custody of the various samples from the point of collection to when they were finally analysed in the laboratory. This is important to establish that the samples were not tampered with at any point of time and thus the investigation is not adversely influenced in any manner. Lack of clear "Chain of custody" may jeopardise the admissibility of vital evidence that is crucial to successful prosecution.

Hands-on training at WII

Wildlife Forensic Sample Collection Kit

A Wildlife Forensic Kit has been developed jointly by TRAFFIC India and Forensic Cell, Wildlife Institute of India. The kit will help forest staff to collect samples in a standardised manner, analysis of which will lead to accurate investigation of the crime scene.

Often forensic samples from the wildlife crime scene are not collected in a standardised and appropriate manner. By the time they reach the forensic lab, they are damaged or have changed their nature, making it difficult for the scientist to provide accurate results. TRAFFIC India's forensic kit will help the forest staff in following a standardised protocol in collection of these samples. The kit contains most of the equipment required to collect samples such as surgical gloves, a plastic pouch, screw-capped vials, an injection syringe, a scalpel blade, forceps, scissors, a slide case, a glass slide, silica gel, filter paper, measuring tape, etc. Also, along with the kit, TRAFFIC India has produced a detailed manual on how to use the kit for collection of meat, skin, scat and blood samples of wild animals meant for forensic analysis.

The Acts which have an important bearing on wildlife enforcement in India include:

- *The Wildlife (Protection) Act, 1972*
- *The Indian Forest Act, 1927*

This act has been amended by various states and it will be useful to look at respective state amendments.

- *The Forest Conservation Act,1980*
- *The Biological Diversity Act, 2002*
- *The Prevention of Cruelty to Animals Act, 1960*
- *The Criminal Procedure Code, 1974*
- *The Indian Penal Code, 1860*
- *The Arms Act, 1959*
- *The Foreign Trade (Development and Regulation) Act, 1992*

India does not have CITES specific legislation, as of now. At present, all Export and Import, including that of (wildlife CITES Listed Species), is regulated under the EXIM Policy formulated under this act.

- *The Customs Act, 1962*

Violation of customs regulations in export and import are punishable under this Act.

- *The Prevention of Money Laundering Act, 2002*, as amended in 2009

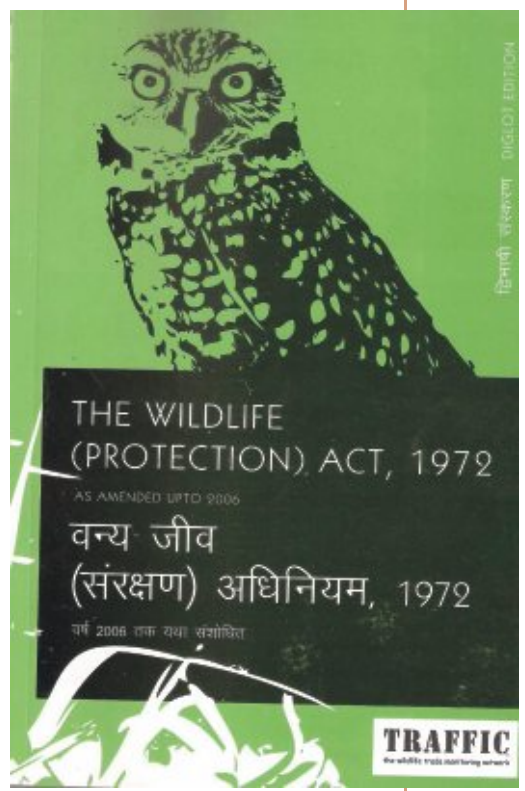
Hunting of wild animals is an offence under this Act.

Wildlife (Protection) Act, 1972 (WLPA)

In India, *the Wildlife (Protection) Act, 1972* is the umbrella legislation for the protection of wildlife. The Act has been amended several times, most recently in 2006.

Some salient features of the Act are as follows:

- It extends to the whole of India except the states of Jammu & Kashmir.
- Jammu & Kashmir have their own legislation on this subject.
- The Act classifies species into "**wildlife**" and "**wild animals"**.
- Wild animals are classified into six schedules.
- Only species listed in Schedule V (vermin) can be hunted without permission. All other species can be hunted only under special conditions and authorisations.
- Schedule I species can be hunted only in very special conditions, by the authorisation of the Chief Wildlife Warden and only when the species has become a threat to human life or is disabled or diseased beyond recovery.



- Schedule I to IV species can be hunted with permission of the Chief Wildlife Warden or the Authorised Officer if they are a threat to human life or property including standing crops, or are diseased or disabled beyond recovery.
- Species listed in Schedule I to IV and in Schedule VI are protected, wherever found.
- Wildlife, as defined under this Act is protected as part of the habitat in any Protected Area.

What are wildlife offences?

Offences are activities which are prohibited by law and for which a punishment is prescribed. The essential ingredients of an offence are, firstly a specific prohibition in law and prescribed punishment for non-compliance or violation.

Wildlife offences in India generally include offences of the following nature:

- Illegal hunting of any scheduled species under the *Wildlife (Protection) Act, 1972* or any attempt to do so (Section 9, WLPA 1972).
- Causing destruction or damage in any National Park or Sanctuary (Section 27, 35(8).
- Possession of wildlife and /or their derivatives without valid authorisation. Thus, all "animal articles, trophy or uncured trophy" derived from any animal specified in Schedule I or Part II of Schedule II, salted and dried skin of any such animal or musk from Musk Deer or rhino horn can only be kept if a written permission to do so has been obtained from the Chief Wildlife Warden. Such possession, even if it is pre-CITES convention, or pre-dating respective Indian law is considered illegal unless an ownership certificate has been obtained from the Chief Wildlife Warden.
- Domestic or international trade in scheduled species or their derivatives (Section 40(2), 43,44, 49, 49 B, WLPA 1972).
- Illegal entry in a National Park or Sanctuary (Section 27, 35 (8), WLPA 1972).
- Entering a National Park or a Sanctuary with a weapon (Section 31, 35(8) of WLPA 1972) .
- Causing fire or using injurious substances in a Sanctuary, National Park, Community Reserve, Conservation Reserve or Tiger Reserve (Section 30, 32,35(8), 36 A (2), 36C(2), 38V(2)).
- Teasing or molesting of animals, causing disturbance or littering in a zoo (Section 38J WLPA 1972)

Other activities that may have an adverse impact on wildlife and its habitat such as disturbance, noise, pollution, anchoring-on-reefs, tourism disturbance, and genetic impact due to GMO etc. are not included within the ambit of the present discussion.

Penalties under the WLPA:

- General Penalties for violation of the Act can be a minimum of three years of imprisonment extending up seven years and/or a maximum fine up to INR 25 000.
- For offences committed in respect of an animal in Schedule I or Part II of Schedule II, the penalty is a minimum of three years of imprisonment extending up to seven years and a minimum fine of INR 10 000. There is no upper limit to the fine.
- For trade in respect of an animal listed in Schedule I or Part II of Schedule II, the penalty is a minimum of three years of imprisonment extending up to seven years and a minimum fine of INR 10 000. There is no upper limit on the fine.
- For offences committed in the core area of a Tiger Reserve or hunting in a Tiger Reserve, the penalty is a minimum of three years of imprisonment extending up to seven years in jail and with a fine of not less than INR 50 000 extending up to INR 2 00 000. For a second such offence, the minimum penalty is imprisonment of up to seven years and fines not less than INR 5 00 000 up to INR 50 00 000.

All offences under the *Wildlife (Protection) Act, 1972* except those related to teasing of zoo animals (Section 38 J), are non-bailable and cognisable. This implies that a person accused of any offence under this Act can be arrested without a warrant and bail is not granted to him as a matter of right.

Establishment of the Wildlife Crime Control Bureau:

A Wildlife Crime Control Bureau (WCCB) has been established by the Ministry of Environment and Forests, Government of India, under the provisions of Chapter IV-C, Sec 38 Y & Z of the *Wildlife (Protection) Act, 1972* as amended in 2006. It is being seen as a major opportunity to address the issues of illegal trade in wildlife in India.

Some Important Points for Prosecution of Wildlife Offences:

Wildlife offences can be sent to court only as a complaint (Section 190, Cr. P.C. and Section 55 of the WLPA, 1972). This is true for all, including police officers who sometimes send charge sheets to courts in wildlife offences under the WLPA 1972. There is no fixed format for a complaint. However, a complaint should necessarily have the following ingredients:

a) Name and designation of the officer or person filing the complaint including brief description of duties
b) Name, parentage, age, occupation and other relevant details of the accused
c) Date of commission/detection of the offence
d) Date of complaint
e) Location of scene of crime–whether Reserve Forest/ Protected Forest/ Protected Area/Tiger Reserve etc.
f) Sequence of events
g) Correct identification of species involved. Also mention Schedule and serial number of where it is listed in the WLPA, 1972. If correct identification of species cannot be made and only a strong suspicion exists on the species involved, the same should also be stated.
h) Nature of offence: Please spell out in detail, the violation of specific provisions of the WLPA, 1972 and other Acts, if any. Please quote detailed sections and sub-sections of the Acts such as WLPA 1972, Forest Conservation Act, Arms Act, Indian Penal Code etc.
i) Type of weapon or other tools used/ seized etc.

j) The prayer: This should highlight the gravity of the offence and ask for the maximum punishment as prescribed in the act and also any other punishment that the Hon. Court may deem fit.
k) Supporting evidence
l) List and statements of witnesses
m) Statement of accused
n) Seizure memo
o) Relevant sketches/ photographs/videographs etc.
p) Forensic reports, if any
q) Copies of notifications of the Protected Area where the offence was deemed to have been committed
r) Maps of such Protected Area, identifying location of crime and other important locations
s) Copies of notifications authorising public servant to file the complaint under Sec. 55 of the WLPA, 1972
t) Copies of relevant judgements of Higher Courts which have a bearing on the case

Who can investigate a wildlife offence?

The WLPA 1972 is not a complete code and does not lay down any detailed guidelines for investigation of wildlife offences. As such any forest officer may conduct an investigation of a wildlife offence. However, the WLPA 1972, under Sec. 50, (8) provides for special powers to be exercised by officers not below the rank of Asstt. Director of Wildlife Preservation and Asstt. Conservator of Forests for the purpose of investigating offences under this act. This only implies that the concerned officials have additional powers for the purposes of investigation and not that they are the only officials empowered to carry out such investigations.

The Hon. Supreme Court of India, in CBI v/s Motilal (2001) has held that the Police and the CBI can also investigate wildlife offences.

Who can go to Court?

As per the provisions of Sec. 55 of the WLPA 1972, the following persons can file a complaint under this act:

I. Director of Wildlife Preservation or any other officer authorised on this behalf by the Central Government
II. Member Secretary, Central Zoo Authority in matters of violation of Chapter IV-A
III. Member Secretary, National Tiger Conservation Authority
IV. Director of concerned Tiger Reserve
V. Chief Wildlife Warden or any other officer authorised on this behalf by the state government, subject to conditions as specified by the state government
VI. Officer in charge of a zoo with respect to violations of Sec 38-J
VII. Any person who has given a notice of 60 days in the prescribed manner of the alleged offence and of his intention to make a complaint to the central government or state government or the authorised officer.

When the person filing the complaint is a government servant, it is important that he is duly authorised to do so and must also enclose a copy of this authorisation at the time of the filing of the complaint.
In several states, forest officers of the rank of Range officers and above and police officers not below the rank of an Asstt. Sub Inspector of Police, in charge of a police station are authorised to file complaints under the WLPA, 1972.

It is also important to note that Courts can take cognisance of offences under the *Wildlife (Protection) Act, 1972,* only on the basis of a complaint.

A Police chargesheet is NOT equivalent to a complaint and even the police are required to file a complaint for wildlife offences.

Part - III

“Being unconquerable lies within yourself; being conquerable lies within the enemy.”

Sun Tzu, *Art of War*

Leopard *Panthera pardus*

SOME IMPORTANT INDIAN WILDLIFE SPECIES AND PRODUCTS IN TRADE

This section describes some of the species and wildlife products commonly in trade in India. While the list of such species in trade is very large, this section attempts to capture snapshots of such species in trade, including a diversity of the well known, the not so well known and the least known. As such, it does not claim to be a comprehensive list of all such species but at the same time aims to provide an idea of the very diverse nature of such trade.

Eurasian Otter *Lutra lutra*

Tiger skins

Tiger bones

Scientific names: ***Panthera tigris tigris***
Other common names: Bengal Tiger, Royal Bengal Tiger

Vernacular names: ***Bagh*** **and** ***Sher*** **in Hindi,** ***Nahar***, ***Sela*** **and** ***Vagh*** **in Central India,** ***Wagh*** **in Marwari,** ***Kei*** **in Manipuri,** ***Poolee*** **in Tamil and Telegu,** ***Kaduwa*** **in Malayalam,** ***Hoolee*** **in Kannada.**

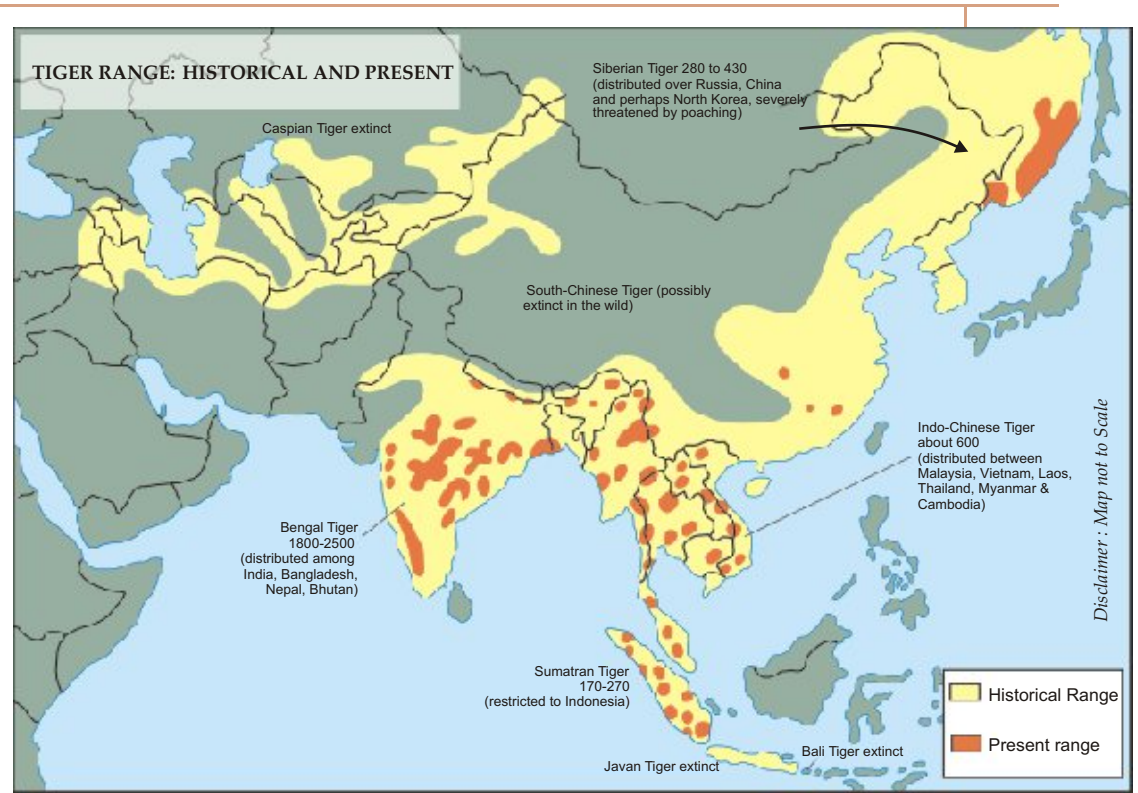
Conservation Status:

a) WLPA 1972: Schedule I
b) CITES: Appendix I
c) IUCN Red List: Endangered

Description:

Tigers, with their bright orange coat and black stripe pattern, are one of the most familiar and recognisable cat species. They are the largest cat species in the world. Their coat colour varies with geographical location and habitat type. 'White Tigers' are the product of a recessive gene, unlike 'albinos' of other animal species. Their head is broad and massive. In male Tigers, the face is fringed with a ruff.

Size	
Weight	**135—230 kg**
Length	**Body Length: 240—310 cm**
Tail Length	**60—110 cm**
Shoulder height	**80—110 cm**



Distribution:

a. **India:** Throughout India from the Shivalik, in the lower Himalayan foothills to Cape Comorin, Kanyakumari in South India, except in the deserts of Rajasthan, Punjab and Jammu and Kashmir
b. **Global:** Other populations occur in Bangladesh, Bhutan, Cambodia, China, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, North Korea, Russian Federation, Thailand and Vietnam

Habitat:

Varied, including tropical evergreen and deciduous forests, mangrove swamps, tall grass, jungles, temperate coniferous and birch woodland and tall grasslands of the Himalayan foothills and Himalayan foothill forests up to an elevation of 4000 m. Dense vegetative cover free of biotic disturbances, sufficient large prey species and water are essential components of its habitat.

Threats:

- Habitat loss and degradation
- Poaching

Common methods of poaching:

- Shooting
- Electrocution
- Poisoning
- Traps and snares (leg hold traps)

Tiger wine

Parts targeted in trade:

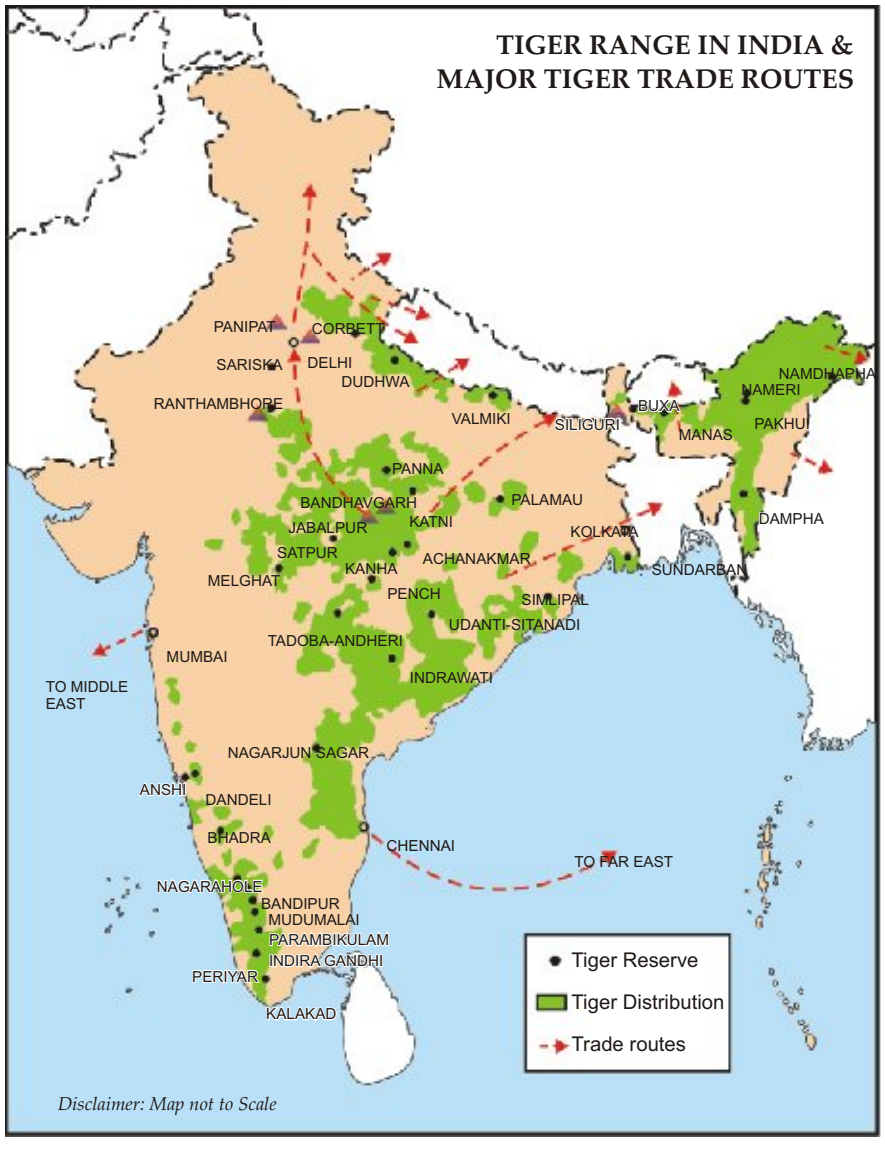
- Skins, bones and other body parts/organs

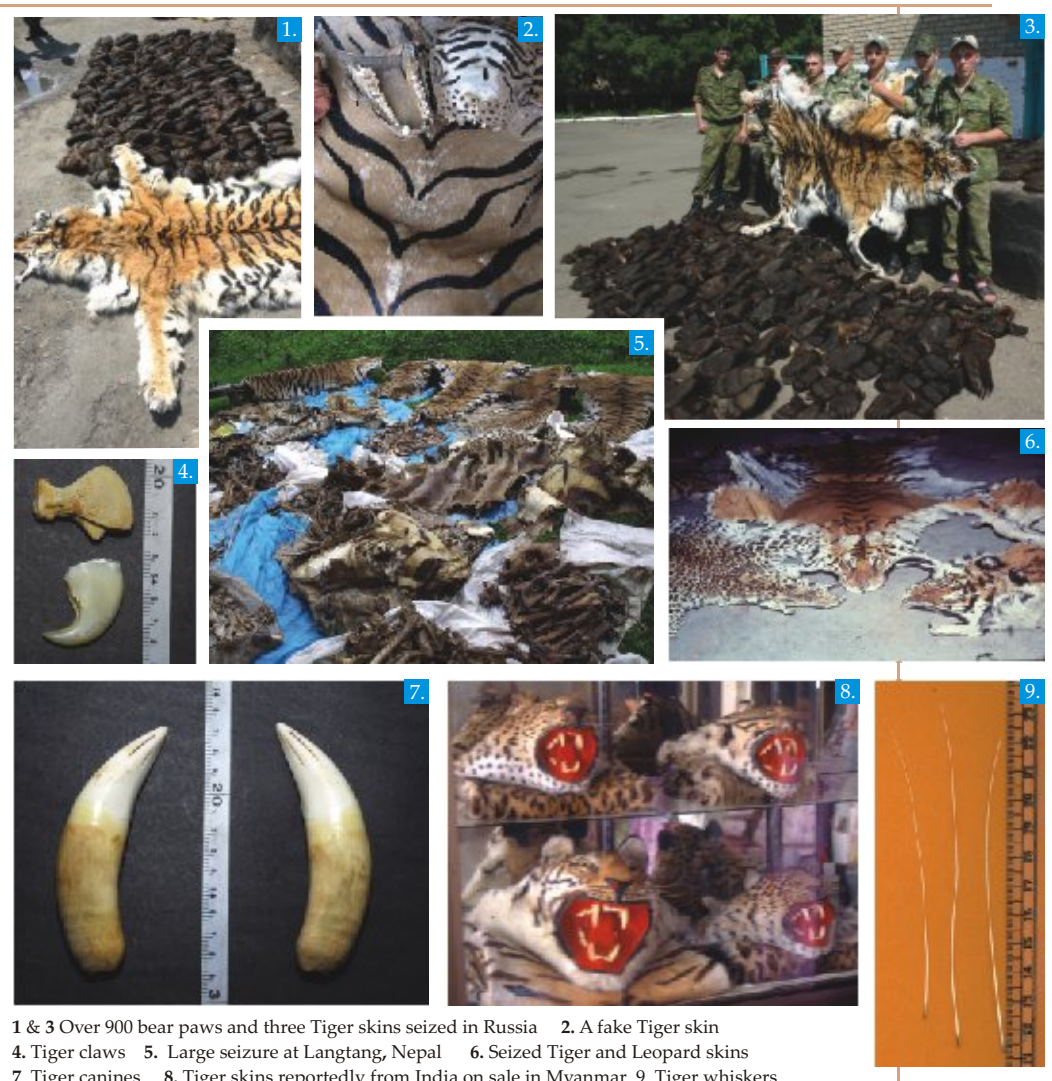
Form in which the part/derivative is traded:

- Tiger skins are used for making fur coats, jackets, handbags and also as trophies in Tibetan Autonomous Region of China, Japan, Hong Kong, South Korea and the Russian Federation.
- Almost every part of the Tiger's body including flesh, fat, bones, claws, bile, eyeballs, whiskers, nose, floating ribs, testes, penis etc. are highly valued for use in Traditional Chinese Medicines.
- Tiger bone plaster and wines are also highly coveted on the illegal market.
- Live Tigers are also coveted for the circus and entertainment trade.

Common trade points within the country: Delhi, Mumbai (Maharashtra), Chennai (Tamil Nadu), Jabalpur (Madhya Pradesh), Kolkata (West Bengal).

TIGER RANGE IN INDIA & MAJOR TIGER TRADE ROUTES





1 & **3** Over 900 bear paws and three Tiger skins seized in Russia **2.** A fake Tiger skin
4. Tiger claws **5.** Large seizure at Langtang, Nepal **6.** Seized Tiger and Leopard skins
7. Tiger canines **8.** Tiger skins reportedly from India on sale in Myanmar 9. Tiger whiskers

International trade routes:

A favoured route for smuggling Tiger skin and other body parts out of India is directly or via Nepal through Tibet where the bones are usually bartered for Shahtoosh (the down hair of the Tibetan Antelope *Pantholops hodgsonii* or *Chiru*). Tiger derivatives from India are also reported to find their way to Myanmar and Bangladesh, usually in transit to other countries.

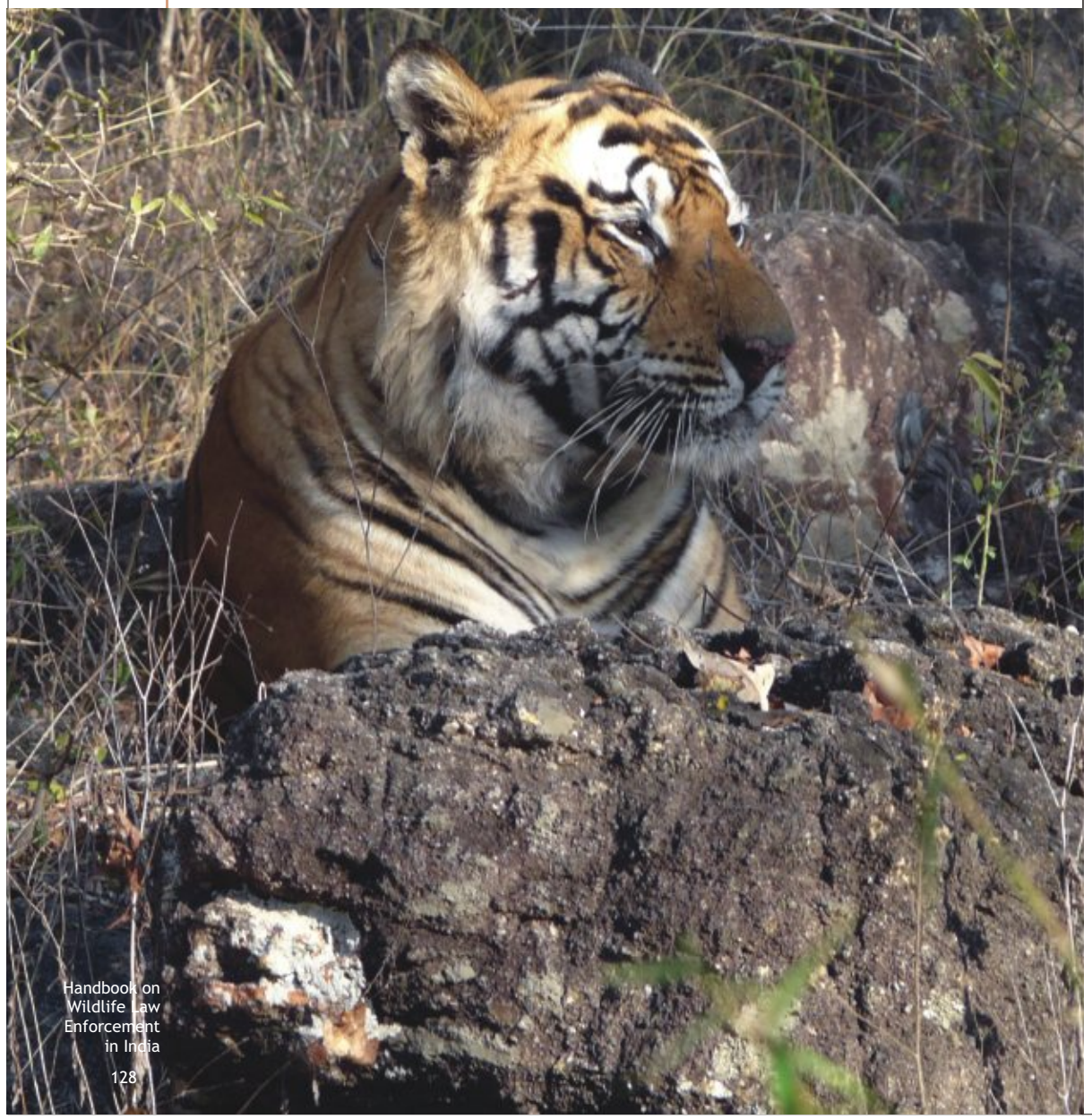
Identification

The skin is immediately recognisable by its unique reddish-orange coat with black stripes. Though fake skins are widely in circulation and are prepared by dyeing black stripes on turmeric coated skins of dogs, horses or cattle. Therefore to validate the authenticity of the skin, a dyed hair is pulled out and examined. Such hair from a fake skin will generally have a white portion at its base. In a real tiger skin, the black hair is of uniform colour from tip to bottom.

Tanning board recovered from wildlife traders in Khaga

The claws have a distinct bony claw collar with a keel like proturbance inside the keratinous sheath. A canine of a Bengal Tiger is about 7.5 to 10 cm in length and distinctly larger than those of any other comparable species.

Other notes: Leopard *Panthera pardus* bones are often used as a substitute for Tiger bones. Recently, the Lions *Panthera leo persica* of Gir forest in India have also been targeted for their bones. Lion bones are also for producing wine in China.



Leopard

Scientific name: ***Panthera pardus***
Other common name: Panther

Vernacular names: ***Tendua*** **and** ***Guldar*** **in Hindi,** ***Diblya Wagh*** **in Marathi,** ***Chirathe*** **in Kannada,** ***Chirutai puli*** **in Telugu/Tamil,** ***Pulli*** **in** ***Malayalam,*** ***Cheeta Bagh*** **in Bengali,** ***Kelral*** **in Mizo,** ***Khare-suh*** **in Kashmiri ,** ***Dipdo*** **in Gujarati,** ***Pendra*** **in Oriya**

Conservation Status:

a) WLPA 1972: Schedule I
b) CITES: Appendix I
c) IUCN Red List: Least Concern

Description

Leopards are the most widespread and adaptable out of the big cat species. Coat colour is usually fulvous to bright golden, marked with small close-set rosettes and spots. Coat pattern and coat colour varies with habitat type and geographical location. Head, limbs and tail are also spotted. Body is long and well built, supported on rather short stocky legs. Ears are small and round with a white spot or spots behind them.

1.

2.

3.

4.

1. A poacher with a Leopard skin recovered from him **2.** Leopard skins
3. Leopard skin pattern **4.** Snow Leopard, Leopard and Clouded Leopard skins

Size

Weight	**25—60 kg**
Length	**Body Length: 95—167 cm**
Tail Length	**60—97 cm**
Shoulder height	**50—75 cm**

Distribution:

a. India: Widespread across the country up to 3000 m.

b. Global: Throughout most countries of Africa south of the Sahara; rare on the Arabian peninsula and across the Middle East including the Caucasus; extending east to South and Southeast Asia and Java; as well as northward to China and the Russian Far East. More recently they have been extirpated in all North African countries except Morocco. Overall, Leopards are most common in east, central and southern Africa and rarer elsewhere.

Habitat:

Highly adaptable. Arid areas and grasslands, lowland forests, deciduous and evergreen forests, scrub jungle, open country, and fringes of human settlement and habitation.

Threats:

- Poaching (trapping: leg-hold traps and snares)
- Habitat loss and degradation
- Human-wildlife conflict, and decline in prey species.

Common methods of poaching: Poaching is done by using leg hold steel traps, snares and shooting.

Parts targeted in trade: Primarily skins, claws and bones.

Form in which parts are traded: Leopard skins and other body parts are traded as trophies, ornaments, items of clothing and for use in Traditional Chinese Medicines (TCM).

Common trade points within the country: Delhi, Jabalpur (Madhya Pradesh), Pithoragarh (Uttarakhand), Kolkata (West Bengal), Chennai (Tamil Nadu).

International trade routes: The trade in Leopard parts and derivatives is similar to that of Tigers. Leopard bones are sometimes used as adulterates/substitutes for Tiger bones.

Identification: Leopard is one of many spotted cats that occur in the world. It is often mistaken for a Cheetah *Acinonyx jubatus* or a Jaguar *Panthera onca*. The Leopard has rosettes rather than a Cheetah's simple spots, but they lack internal spots, unlike the Jaguar. The Leopard is larger and less lanky than the Cheetah but smaller than the Jaguar. The Leopard also lacks the tear marks near the eyes, which are present in the Cheetah.

Asian Elephant

Scientific name: *Elephas maximus*
Other common names: Asiatic Elephant, Indian Elephant.

Vernacular names: *Hathi* in Hindi, Bengali and Assamese, *Hasti* in Sanskrit, *Samu* in Manipuri, *Yanai* in Tamil, *Aana* in Malayalam, *Aane* in Kannada.

Conservation Status:

a) WLPA: Schedule I
b) CITES: Appendix I
c) IUCN Red List: Endangered

Description:

The Asian Elephant is the largest land mammal in India. It has a distinct depression at the neck region and the back is arched and humped. The Asian Elephant has a two domed forehead, with a single finger-like projection on the trunk tip. Its skin is thick and dry, covered with a few, bristly hairs. The skin colour varies from grey to brown. The tail is small, with a hairy tuft of thick bristles at the end. In Asian Elephants, only the males have tusks, which are usually 200—250 cm long and 30—40 kg in weight when full grown.

Size

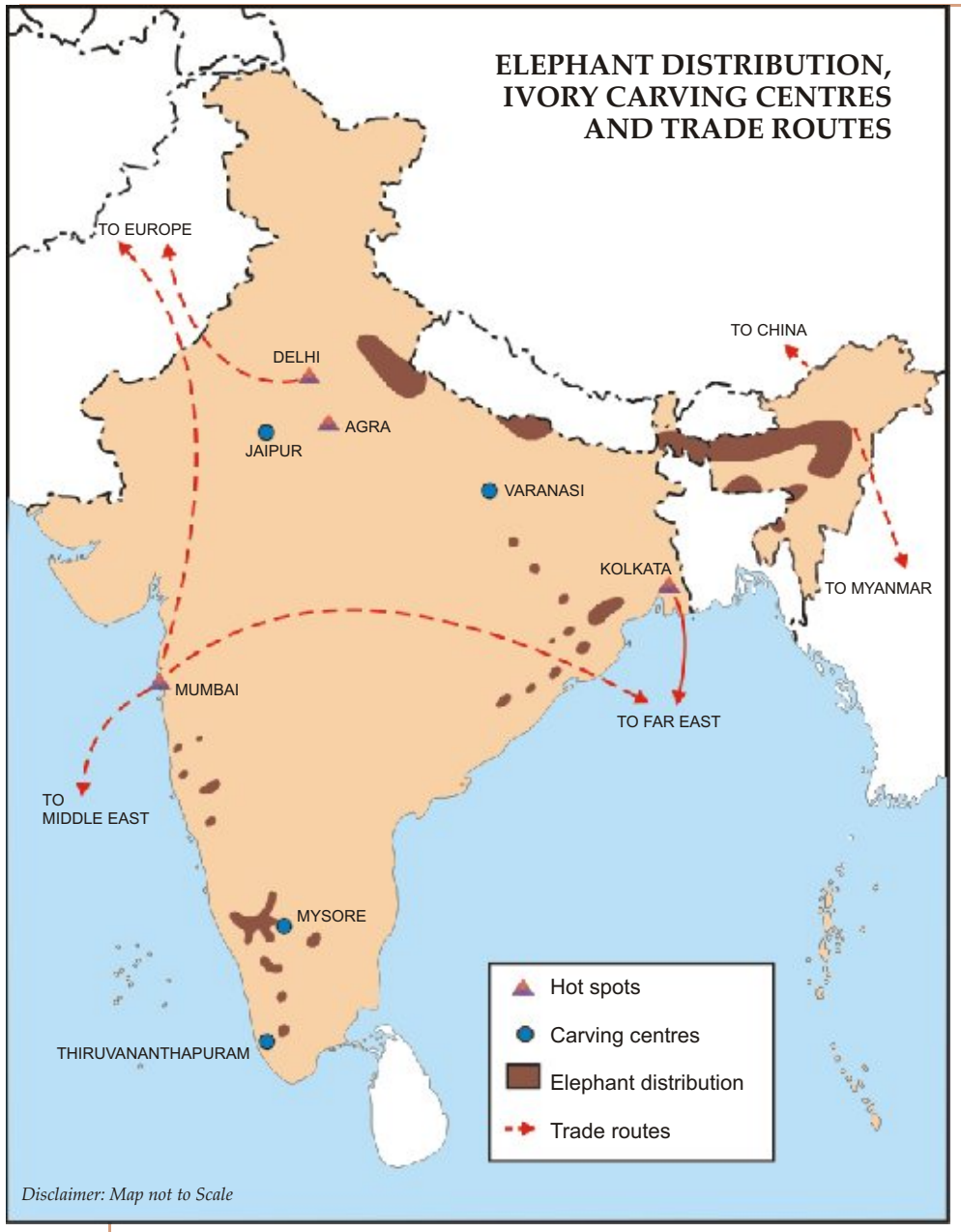
Weight	**3000—5000 kg.**
Length	**Body length: 550—640 cm, Tail length: 100—130 cm**
Shoulder height	**250—300 cm**

Distribution:

a) India: Assam, Arunachal Pradesh, Mizoram, Meghalaya, Tripura, Manipur, Bihar, Orissa, West Bengal, Jharkhand, Uttarakhand, Uttar Pradesh, Karnataka, Kerala, Tamil Nadu.

b) Global: Nepal, Bhutan, Bangladesh, Sri Lanka, Myanmar, China, Thailand, Cambodia, Laos, Vietnam, Malaysia, Indonesia

1. Elephant killed by poachers **2. & 4.** Ivory carvings on offer in Taipei
3. Ivory seized at an international airport



Habitat:
It is found in different type of habitats such as tropical and subtropical moist broadleaf forests, tropical and subtropical dry broadleaf forests including open grasslands, marshes, savannas and forests.

Threats:
- Poaching for trade and also human elephant conflict acts as a catalyst.
- Habitat loss and degradation
- Illegal live capture


Ivory seizure in Taiwan

Common methods of poaching: Elephants are shot and electrocuted for ivory or meat. They are also poisoned by lacing locally brewed alcohol with pesticides or insecticides or by use of poison darts. Regardless of the mode in which elephants are killed, the process of extracting the ivory is the same. In order to obtain all the ivory from the Elephant, the poacher must cut into the head because approximately 25% of the ivory is contained internally in the head.

Parts targeted in trade:
- The tusks, bones, tail, hairs and sometimes flesh for consumption.

Form in which the part/derivative is traded :
- Raw or unworked ivory in the form of whole tusks, or cut into 2 or 3 large pieces
- Worked ivory in the form of bangles, rings, bracelets, hankos, toothpicks, statues, carved tusks, chess pieces etc.
- Powdered ivory for medicinal purposes

Common trade points in the country: Jaipur (Rajasthan), Kolkata and Siliguri (West Bengal), Calicut and Thiruvananthapuram (Kerala), Mangalore (Karnataka), Mumbai(Maharashtra),Visakhapatnam(AndhraPradesh),Guwahati (Assam), Haridwar (Uttarakhand), Delhi.

International trade routes: Dubai, Nepal, Bangladesh, Far East, Myanmar, Southeast Asia, finally into China and Japan

IMPORTANT: As per directions of the Supreme Court of India, trade in all forms of ivory, including African Elephant ivory, Walrus ivory, Narwhal ivory and Mammoth ivory is prohibited in India.

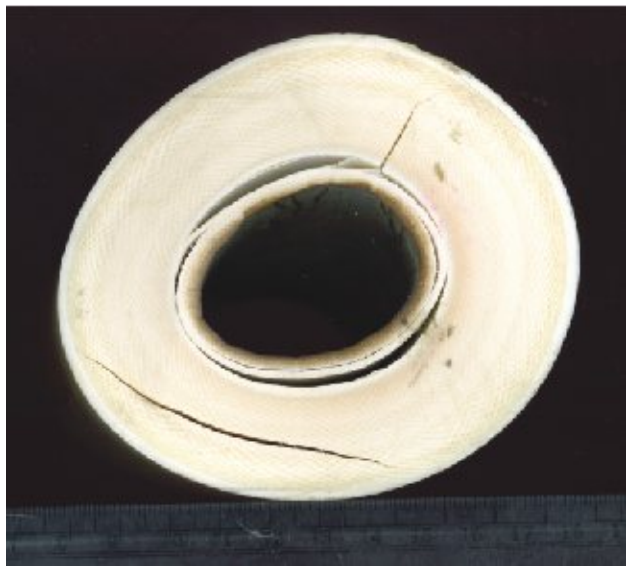
Identification
- Ivory can be distinguished from bone by heating it on an open flame. Bone will char easily while ivory would only blacken at higher temperatures.
- For positive identification, lab tests including examination of a cross-section under the microscope are recommended. Distinct features including hatch markings and angles of Schreger lines* can be clearly identified.
- Ivory from Asian Elephants can be distinguished from African ivory by identifying the difference in angles between the Schreger lines of the respective species.
- Fake ivory can be made from bones of different animals such as camels and also from elephants and wood. These may also be coated with varnish and resin to give it an older look. On closer examination, the chiselling and carving marks on such fake products can be clearly seen.

*Schreger lines are characteristic cross-hatchings seen in ivory.

Ivory Buddhas in a market in Thailand

Ivory painted to look like wood

Ivory carving workshop, Thailand



Schreger lines in ivory

Rhinoceros

Scientific name: ***Rhinoceros unicornis***
Common name: **Great Indian Rhinoceros; Greater One-horned Rhinoceros**

Vernacular names: ***Gainda*** **(Hindi),** ***Gaur*** **(Assamese),** ***Samu Gainda*** **(Manipuri),** ***Gondar*** **(Bengali),** ***Genda (Marathi)***.

Conservation Status:

a) WLPA1972: Schedule I
b) CITES: Appendix I
c) IUCN Red List: Endangered

Description:

The Greater One-horned Rhinoceros has a thick hide with several skin folds and large raised bumps on the neck, shoulders and flanks—a characteristic that differentiates it from the closely related Javan Rhinoceros *Rhinoceros sondaicus*. The other distinguishing feature is the neck fold in the Greater One-horned Rhinoceros, which does not continue across the back. The hide is generally free from hairs except the edges of the ears, the eyelashes, and the tuft on the tail. The hide colour is grey-brown and it is covered with rivet-like tubercles. The upper lip is triangular and prehensile and aids in feeding. It has a dark coloured horn (usually 50 cm long) composed of modified hairs. Horn is present in both sexes.

Size:	**Shoulder height 175—200 cm**
Weight	**1500—2100 kg**
Length	**Body : 300—380 cm, Tail Length: 70 cm**

Growth pattern of horn in Greater One- horned Rhinoceros:

Age	**Size**
At birth	**no protuberance**
6 months	**1—1.6 cm**
1 year	**3.3–5.3 cm**
2 year	**6.6—8.8 cm, basal circumference 17.6—22 cm**
3 years	**8.8—13.2 cm, basal circumference 17.6—44 cm**
3-20 years	**20—22 cm**
25-30 years	**reduction in size due to wear and tear**

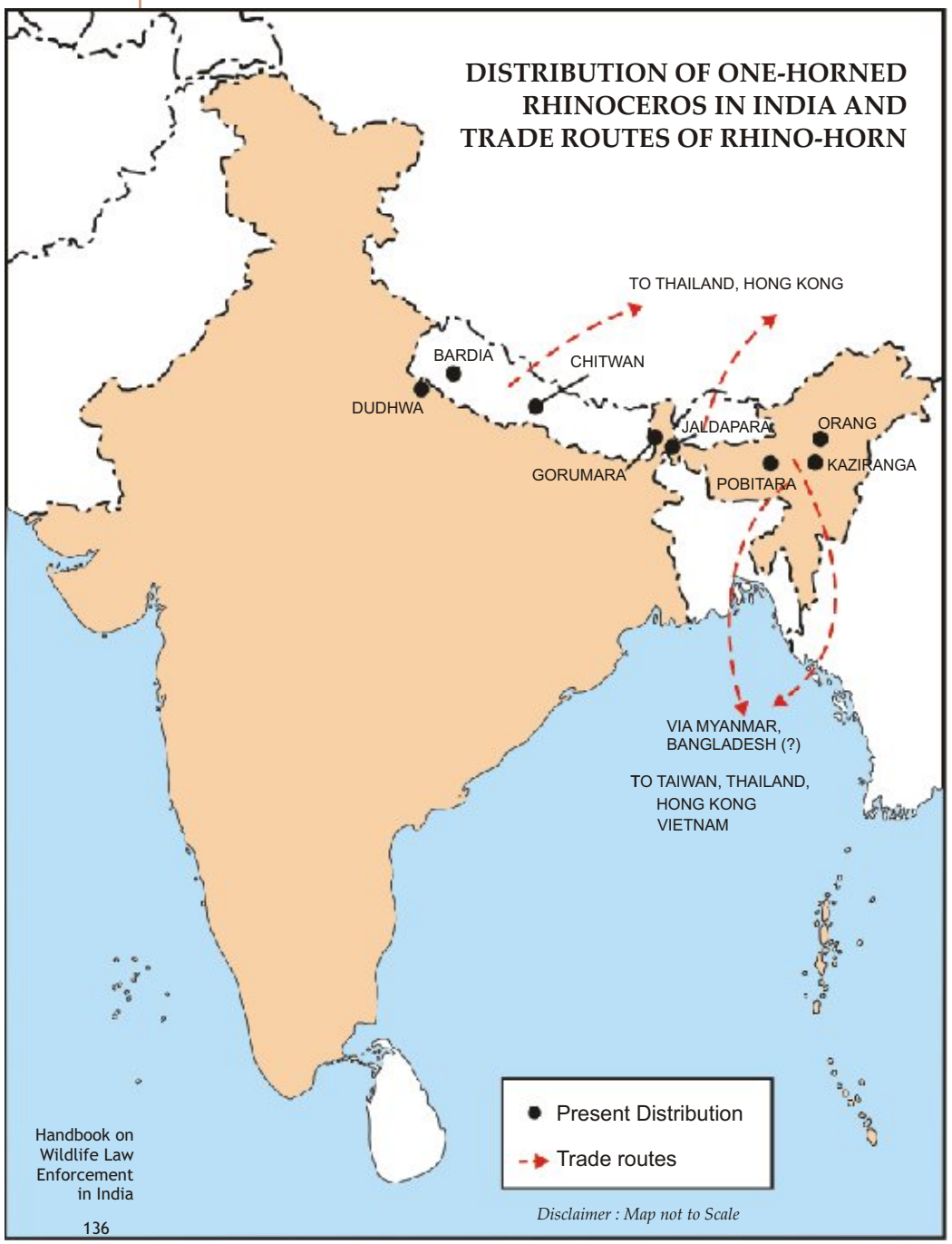
Distribution:

a. India: West Bengal in the north (Jaldapara and Gorumara), Assam (Manas, Orang, Laokhawa, Pabitora and Kaziranga) that holds the largest population of rhinos worldwide and Uttar Pradesh (relocated population, only in Dudhwa Tiger Reserve).

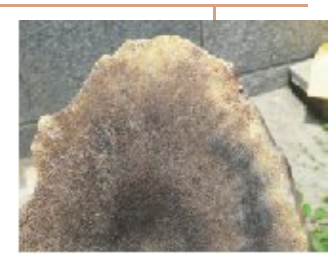
b. Global : In Nepal and in lowland Bhutan

Habitat:
All along the terai from east Uttar Pradesh (Dudhwa) to Assam. Grassland with open scattered trees.

Threats:
- Habitat loss and degradation
- Poaching



Common methods of poaching:
- Electrocution
- Pit poaching
- Shooting with firearms, spear
- Poisoning


Underside of a rhino horn

Parts targeted in trade:
- Mainly the horn, which commands a high price internationally.


A rhino horn

Form in which the part/derivative is traded:
Derivatives/products:
- As powder for use in traditional medicines mainly in China, Taiwan, Japan and South Korea
- In Yemen and Oman, for making dagger handles called *jambias, khanjars*
- Rings as a lucky stone.
- Flesh, blood, urine (Nepal, India) or various cultural, religious uses including urine hung in a vessel at the principle door as a charm against ghosts, evil spirits and diseases.

Common trade points in the country: Guwahati, Silchar and Tezpur in Assam; Imphal in Manipur; Kolkata and Siliguri in West Bengal; Kohima and Dimapur in Nagaland and the Indo-Nepal border along Uttar Pradesh are the major centres for illegal trade of rhino horn.


Real rhino horn (on left) with two fakes

International trade routes: Tezpur to Nepal,(via Guwahati) via Bhutan (Paro to Bhutan), Tezpur to East Asia (via Silchar, Dhaka, Bangladesh),Tezpur to Myanmar (via Naga Border), East Dimapur town of Nagaland is a major illegal rhino horn trade centre, as is Siliguri in West Bengal. These are important trade routes to Myanmar, Bhutan and Nepal respectively.


A rhino killed for its horn

Identification :
- Rhino horn is made of conjugate hair and its base has numerous pores. It is composed entirely of keratin, which is a class of protein. If a piece is burnt, it will give the smell of burning hair.
- A chemical test carried out by adding 1 ml of concentrated nitric acid to about 50 mg of rhino horn followed afterwards by a few drops of ammonia solution also helps to identify rhino horn. An orange-yellow colour confirms the presence of keratin.
- The surface is rough. The tip is generally rounded due to use.

Fake rhino horns, including that made of buffalo horn, wood or bamboo roots have been recovered from time to time.

Tibetan Antelope

Scientific name: *Pantholops hodgsonii*
Other common names: Longhorn Antelope, Tibetan Tsus (male), Chus (female)

Vernacular name: *Chiru* **(Tibetan)**

Conservation Status
a) WLPA 1972: Schedule I
b) CITES: Appendix I
c) IUCN Red List: Endangered

Description:
Chirus are endemic to the Tibetan plateau. They have a short, dense and woolly pale-fawn coat. The face and fronts of the legs are dark, and the underparts are white. They have a distinctive swollen snout and slender, black, vertical, laterally flattened and ridged horns that are about 51—71 cm long with a very small curve at the tip. Looking at the side profile, the horns suggest a one-horned animal. They have slender legs, a white rump patch and short tail.

Size

Weight	**25—35 kg**
Length	**Body length: 120—130 cm, Tail length: 18—30 cm**
Shoulder height	**90—100 cm**

Distribution:
a. India: A small population in the Chang Chen Mo Valley in Ladakh, eastern Kashmir; migratory by nature, it comes into Ladakh through the Lanak La Pass, at the head of the valley from Tibet.
b. Global: China, Arjin Shan Nature Reserve, Kekexili Nature Reserve (a high altitude province in Northern Tibet). The main stronghold of the species is in the remote Changthang area of north-western Tibet.

Habitat:
Temperate grassland, high altitude plains, hills, open plateau. The Tibetan steppe at elevations of 3700—5500 m. *Chirus* live on the high mountain steppes and semi-desert areas of the Tibetan plateau such as Kekexili, where they feed on various forb and grass species.

Threats:
- Tibetan Antelopes have never been domesticated, so poaching of wild animals remains one of the most serious threats to the species. It is slaughtered illegally for its "wool" that is actually the underfur of the species. This is known as "Shahtoosh" or "king of wool." Several *chirus* are killed to provide wool for a single shawl. (The underfur is collected only after the death of the *Chiru*.)

Common methods of poaching :
- The animals are slaughtered brutally in herds using automatic or semi-automatic weapons.
- They are also sometimes killed with swords and spears.

Parts targeted in trade: Mainly new line wool**,** but meat and horns are also utilised. The valuable under wool (Shahtoosh), is mainly smuggled to Kashmir where it is woven into an extremely fine fabric. The horns of males are used in Traditional Chinese Medicine (TCM).

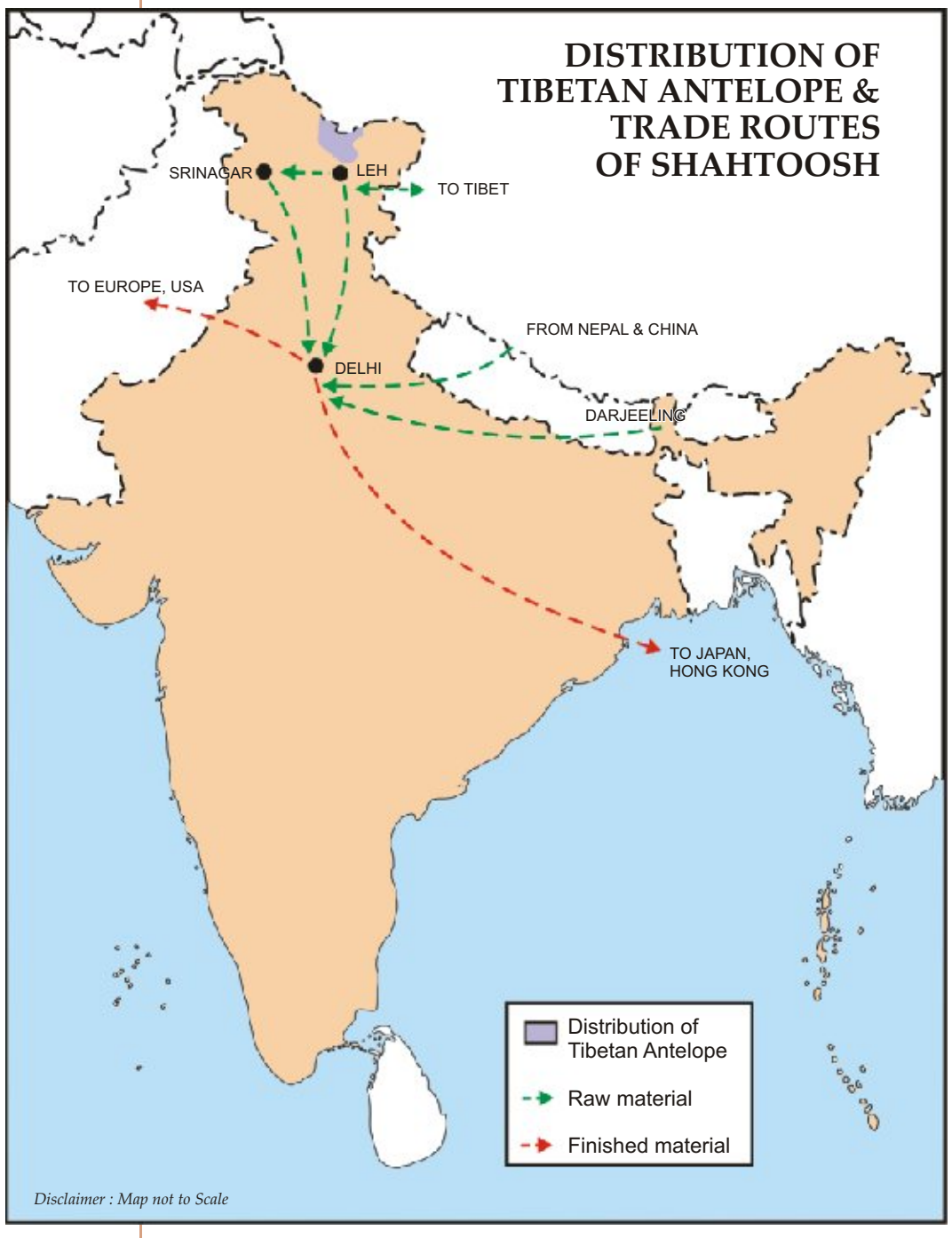
Form in which the part/derivative is traded : Raw wool or shawls, scarves .

Common trade points within the country: Srinagar (Jammu and Kashmir), Delhi.

International trade routes: Srinagar to Delhi and onwards to Europe, United States of America, Hong Kong, Thailand and Japan. Kathmandu is also an important trading point.

Identification
- Shahtoosh wool and shawls are incredibly light and soft. Shawls generally weigh between 110—150 g based on weaving. Occasionally, the wool is mixed with Pashmina which is derived from a goat.
  Ladies' shawls may be of size 2 x 1 m while gents' shawls commonly known as *Doshala* are 4 x 2—2.5 m in size
- The wool can be identified under the microscope based on cuticular and medullary patterns.

Wildlife Crime Control Bureau officials seize a consignment of Shahtoosh shawls



Bunch of Hair

Single Hair

Root

Musk Deer

MUSK DEER
Name: Himalayan Musk Deer
Scientific name : *Moschus chrysogaster*
Other common names: Alpine Musk Deer
Vernacular names: *Kastura, Mushk* (Hindi).

Conservation Status:

a) WLPA 1972: Schedule I
b) CITES: All subspecies of AF, BT, IN, MM, NP and PK in Appendix I, all other populations in Appendix II
c) IUCN Red List: Endangered

Description:
Musk deer are well known for "Musk"(a fragrant brownish wax like substance) which is obtained from a gland situated at the abdomen of only the male deer. Musk deer do not have antlers, but have a gall bladder unlike true deer species. They also have long upper canines (7.5 cm long), which are visible even when the mouth is closed. The body is covered with a long, thick, bristly coat, which is rich dark brown in colour, mottled with light grey above and paler beneath. The chin, inner side of the ears, and insides of the thighs are whitish, and occasionally there is a spot of white on each side of the throat. The tail is small and hairless except for a small tuft at the end. Ears are large. Their hind limbs are longer than their forelimbs and the backbone is arched. They have a typical hopping gait.

Size

Weight	**13—18 kg**
Length	**Body length: 86—100 cm, Tail length: 4—6 cm**
Shoulder height	**53—80 cm**

Distribution:

a. India: Jammu & Kashmir (excluding Ladakh), Himachal Pradesh, Uttaranchal, Sikkim & Arunachal Pradesh.
b. Global : Ranges over a wide area in Central and north-eastern Asia.

Habitat:
Mountain slopes and on terraces, foothills, in mountain valleys, and on river bank escarpments. Sub-alpine oak and rhododendron forests, alpine scrub and meadows and upper temperate oak forests.

Threats:

- Poaching of the species for musk
- Poaching for medicinal purposes

Common methods of poaching :

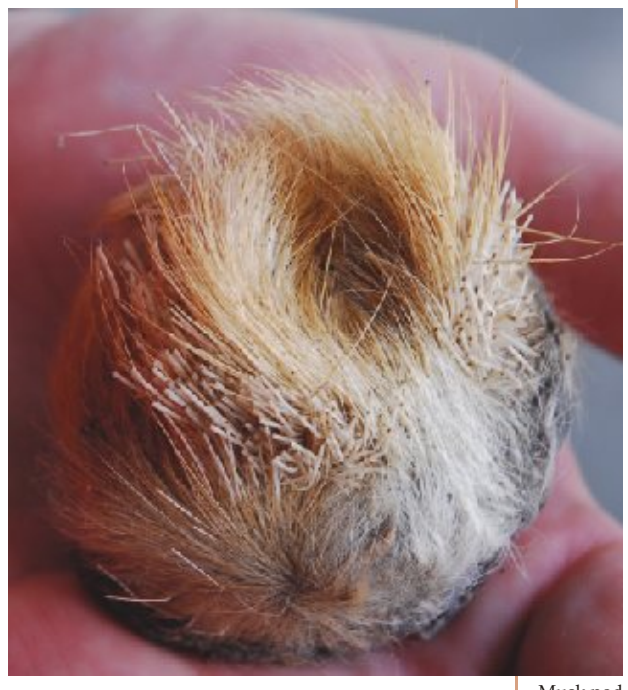
- Poaching is done with country-made guns (muzzle loading), hunting dogs, *Thakel*—a local Nepalese term for a trap, traps, spears, bow and arrows, snares, *Shola* (A local term for an ambush). Pit traps. Snares are also used in Russia and China.

Parts targeted in trade: Meat, skins and pod/*kasturi*/musk, a strong-smelling secretion produced by the musk glands present in the male.

Except for the protruding canines seen in males there are no other distinguishing features, making it difficult to differentiate them from females in the wild, especially from afar. This sometimes leads to indiscriminate killings of the females also by poachers.

Form in which the part/derivative is traded:

- Complete musk pods- It is estimated that musk is currently being used in as many as 400 Chinese and Korean traditional remedies, making it one of the most common and most valuable medicinal products to come from an animal.



Musk pod

Common trade points within the country: Hasihmara and Jaigaon (West Bengal), Pithoragarh (Uttarakhand), Amritsar (Punjab).

International trade routes: Tibetan Autonomous Region of China, Kathmandu in Nepal, Hong Kong, Japan, European Union (France, Germany), Switzerland

Identification
Musk pods: These are generally white in appearance due to the white coloured hair and skin surrounding the pod. The gland is present in the underbelly of the male and is generally light coloured. The hair surrounding the pod is generally brittle and hollow. On microscopic examination, the hair shows rhomboid scales. When examined under a powerful compound microscope, musk powder can reveal the presence of bright hexagonal crystals of muscone which are soluble in alcohol but not in water.

Live Bears and Bear Bile

The Sloth Bear *Melursus ursinus* is the common dancing bear, once seen easily in towns and countryside across India. Today, thanks to a countrywide effort, many such bears have been taken away and sent to rescue centres while the traditional animal handlers are being rehabilitated with other economic opportunities. However, there is still some threat remaining from capture of young and juvenile bears for smuggling to neighbouring countries.

Bear bile is commonly obtained by killing the Himalayan Black Bear *Ursus thibetanus* or the Sloth Bear *Melursus ursinus*. The bile is traded either as complete gall bladders or as crystallised bile extract. Bear bile is highly valued in Traditional Chinese Medicine (TCM). Bear paws are also targeted for this trade. A recent seizure in Russia accounted for over 900 bear paws.

A bear cub for sale

Paws of Himalayan Black Bear *Ursus thibetanus* and Malayan Sun Bear *Helarctos malayanus* for sale.

Bear bile for sale

Sloth Bear

Scientific name: ***Melursus ursinus***
Other common names: Honey-eating Bear, Termite-eating Bear and Lip Bear

Vernacular names: *Bhalu* (Hindi), *Reech* (Gujarati), *Asval* (Marathi), *Karadi* (Tamil/ Kannada/ Malayalam), *Elugu banti* (Telugu), *Bhalluk* (Bengali)

Conservation Status
a) WLPA 1972: Schedule I
b) CITES: Appendix I
c) IUCN Red List: Vulnerable

Description:
Sloth Bear have a black shaggy coat with a distinctive whitish or yellowish 'V' shaped mark on the chest. Muzzle and tip of the feet are dirty white. Claws of the forefeet are very long and ivory coloured. Their hind limbs are short. They also have protruding and pendulous lips, an adaptation for termite feeding.

Size

Weight	**55—140 kg**
Length	**Body length : 150—190 cm , Tail length: 10—12 cm**
Shoulder height	**60—90 cm**

Distribution:
a. India: Throughout India except Jammu and Kashmir, upper reaches of Himalayas, and arid /desert areas of Gujarat and Rajasthan.
b. Global: Nepal, Bhutan, SriLanka, and possibly (but uncertain) in Bangladesh.

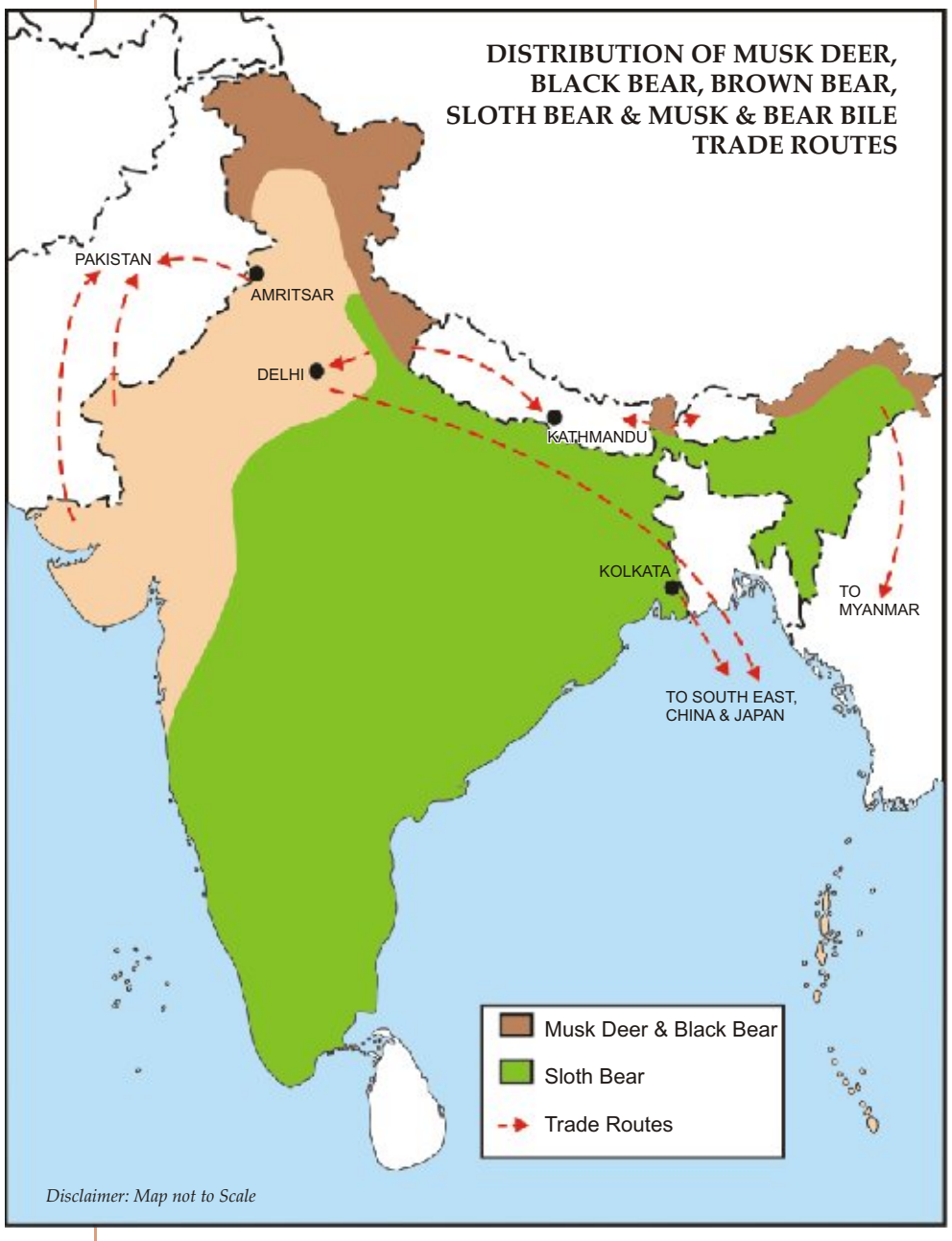
Habitat:
Deciduous forest, scrub and grassland.

Threats:
Poaching; habitat degradation, fragmentation and loss; capture for live shows (performance).

Common methods of poaching: Shooting, traps and snares.

Parts targeted in trade:
Gall bladder to extract bile for use in Traditional Chinese Medicines for fever, injury or wounds applied as paste, as a prophylactic for liver damage.

Form in which the part/derivative is traded:
- Gall bladder as whole and also bile extracted from it
- Live animals for use in street performances



Common trade points in the country: Kalimpong and Siliguri (West Bengal), Amritsar (Punjab), Sikkim, Pithoragarh (Uttarakhand).

International trade routes: To Nepal, Pakistan and then onward, mainly to Southeast Asia.

Identification

a. Live specimens: A shaggy black coloured animal with a long protruding snout and a creamy-white chevron or 'V' mark on chest and lumbering gait.

Bear bile on sale

b. Derivatives/Products: Bear bile: The gall bladder is generally dark brown to dark blackish brown in colour with a broad end, tapering towards a narrow, long stem. The tapering end may sometimes be tied with a thread in order to prevent the bile from flowing out. Fresh bear bile is soft which becomes shriveled and hard as the juices crystallise on drying.

Confirmation of the authenticity of bear bile can be established using thin layer chromatography tests. These tests can be carried out at the Wildlife Institute of India. Instant bile testing kits have also been developed by the Trace Network in the UK. Fake bear bile, including that from other animals and even buffalo penis, has also been recovered by various enforcement agencies.

Similar species: Bear bile from all species of bears found in India is also present in trade, including the Himalayan Black Bear and the rare Malayan Sun Bear *Helarctos malayanus*. The Himalayan Brown Bear occurs at very high altitudes and there is limited information on trade related threats to this species.

A Sloth Bear — bear bile is a much coveted product in illegal markets in the region.

Otters

Eurasian Otter
Scientific name: ***Lutra lutra***
Common name: Common Otter, Eurasian Otter, European Otter, European River Otter.

Vernacular names: ***Ud, ud bilao*** **(Hindi);** ***Shanamba*** **(Manipuri);** ***pani kutta*** **and** ***Niru kuka*** **(Telugu);** ***Neer nai*** **(Malayalam and Tamil),** ***Neeru nai*** **and** ***Uddra*** **(Kannada),** ***Peearu*** **(Burmese);** ***Bhondor*** **(Bengali)**

Conservation Status:

a) WLPA 1972: Schedule I
b) CITES: Appendix I
c) IUCN Red List: Near Threatened

Description:

The Eurasian Otter has a dusky brown to light brown coat, which is moderately rough and has a grizzled look. Buff or cream coloured throat, with individual yellow, grey or white spots on lips and throat. The distinctive character is the large, naked, black coloured nose pad (rhinarium), which is hexagonal in shape and the hairs of the muzzle terminate above it in an angular or zigzag line (may appear as a 'W' shaped line). The completely hairy tail is flattened at its terminal half and tapered at its end.

Size

Weight	**5—12 kg**
Length	**Body length: 57—70 cm, Tail length: 30—55 cm**
Shoulder height	**22—28 cm**

Distribution:

a. India: North India from Jammu and Kashmir, Himachal Pradesh, hills of Uttar Pradesh, Sikkim; in the northeast from Assam; in the east from Orissa; and in the south from Andhra Pradesh, Kerala, Tamil Nadu, Karnataka and Goa

b. Global: Europe, North Africa, and throughout all suitable habitat in Asia. Inhabits most of Eurasia, south of the tundra line. The most widely distributed of all the otters, ranging through Eurasia up to the Arctic Circle, from Ireland to Kamchatka, and south to North Africa, Sri Lanka and Indonesia.

Habitat:

Lakes, ponds, hill creeks, rivers, streams, freshwater, peat swamp forests, ricefields, ocean shores, mangroves, fjords, caves, marshes, highland and lowland rivers and terrestrial habitats adjacent to waterways. They are found from sea level up to the Himalayas.

Otter skin

Threats:

- Infrastructure development for industry and human settlement
- Poaching for their pelts
- Pollution of water courses
- Human disturbances
- Drowning in fishing traps and fishing with poison
- Incidental mortality, primarily by road deaths
- Habitat loss and degradation
- Hunting for "sport" and to protect fish stocks

A confiscated otter skin

Common methods of poaching:

- Netting, trapping, snaring, shooting
- By-catch can be a significant local problem, as the otter can accidentally get caught in traps and snares meant for other species.

Parts targeted in trade:

- Fur, pelts are used as trimming for fur garments.

Form in which the part/derivative is traded: As fur coats and also as raw skin.

Common trade points within the country: Delhi, Mumbai (Maharashtra), Chennai (Tamil Nadu), Kolkata (West Bengal), Jabalpur (Madhya Pradesh).

International trade routes: Otter skins are generally part of consignments that include Tiger and Leopard products and follow the same trade routes.

Identification

a. Live specimens:

The Eurasian Otter can be identified by its coarse, dusky, brown coat that looks bedraggled when wet. Its underside is light grey and it often has spots on its lips and nose

b. Derivatives/Products:

- Pelts

Other notes: In north India, specialised trapping groups from Nepal are known to camp near rivers to trap otters using metal leg traps.

Smooth-coated Otter *Lutrogale perspicillata.* Also occurs in India and is similarly targetted for its fur

Pangolins

General introduction: The name "pangolin" is derived from the Malayan phrase "Pen Gulling" meaning "rolling ball", while the scientific order name "Pholidota" comes from a Greek word meaning "scaled animals". They are also known as Scaly Anteaters because of their food habits.

Pangolins are included in the family Manidae under the mammalian order Pholidota. Two species of **pangolins**, viz., **Indian Pangolin** *Manis crassicaudata* and **Chinese Pangolin** *Manis pentadactyla* occur within Indian territory. However, the family contains a total of eight species. Apart from the two Indian species, two other species, **Malayan Pangolin** *Manis javanica* and **Philippine Pangolin** *Manis Culionensis,* are represented in Asia, while four other are restricted to Africa.

Pangolin scales for sale

Pangolins recovered in a seizure

Pangolins are emerging as a major wildlife species in trade in Southeast Asia. Recent large seizures include 24 tonnes of frozen pangolins from Sumatra, Indonesia, seized in Vietnam and 14 tonnes of frozen animals seized in Sumatra in 2008. There have also been recent instances of African pangolins seized in Asia. In India, consignments including pangolin derivatives have been seized from Manipur on the Myanmar border.

Scientific name : ***Manis crassicaudata* (Indian Pangolin)**
***Manis pentadactyla* (Chinese Pangolin)**

Common name : Pangolin

Vernacular name*: Bojrokit* (Bengali), *Bajra kit, Bajra kapta, Suraj mukhi, Silu, Sal sala, Chiti khor. Sakunphor* (Haryana, Rajasthan, Chattisgarh, Madhya

Pradesh, Uttaranchal, Uttar Pradesh, Bihar). *Kishaur* (Jammu & Kashmir). *Chalo, Bhimgaroo, Pingaroo, Shalma, Mirun* (Gujarat and parts of Maharashtra). *Thirya, Khauli mah, Khawala manjar, Kassoli manjar* (Maharastra). *Alawa* (Andhra Pradesh). *Alangu, Alugu* (Tamil Nadu and Kerala). *Bajra kapta:* (Orissa). *Alavi, Tirega, Chippu Handi* (Karnataka). *Bonrui, Kat-pohu, Keyot-Mach* (West Bengal). *Hochik, Salak* (Assam and North-eastern states).

Conservation Status :

a) WLPA 1972 : Schedule I (Both species)
b) CITES : Appendix II
c) IUCN Red List: Near Threatened (Indian Pangolin)
Endangered (Chinese Pangolin)

Size

Weight **9—11 kg (Indian Pangolin). About 9 kg for Chinese**
Length **Body length 60—70 cm (Indian Pangolin)**
48— 58cm; (Chinese Pangolin)

Description

Elongated tapering body, covered with large overlapping scales, except on snout, chin, sides of face, throat, belly and inner surface of limbs. Scales may be regarded as hair or rather as spines enormously enlarged and flattened. The movable scales with sharp posterior edges are attached at the base to the thick skin from which they grow. The shape and topography of scales change with wear and tear. Colour varies from different shades of brown to yellow. White, brown or even black bristle- like hair covers the scale-less areas.

Eyes small, with thick heavy eyelids. Limbs with five clawed digits, hind leg longer and stouter than fore leg. Tail thick and tapering, tongue long, up to 25 cm. Skull oblong or conical, without teeth. Female with two mammae in the thoracic region.

Distribution

Chinese Pangolin, within the Indian limit, is confined to Sikkim, Arunachal

Pradesh, Meghalaya, Nagaland, Assam, Manipur, Tripura, Mizoram and northern part of West Bengal. Extralimitally, it is found in China, Lao PDR, Taiwan, Thailand, Vietnam, Myanmar. Nepal and Bangladesh. Indian Pangolin occurs sporadically throughout the plains and lower slopes of hills from south of the Himalaya to Kanyakumari, excepting the north-eastern region. It also occurs in Pakistan, Sri Lanka and probably in Bangladesh.

Habitat :

Indian pangolin occupies different types of tropical forests, mainly moist, dry deciduous, wet to semi-evergreen, thorn as well as grassland. It is also recorded in degraded wastelands near human habitation. The Chinese Pangolin mainly inhabits subtropical broad-leaved forests and tropical wet, semi-evergreen and moist forests.

Threats

The flesh of pangolins is relished by some tribal communities. Rapid loss and deterioration of habitat, steady increase in the agrarian economy combined with improved irrigation and random use of pesticides appear to be the most serious threats resulting in the decline of the pangolin population in the country. Owing to their odd appearance, many people are rather indifferent towards the fate of pangolins too.

Common methods of poaching

Netting, trapping, snaring and shooting. Pangolins are also smoked out from their nests by people who capture them for meat.

Parts targeted in trade :

Scales, meat and claws.

Form in which the parts are traded :

Sometimes, clothing is made out of scales. Also used in Traditional Chinese Medicine (TCM).

Common trade points within the country

Kolkata, West Bengal and Orissa.

International trade routes

Malaysia, Thailand, Indonesia, Lao PDR, Singapore, Myanmar and Vietnam

Identification:

a) Live specimens can be easily identified by their scaly appearance. Indian Pangolins tend to be larger than Chinese Pangolins.

Derivative /Products:

Coats and traditional Chinese medicine

Notes

Pangolins do not survive well in captivity and breeding has been very rare worldwide.

Live Reptiles, Reptile Skins and Snake Venom

A Monitor Lizard on sale

There is a huge trade in many species of snakes and lizards, which are in great demand as pets both internationally as well as within the country. One out of many examples of their use is *Uromastyx hardwickii*, the Spiny-tailed Lizard, whose oil is sold as an aphrodisiac by street vendors of tribal remedies, who keep these lizards alive in captivity by fracturing their spine.

Reptile skins are an important item of wildlife trade both nationally and internationally and include skins of snakes, monitor lizards and crocodilians. There is also a legal trade in several countries across the globe in leather goods made from the skins of certain species of crocodilians. However, for such products to be brought into and owned in India, it may be necessary to have a CITES permit and/or other supporting documentation.

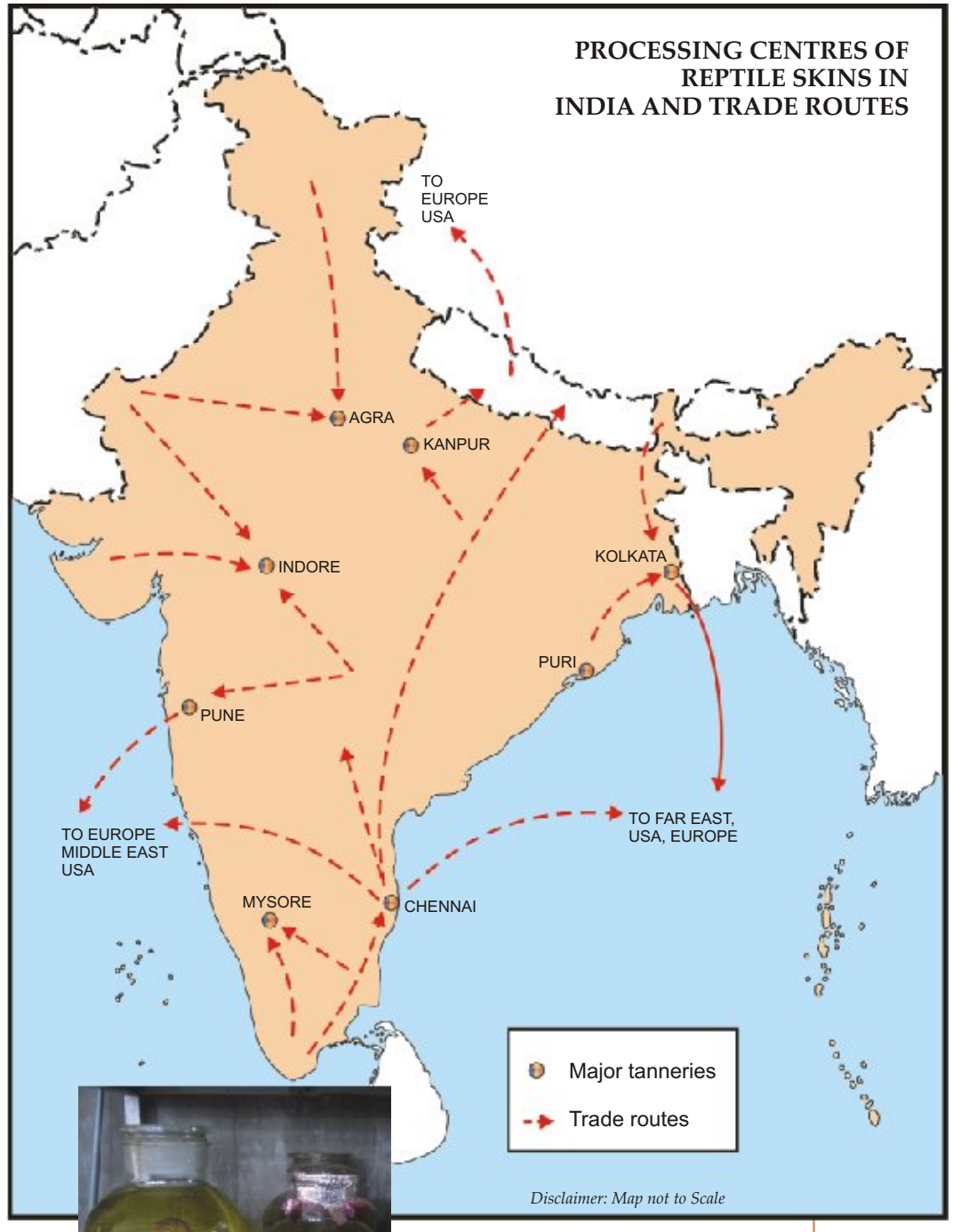
Snake venom is also emerging as an important item in illegal wildlife trade. As per the provisions of Section 44 (1)(c) of the *Wildlife (Protection) Act, 1972*, no person shall derive, collect or prepare or deal in snake venom without a licence.

Given the large diversity of reptiles in the Indian subcontinent, a large number of such species are periodically reported in trade. Some of the important reptile species that are reported in the illegal trade in India include those on the following pages.

Reptile skin products on sale

Neckties made of snake skin

Reptile skin products on sale



Snake wine

Spectacled Cobra

Scientific name: *Naja naja*
Other common names: Binocellate Cobra, Asian Cobra, Indian Cobra.

Vernacular names: ***Shesh Nag*** **(Hindi),** ***Kala Nag*** **(Urdu)**

Conservation Status:
a) WLPA 1972: Schedule II Part II
B) CITES: Appendix II
c) IUCN Red List: Not listed

Description:
One of India's most common snakes; scales smooth, glossy; head broad; colour, pattern, and hood mark variable; hood mark sometimes absent; shades of brown , yellow, grey or black, often with a speckled, sometimes banded pattern; the famous "Spectacled" marking (or variations) on hood usually makes identification easy. Cobra is a species of venomous snake.

Distribution :
Found throughout the mainland of India, it ranges from sea-level up to 2000 m. It is also reported from Pakistan, Sri Lanka, Bangladesh, Bhutan and Nepal. There still seems to be considerable confusion whether the taxon *Naja naja* extends further east into Southeast Asia.

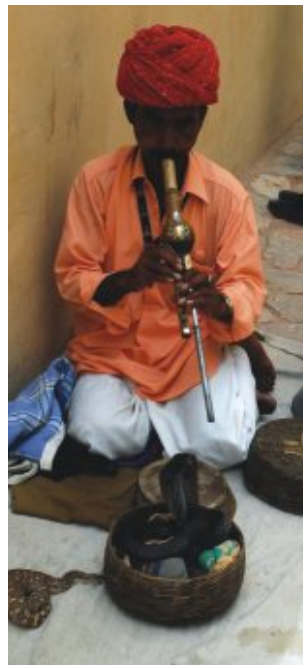
Habitat
Occurs in open forests and farmland and close to human habitations and in cities.

Threats:
Trapping by *saperas* (snake charmers)

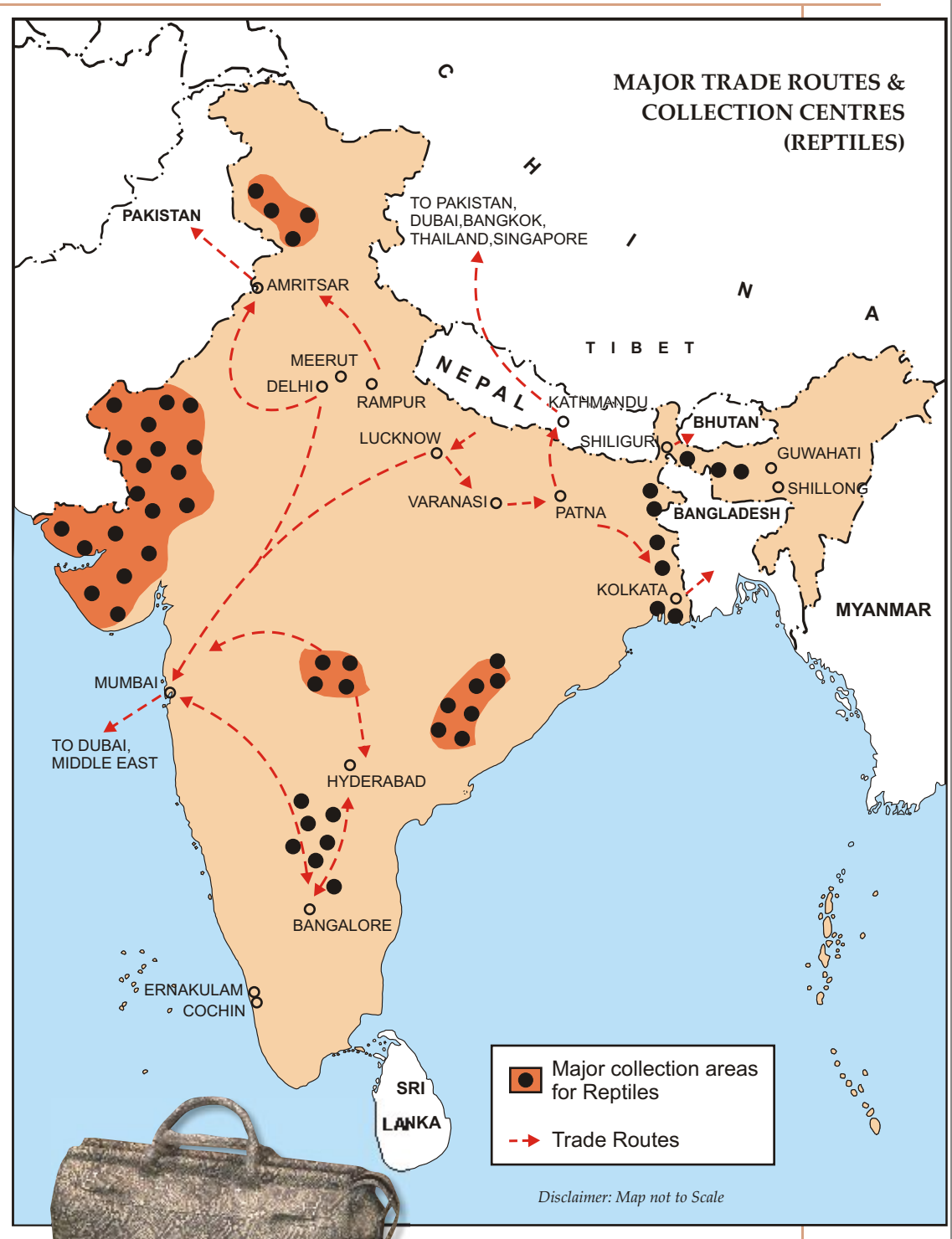
Parts targeted in trade: Skin, venom

Form in which the part/derivative is traded: Raw skin and finished leather products like shoes, purses, hand bags, belts. Venom used for medicinal purposes.

Accessories made from snake skin



Snake charmers trap many snake species like the Cobra and the Sand Boa to perform in tourist places



Snake skin bag

Common Rat Snake

Scientific name: *Ptyas mucosus*
Other common names: Dhaman, Oriental Rat Snake

Vernacular names: ***Dhaman*** **(Hindi, Marathi),** ***Sarai Pambu*** **(Tamil),** ***Machoa Gom*** **(Assamese);** ***Dhamna, Dharas*** **(Bangla)**

Conservation Status:
a) WLPA 1972: Schedule IV
b) CITES: Appendix II
c) IUCN Red List: Not Listed

Description:
The rat snake is a fast moving non-venomenous snake which grows to a length of 2 .5 m or more.

Scales smooth or keeled (upper rows); head broader than neck; large eye has round pupil; varies greatly in color; pale yellow, olive, brown, grey or black; body lightly or strongly marked with black; markings usually distinct on tail; lip scales usually separated by vertical black lines; underside often has prominent dark cross-bars.

Threats
Trapping by *saperas* (snake charmers)

Parts targeted in trade: Skin

Form in which the part/derivatives are traded: Raw skin and finished leather products like shoes, purses, hand bags, belts.

Distribution:
Rat snakes are found almost throughout the country except for higher elevations and cold areas. Wherever rats and frogs/toads are prevalent their presence is common. They mostly frequent agricultural fields, orchards, and can also be seen close to human habitation. They are widely found in South Asia and Southeast Asia, distributed from Turkmenistan through Pakistan, Nepal, Sri Lanka, Bhutan, Bangladesh and further east to South China and beyond up to an altitude of 4000 m.

Habitat :
Almost all the vegetation types except higher temperate and hot desert areas.

Banded Krait

Scientific name: ***Bungarus fasciatus***
Common name: Banded Krait

Vernacular names: ***Shankhim*** **(Bangla),** ***Karait*** **(Hindi)**

Conservation Status
a) WLPA 1972: Schedule II
b) CITES: Not listed
c) IUCN Red List: Not listed

Description:
Scales smooth; head slightly broader than neck; eye entirely black (round pupil not visible in life); short tail has blunt, rounded tip; body and tail triangular in cross-section; vertebral ridge prominent; equally spaced, wide yellow/pale brown/ white and black bands; uppermost scale row on back six-sided and much larger than adjacent scales; scales under tail are entire and resemble belly scales (not divided by zigzag line running along middle); Banded Kukri snakes and several Wolf Snakes are mistaken for this species.

Distribution:
a. India : West Bengal, Bihar, Orissa, North East (Assam upwards to Arunachal Pradesh). Also occurs in Gadchiroli district of Maharashtra, parts of Madhya Pradesh, northern Andhra Pradesh, Awadh, Godavari, Mahanadi valleys and northern Uttar Pradesh. Not found in the south, west or north-west India.
b. Global: Indian subcontinent; Bangladesh, Nepal, Bhutan, Singapore, Myanmar, Thailand, Malaysia, main Indonesian islands, China.

Habitat:
Found up to 1500 m and occurs in a variety of habitats including forests, agricultural and coastal areas. It is often encountered close to water bodies.

Parts targeted in trade: Serum

Spiny-tailed Lizard

Scientific name: ***Uromastyx hardwickii***

Vernacular names: ***Sanda*** **(Hindi)**

Conservation Status

a) WLPA 1972: Schedule II
b) CITES: Appendix II
c) IUCN Red List: Not listed

Uromsatyx sold at a roadside stall

Description:
This is a heavy-tailed lizard with the tail covered with large spiny scales. It lacks a crest and a throat sac.

Distribution:
a. India: Inhabits the deserts and scrub forest of Western India in Rajasthan and Gujarat.
b. Global: The same species is also reported from Pakistan. There are about 16 species in the *Uromstyx* family reported from nearly 30 countries across the world.

Habitat: Found in desert and scrub areas.

Threats :
Poaching remains the major threat to the species. It is collected from its burrows in compact and rocky soils, each burrow holds up to 50 individuals.

Parts targeted in trade:
In India, individuals are boiled to obtain oil that is sold as a high value aphrodisiac. Across the world, it is also traded as a pet, with Mali as the largest exporter of *Uromastyx spp*. (upto 30 000 individuals a year.) Other important exporters of *Uromastyx* are Egypt, Yemen, Sudan and the United Arab Emirates. With almost 70% of total imports of *Uromastyx*, the USA is by far the largest importer, while the European Union is the second largest importer, with 20% of the total imports .

Tortoises and Freshwater Turtles

India has 28 species of tortoises and freshwater turtles. In addition, 5 species of marine turtles also inhabit our marine and coastal areas. Many species of turtles and tortoises are targeted for food, fat, for keeping as pets, traditional medicines and for curios and other products such as spectacle frames derived from the carapace.

Freshwater turtles are in major demand as food, especially in eastern India. As such, they are collected illegally in large numbers from many rivers such as the Ganges, Yamuna and Chambal and transported across the country for their meat. The threats faced by such species include killing of adults and their eggs for protein rich food, collection of live specimens for the pet trade, habitat destruction, and nests frequently raided by predators including otters, mongooses, jackals, dogs, storks and cranes.

The common methods of exploitation of such species are by the use of traps and snares, harpooning or by using bamboos tipped with steel probes.

The parts targeted in trade include flesh, eggs, shells, blood etc. Recently, the processed cartilaginous, rear outer edges of soft shell turtles have shot into prominence as an item of wildlife contraband.

Some species of turtles and tortoises in trade are below:

1. Indian Flapshell Turtle

Scientific name: ***Lissemys punctata***
Other common names: Soft Shell Terrapin

Vernacular names: ***Til kachim*** **(**Bengali**),** ***Sundri and Matia*** **(**Hindi**),** ***Pal aamai*** **(**Tamil**),** ***Pani ka kochbo*** **(**Gujarati**),** ***Panka Kaincha*** **(**Oriya**).**

Turtle meat for sale

Conservation Status

a) WLPA 1972: Schedule I
b) CITES: Appendix II
c) IUCN Red List: Lower Risk/Least Concern"

Description:

This is a small turtle with a relatively deep oval shell. This species is unique among softshell turtles because the posterior margin of the bony carapace is ringed by peripheral bones. The head is olive to brown with several elongated and wide yellow stripes: on the snout, one between the orbits, one passing backward on the side from the orbit to the tympanum, and sometimes one from the corner of the mouth backward along the throat. A series of yellow stripes also occurs on the neck. The limbs are olive or brown. Males have long, thick tails; females have short tails. Females grow larger than males.

Distribution:

a. India: Indo-Gangetic plain-Northern India, Sikkim, southward through peninsular India, Andaman Islands.

b. Global: Indus and Ganges drainages (Sind river system) of Pakistan, India, Nepal and Bangladesh, Sri Lanka, and in the Irrawaddy and Salween rivers of Myanmar, to extreme western Thailand, Yunnan Province of China.

Habitat:

Shallow, quiet, often stagnant waters and shallow backwaters of rivers, streams, marshes, ponds, lakes and irrigation canals, and tanks. Waters with sand or mud bottoms are preferred.

Form in which parts/derivatives are traded:

- Meat including dried meat
- Live specimens

Common trade points within the country: Kolkata (West Bengal); Kanpur, Lucknow, Moradabad, Etawah and Agra (Uttar Pradesh), Patna, Chhapra and Monghyr (Bihar) .

International trade routes: Mostly to Bangladesh.

Identification

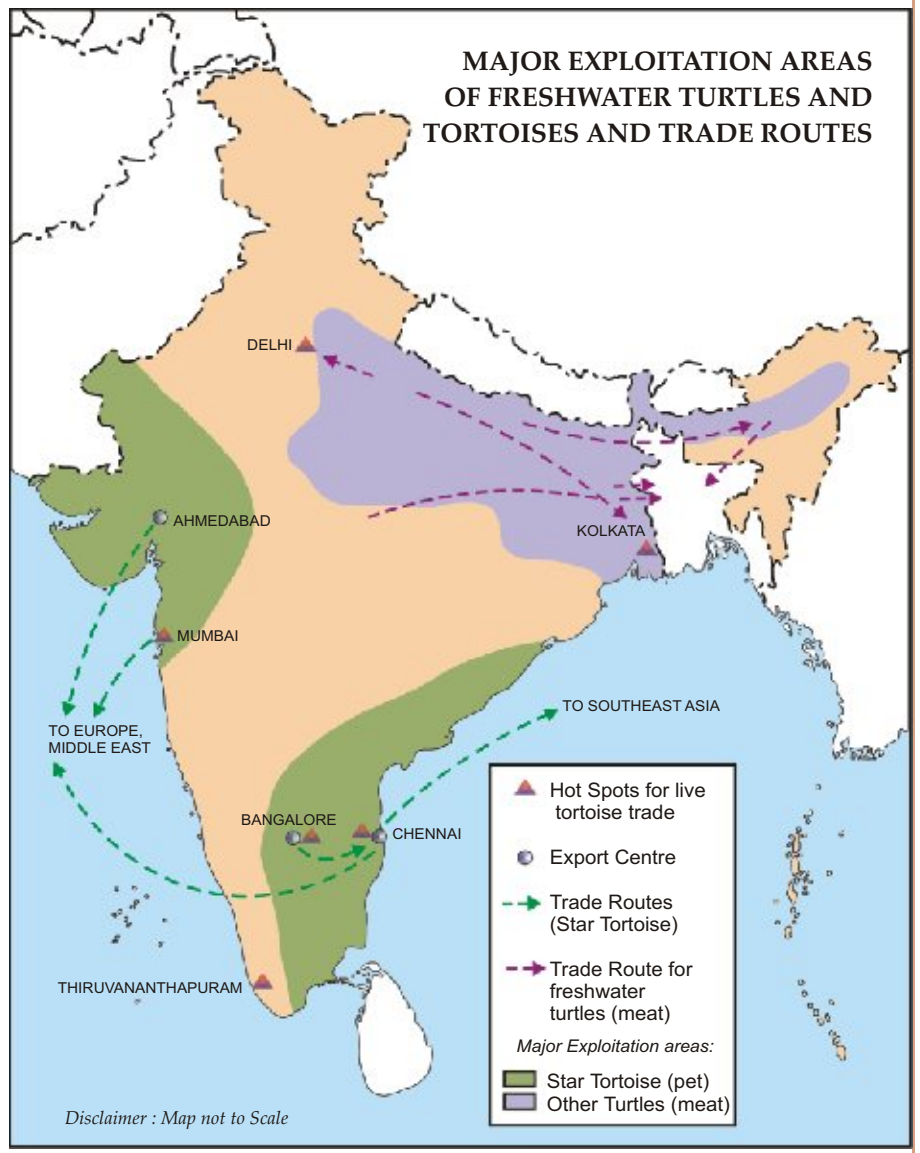
a. Live specimens:

Carapace depressed and oval; moderately arched; flaps of plastron present; colour olive brown above; undersurface pale coloured; head large; tail very short

Derivatives/Products:

- Meat, soup
- Medicines (shell and other body parts are used by various tribal communities)

Other notes: One of the three currently recognised subspecies of *Lissemys punctata*, the Indian Flapshell Turtle *L.p.scutata* is treated as a full species by some authors. This species constitutes the largest volume of any species in Indian food markets. They are consumed locally in Bangladesh, but also may be exported to Chinese markets.



2. Indian Roofed Turtle

Scientific name: *Pangshura tecta*
Other common names: Indian Pond Turtle; Indian Sawback Turtle; Tent Turtle

Vernacular names: ***Kori Katha* (Bengali), *Rangin Kachbo* (Gujarati), *Pachera*, *Pachaur*, *Tilhara*, *Chandan*, *Kachua* (Hindi)**

Conservation Status

a) WLPA 1972: Schedule I
b) CITES: Appendix I
c) IUCN Red List: Lower Risk/Least Concern

Description:
A small species, females reach more than 23 cm in length while males are smaller. Neck is distinctly striped, with red or orange crescent marking near the eye; carapace is elevated with flat sides and a strong, spiked, median keel.

Tail remains quite short throughout life and exhibits no difference between juveniles and adults.

In adults, colouration becomes dark olive brown and the spots become inconspicuous. Rim of shell remains pinkish yellow with large dark brown or almost black spots. Head is blackish, temporal region orange or yellow, neck – blackish with thin yellow spots, longitudinal lines, limbs dark olive with yellow spots, back of thighs with dark transverse streaks.

Distribution:
a. India: Ganges, Brahmaputra, Indus drainages / river systems.
b. Global: Sind River System, Indo-Gangetic plain of Pakistan, India, Nepal and Bangladesh.

Habitat:
Smaller rivers, wetlands and stagnant water bodies sometimes in larger rivers. This species is fully aquatic and inhabits freshwater bodies with plenty of aquatic vegetation.

Parts targeted in trade:
- Eggs
- Flesh

Form in which the parts/derivatives are traded:
- Food
- For religious purposes
- For research
- Live for aquariums
- Live for pet trade

Common trade points within the country: Lucknow, Kanpur and Moradabad (Uttar Pradesh), Dehra Dun (Uttarakhand), Vadodara (Gujarat), Kolkata (West Bengal), Bihar.

International trade routes: To Bangladesh, Southeast Asia.

Identification
a. Live specimens:
Neck distinctly striped; red or orange crescent marking near eye; carapace elevated with flat sides and a strong median keel (spiked).

The second vertebra generally longer than the third; digits well webbed; colour olive brown above with red keel below, pinkish yellow, each scute having 2—3 black blotches; forelimbs spotted with yellow.

Similar Species : Indian Tent Turtle *Pangshura tentoria*

3. Indian Star Tortoise

Scientific name: *Geochelone elegans*
Other common names: Star Tortoise

Vernacular names: ***Tarewala Kachua* (Hindi), *Katu aamai* (Tamil)**

Conservation Status

a) WLPA 1972: Schedule IV
b) CITES: Appendix II
c) IUCN Red List: Lower Risk/Least Concern

Description:
Carapace very convex, dorsal shields often forming humps. Plastron large, truncated or openly notched in front, deeply notched, bifid behind. The sexual dimorphism of adult Indian Star Tortoises is quite apparent. Females are considerably larger than their male counterparts. In addition, the female's plastron is much flatter than that of the male's which has a concave shape. The star-like patterning although highly contrasting is disruptive and breaks the outline of the tortoise as it sits in the shade of grass or vegetation. They are mostly herbivorous and feed on grasses, fallen fruit, flowers and leaves of succulent plants, and will occasionally eat carrion. The adults may grow between 24—32 cm.

Distribution:
a. India: India (except Lower Bengal), extending west to Sind: and Sri Lanka.
b. Global: Sind River System, Indo-Gangetic plain of Pakistan, India, Nepal and Bangladesh.

Habitat:
Occurs in dry areas and scrub forest.

Threats:
Illegal pet trade is the single biggest threat to the population.

Parts targeted in trade:

- **Pet trade.** The Star Tortoise is one of the most popular illegal wildlife exports from India. It commands a very high demand in markets of Southeast Asia, Carriers smuggle large numbers of these tortoises out as part of their hand baggage. Several seizures of Star Tortoises, including nearly 2000 individuals in one bag, have been made by Custom, Wildlife and DRI officials at Chennai and Mumbai airports in the last few years.

Form in which the part/derivative is traded :

- Live specimens for the pet trade

Common trade points within the country: Chennai, Hyderabad, Cochin and Mumbai

International trade routes: To Singapore, Malaysia and other parts of Southeast Asia.

Identification
a. Live specimens: This species is a medium-sized tortoise with a carapace length up to 20 cm or more, with rays on each scute of the carapace. Females can get considerably larger up to 25 cm. John Grigus (personal communication, W. Holmstrom) reported a 38.10 cm female he measured in Sri Lanka. Other morphological characters include a plastron pattern of many dark radiating lines on a light background; top of head yellow and black with small scales; larger scales on forelimbs than *Astrochelys radiata* (Radiated Tortoises).

Similar Species: The three primary species commonly referred to as star-patterned tortoises (Family Testudinidae) include the Indian Star Tortoise *Geochelone elegans*, the Burmese Star Tortoise *Geochelone platynota*, and the Radiated Tortoise *Astrochelys radiata*.

Star Tortoises on sale in a Japanese pet shop

Seashells

Trade of marine fauna and flora prevails all along the coast of India and is a source of income and livelihood for many. However, much of the trade is illegal. One of the most common groups prevalent in the illegal marine trade are seashells.

Several seashell species are protected under Indian laws and for some species international trade is also regulated under CITES. Trade in several species of sea shells in any form is prohibited under the *Wildlife (Protection) Act, 1972*. Tourist and pilgrimage areas along the coast are some of the major trading centres for sea shells souvenirs and artifacts. Lack of proper public awareness and increasing market demand are the major reasons for the thriving illegal seashell trade in India.

Often in great demand due to the great variety of beautiful colours, shapes and sizes, seashells are harvested in great quantities. This has pushed species like the Giant Clams, which take many decades to grow, towards extinction.

The main trade hotspots are: Kolkata (West Bengal); Chennai (Tamil Nadu), Mumbai (Maharashtra), Gujarat and all along the popular coastal tourist towns of India. Rameswaram and Tuticorin, in Tamil Nadu are known to be the major centres of collection, processing and export. The Andaman group of islands is also an important trading centre. Internationally, the seashells are exported to the Far East especially to Bangkok (Thailand) and Singapore.


1.


2.


3.


4.

1,2,3 & 4 Coral and other marine products for sale

Some Endangered Seashells in Trade

S. No.	Common Name	Scientific Name	Conservation Status	Distribution	Form in which Traded
1.	Arthritic Spider Conch	*Lambis chiragra arthritica*	WLPA1972: Schedule I CITES: Not Listed IUCN Red List: Not Listed	Lakshadweep Andaman and Nicobar, Pondicherry	Traded mainly as decorative seashells and as a whole shell or is made into handicrafts. The shells are used in lime industries for lime production.
2.	Bull Mouth Helmet	*Cypraecassis rufa*	WLPA 1972: Schedule I	Andaman and Nicobar Islands, Lakshadweep	Usually sold whole. This species is also used in jewellery workshops for making cameos.
3.	Chiragra Spider Conch	*Lambis chiragra*	WLPA 1972: Schedule IV CITES: Not Listed. IUCN Red List: Not Listed	Andaman and Nicobar Islands, Lakshadweep in shallow waters	Sold as whole shells, pen stands, lamp shades, show pieces, ashtrays. The shells are used in industries for lime production.
4.	Small Giant Clam	*Tridacna maxima*	WLPA 1972: Schedule I CITES: Appendix II IUCN Red List: Lower Risk /Conservation Dependent	Andaman and Nicobar Islands	Constituents of pottery glazes and also used in making floor tiles. Flesh eaten in some countries.
5.	Fluted Giant Clam	*Tridacna squamosa*	WLPA 1972: Schedule I CITES: Appendix II IUCN Red List: Lower Risk /Conservation Dependent	Andaman Islands	Decorative pieces
6.	Glory of India	*Conus milneedwardsi*	WLPA 1972: Schedule IV CITES: Not Listed IUCN Red List: Not Listed	Andaman and Nicobar island reefs	Souvenirs

S. No	Common Name	Scientific Name	Conservation Status	Distribution	Form in which Traded
7.	Great Green Turban	*Turbo marmoratus*	WLPA 1972: Schedule IV CITES: Not Listed IUCN Red List: Not Listed	Andaman Islands	Cat's eye, ashtrays, incense stick stands, flower vases.
8.	Horned Helmet	*Cassis cornuta*	WLPA 1972: Schedule I CITES: Not Listed IUCN Red List: Not Listed	Andaman Islands, Gulf of Mannar (Tamil Nadu), Pondicherry(rare)	Whole shell is sold as souvenirs or decoration pieces. Handicraft products / souvenirs such as lampshades etc may also be made.

Trochus niloticus

Tradacna maxima

Cassis cornuta

Lambis chiragra arthritica

Cypraecassis rufa

Conus milneedwardsi

Tridacna squamosa

Lambis chiragra

Live Birds

Great Hornbill *Buceros bicornis*

The trade in live birds in India has always been at the centre of a complex debate between what is legal and what is illegal. *The Wildlife (Protection) Act, 1972* strictly prohibits trade in all Indian birds. However, the trade in exotic captive bred birds is still permitted.

Of the over 1280 species of birds reported from India, over 450 species have been recorded in trade in India. Recent studies on the Indian bird trade by TRAFFIC India suggest that nearly 400 species continue to be trapped for trade.

Many species of parakeets are widely kept as pets in India, with most people not realising that it is an illegal act.

Species like the Hill Myna *Gracula religiosa*, Green Magpie *Cissa chinensis* and Indian Peafowl *Pavo cristatus* command high prices internationally. Falcons are highly prized in the Arabian Gulf countries and are sometimes caught from the wild to meet such demand.

Many bird species of Indian origin can be seen openly being traded in wildlife and pet markets in Southeast Asia and other markets in East Asia and the Middle East.

Birds may be smuggled out by mis-declaration or by concealment. A common trick is to mix rare birds with similar looking exotic or poultry birds e.g. peafowl chicks are often mixed with chicks of domestic fowl. Birds may also be dyed to confuse enforcement officials. Hollow briefcase bottoms and hollow tubes are commonly used to smuggle birds in personal baggage. A large proportion of such birds may actually die during transportation as they are packed tightly, with little ventilation. However, the high margins of trade ensure that the smugglers regard these as acceptable losses.

Parakeets for sale

Caged birds for sale

A bird market in Delhi

It is estimated that 50 000—70 000 medicinal and aromatic plants (MAPs) are used worldwide. Of these, some 3000 species are traded internationally. India is among the world's largest producer (and, increasingly, also consumer) countries of MAPs. Estimates of medicinal plants used in this country generally vary from 2500 to 6500 species. Similarly, many species of plants including several orchids are highly prized in the ornamental trade.

In India, the trade in medicinal plants is generally poorly understood, more so the international trade. The situation is further complicated by a large number of products, diverse forms in which they are traded and the largely unorganised nature of the trade, especially at the primary level. Similar is the case with ornamental plants.

At present, 29 taxa from India are listed in Appendices I and II of CITES.
Details are provided in Table 1.

A medicinal plants market in China

TABLE 1: CITES Listed Flora of India

Appendix I	Appendix II
APOCYNACEAE Elephant trunks, hoodias	
	Rauvolfia serpentina #2
BERBERIDACEAE May-apple	
	Podophyllum hexandrum #2
COMPOSITAE (Asteraceae) Kuth	
Saussurea costus	
CYATHEACEAE Tree-ferns	
	Cyathea spp. #1
CYCADACEAE Cycads	
Cycas beddomei	*Cycad spp.* **(Except the species included in Appendix I)**
DICKSONIACEAE Tree-ferns	
	Cibotium barometz #1
DIOSCOREACEAE Elephant's foot, kniss	
	Dioscorea deltoidea #1
EUPHORBIACEAE Spurges	
	***Euphorbia spp.* #1** (Succulent species only except the species included in Appendix I. Artificially propagated specimens of cultivars of *Euphorbia trigona,* artificially propagated specimens of crested, fan-shaped or colour mutants of *Euphorbia lactea,* when grafted on artificially propagated root stock of *Euphorbia neriifolia,* and artificially propagated specimens of cultivars of *Euphorbia "Milii"* when they are traded in shipments of 100 or more plants and readily recognizable as artificially propagated specimens, are not subject to the provisions of the Convention)
LEGUMINOSAE (Fabaceae) Afrormosia, cristobal, rosewood, sandalwood	
	Pterocarpus santalinus #7
NEPENTHACEAE Pitcher-plants (Old World)	
Nepenthes khasiana	ORCHIDACEAE spp. 7 #1 (Except the species included in Appendix I)
ORCHIDACEAE Orchids (For all of the following Appendix I species, seedling or tissue cultures obtained *in vitro,* in solid or liquid media, transported in sterile containers are not subject to the provisions of the Convention)	
Paphiopedilum spp.	
Renanthera imschootiana	
SCROPHULARIACEAE Kutki	
	Picrorhiza kurrooa #2 (Excludes *Picrorhiza scrophulariiflora)*
TAXACEAE Himalayan yew	
	Taxus wallichiana #2
THYMELAEACEAE (Aquilariaceae) Agarwood, ramin	
	Aquilaria spp. #1
VALERIANACEAE Himalayan spikenard	
	Nardostachys grandiflora #2

Annotations

#1 All parts and derivatives, except:

a) seeds, spores and pollen (including pollinia);

b) seedling or tissue cultures obtained *in vitro* in solid or liquid media, transported in sterile containers;

c) cut flowers of artificially propagated plants; and

d) fruits and parts and derivatives thereof of artificially propagated plants of the genus *Vanilla*

#2 All parts and derivatives except:

a) seeds and pollen; and

b) finished products packaged and ready for retail trade.

#7 Logs, wood-chips, powder and extracts.

As per the Export Licensing Note 1 of the EXIM Policy of the Ministry of Commerce, Government of India, export of the following 29 species is prohibited, except under special exemption:

TABLE II- Export Licensing Note 1

1. Baddomes Cycad *Cycas beddomei*
2. Blue Vanda *Vanda coerulea.*
3. Kuth *Saussurea costus*
4. Lady's Slipper Orchid *Paphiopedilium species*
5. Pitcher Plant *Nepenthes khasiana*
6. Red Vanda *Renanthera imschootiana*
7. Sarpagandha *Rauvolifia serpentina*
8. *Ceropegia* species.
9. Shindal Mankundi *Frerea indica*
10. Indian Podophyllum *Podophyllum hexandurm emodi* (.)
11. Tree Ferns *Cyatheaceae species*
12. Cycads *Cycadacea* species
13. Elephant's Foot *Dioscorea deltoidea*
14. Euphorbias *Euphorbia* species.
15. Orchids Orchidaceae species
16. Red Sanders *Pterocarpus santalinus*
17. Common Yew or Birmi Leaves *Taxus wallichiana*
18. Agarwood *Aquilaria malaccensis*
19. Aconitum species.
20. Yunnan Goldthread *Coptis teeta*
21. Calumba Wood *Coscinium fenestrum*
22. *Dactylorhiza hatagirea*
23. Kuru *Gentiana kurroo*
24. Gnetum species.
25. *Kampheria galanga*
26. *Nardostachys grandiflora*
27. *Panax pseudoginseng*
28. Kutki *Picrorhiza kurrooa*
29. Charayatah *Swertia chirata*

Some key points on international trade in MAPs:

- Plants, plant portions, their derivatives and extracts as specified in Appendix I and Appendix II of CITES as well as those specified above at Export Licensing Note 1 (list of 29 taxa) and orchids obtained from the wild are prohibited for export. Special exemption can be granted for the purpose of research, education and life saving drugs on a case by case basis by Director General of Foreign Trade on the recommendation of Ministry of Environment & Forests.
- Plants, plant portions, their derivatives and extracts included in (a) above and obtained from cultivation/artificial propagation at sites inside forests, are free subject to obtaining a Transit Pass from the concerned Divisional Forest Officer.
- Plants, plant portions, their derivatives and extracts obtained from cultivation / artificial propagation at sites outside the forests are free subject to obtaining a Certificate of Cultivation from District Agriculture Officer or District Horticulture Officer or Divisional Forest Officer.
- Formulations of any plant, plant portions, their derivatives and extracts are free for export.
- However, in respect of CITES species, a CITES permit of export shall be required.

Imports and Exports of wild animals and plants are permitted only through the Customs points at Mumbai, Nhava Sheva, Kolkata, Cochin, Delhi, Chennai, Tuticorin, Amritsar, Calicut and Thiruvananthapuram. Two essential conditions governing the import and export of wildlife and the derivatives are:

1. Compliance with the provisions of CITES.

2. Inspection of the consignments by the Regional Deputy Directors of Wildlife Preservation at the relevant Customs points. In case of items covered under CITES, an endorsement is made on the relevant CITES export permit.

As is evident, the key enforcement role is to try and establish whether such a plant or its derivative matches what is declared, whether such documentation is authentic and whether such plants are from the wild or are cultivated specimens.

Notes

Artificially propagated hybrids of the following genera are not subject to the provisions of CITES, if conditions, as indicated under a) and b), are met: *Cymbidium, Dendrobium, Phalaenopsis* and *Vanda*.

a) Specimens are readily recognisable as artificially propagated and do not show any signs of having been collected in the wild such as mechanical damage or strong dehydration resulting from collection, irregular growth and heterogeneous size and shape within a taxon and shipment, algae or other epiphyllous organisms adhering to leaves, or damage by insects or other pests; and

b) **i)** when shipped in non-flowering state, the specimens must be traded in shipments consisting of individual containers (such as cartons, boxes, crates or individual shelves of CC-containers) each containing 20 or more plants of the same hybrid; the plants within each container must exhibit a high degree of uniformity and healthiness; and the shipment must be accompanied by documentation, such as an invoice, which clearly states the number of plants of each hybrid; or

ii) when shipped in flowering state, with at least one fully open flower per specimen, no minimum number of specimens per shipment is required but specimens must be professionally processed for commercial retail sale, e.g. labelled with printed labels or packaged with printed packages indicating the name of the hybrid and the country of final processing. This should be clearly visible and should allow easy verification.

Aconitum heterophyllum - Atis

Imported timber logs at a port

Timber is also one of the major components of "wildlife" trade. However, it is one of the most difficult to monitor, primarily because of the sheer volume and geographic spread of the trade.

One of the major timber species that is attracting special attention currently is Red Sanders. Red Sanders *Pterocarpus santalinus* is an endemic species to India, found primarily in the southern parts of the Eastern Ghats region in the State of Andhra Pradesh. Locally, Red Sanders is popular for its medicinal qualities and is used in pharmaceutical preparations and in small quantities for carving, for idol making and toys.

Internationally, extracts of the dye/santalin are value added in India and imported by foreign countries all around the world. In the unprocessed form, Red Sanders is still being used in Japan for the musical instrument Shamisen and for furniture and carvings in China.

Red Sanders logs are currently banned for export from India. In the past, most such logs were shipped under false declaration in containers destined for Singapore or Japan. However, a recent trend is the transportation of Red Sanders logs by road across the country from Andhra Pradesh into Nepal and then on to China. Over 200 tonnes of such logs were caught by enforcement officials in Nepal over a two year period (2006—2007).

As per the negative list of imports under the EXIM Policy of the Govt. of India, import of plants, their products and derivatives shall also be subject to the provisions of the CITES convention.

Some important issues on timber trade:

- All timber, (except where locally exempt such as *Eucalyptus* and Poplar in some states) is forest produce and must necessarily be accompanied by a Transit Pass for transportation.
- The produce should also be marked by a hammer, an impression of which must be present on the Transit Pass.
- Concealment of the timber is a good pointer of the produce being transported illegally.
- At times, high value timber such as teak, deodar, sandalwood, Red Sanders etc. may be mixed with a consignment of relatively low value timber.
- The quantities as mentioned on the supporting documents need to be verified.
- For import consignments, it may be important to examine the country of origin and verify that the species does actually occur there. It is increasingly being seen that timber is declared to have originated from countries which do not have the tree species native to them!

A carving unit for Red Sanders in China

The marine aquarium trade

By a conservative estimate, around 2 million people worldwide keep marine aquaria. This trade, which caters to such hobbyists is a global multi-million dollar industry, worth an estimated USD 200–330 million annually. The key centres for the trade in such ornamental marine species including corals, other invertebrates and fish are mainly from Southeast Asia. Maldives and Sri Lanka are important sources for such products for the pet trade. Sri Lanka earns about USD 5.6 million a year by exporting reef fish to around 52 countries around the globe. The main destination markets are the United States of America, the European Union (EU) and Japan.

Seahorse wine

Seahorses on sale

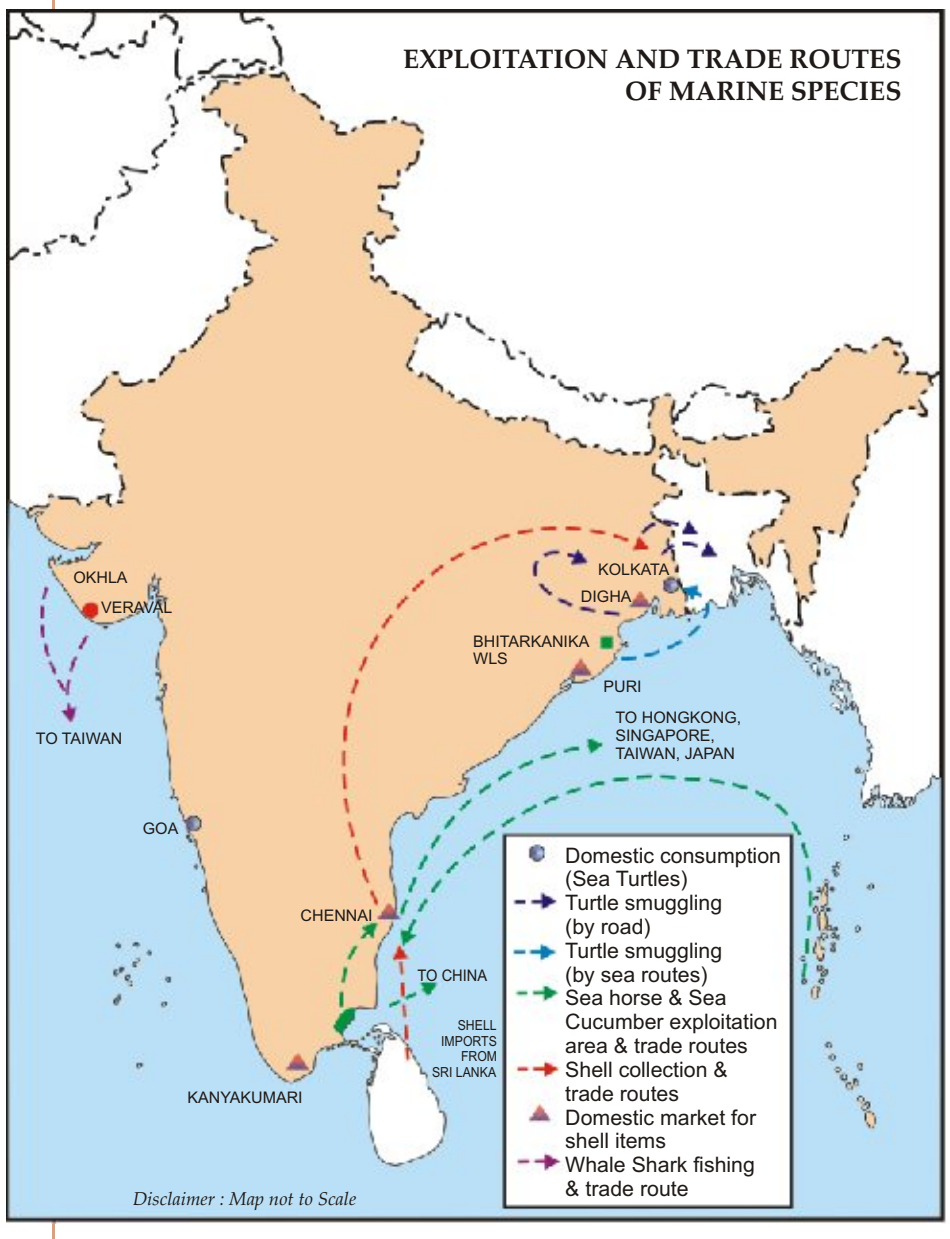
Aquarium animals are the highest value-added products harvested from a coral reef.

A total of 1471 species of fish have been documented in trade worldwide with the best estimate of annual global trade ranging between 20 and 24 million individuals. Most of these species are associated with coral reefs although a relatively high number of species are associated with other habitats such as sea grass beds, mangroves and mudflats.

Seahorses are an important item of export of marine products. As per the Global Marine Aquarium Database (GMAD), maintained since April 2000 by UNEP-WCMC, between 1988–2002, the United States imported a total of 67 998 seahorses. The main exporters were Sri Lanka, Brazil, Indonesia and the Philippines. In India, cases of illegal capture and smuggling of seahorses are increasingly coming to light.

Seahorses are distributed around the globe, with the highest diversity occurring in the Indo-Pacific. They typically inhabit marine or brackish water and occur at depths of between 1–15 m. Interestingly, in all species of seahorses it is the male who becomes pregnant and carries the embryos. Seahorses are also known for forming life-long pairs.

These characteristics make seahorses very vulnerable to over-collection as the lengthy brooding implies a very limited reproductive rate and their social structure of long term bonding is easily disrupted, further disrupting fecundity.



All seahorses are listed as "Vulnerable"or "Data Deficient" on the IUCN Red List of threatened species, except for *H. capensis*, which is listed as "'Endangered". The species level identification of *Hippocampus* species can be extremely difficult, which is one of the reasons the entire genus was listed in CITES Appendix II in November 2002.

Asian Arowana *Scleropages formosus* is a popular aquarium fish that has very special cultural significance in the Oriental world along with three other species of freshwater fish in the genus *Scleropages*. Several other common names, such as Asian bonytongue and dragonfish, are used for them. The name dragonfish indicates their resemblance to the Chinese dragon.

Seahorses and Pipefish at a market in China

Arowana are native to Southeast Asia, where they are found in slow-moving river waters. They can grow up to 90 cm, with large scales and have a delicate net pattern. Hobbyists may be willing to pay thousands of U.S. dollars for one of these fishes, as they are considered very auspicious.

The Asian Arowanas are listed as Endangered on the IUCN Red List. These fish are also listed in Appendix I of CITES, thus making its trade very restrictive. In fact, *S. formosus* is one of only eight fish species listed in Appendix I. As per CITES guidelines, captive bred Asian Arowana can be traded if the specimen is tagged with a microchip. It must be at least of second generation and the breeder must be registered with CITES.

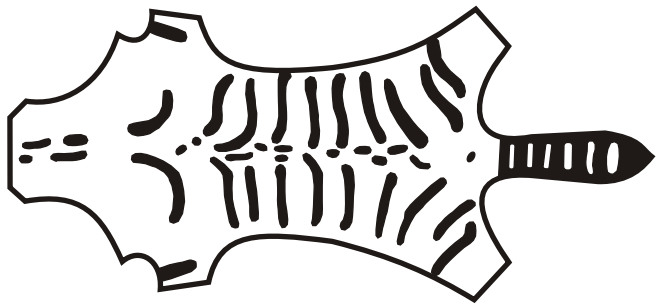
There are a number of CITES registered breeders of Arowana in Asia and the specimens they produce can be imported accompanied by the necessary documentation into several nations. In India, recently, a few seizures of illegally imported Arowana have been reported. There is hardly any awareness amongst enforcement agencies about the significance or value of such illegal imports.

Arowana *Scleropages formosus* a highly prized fish whose trade is strictly regulated under CITES

With some practice, it may be possible to recognise most carnivore skins readily, even though they may show variations in size, colour and pattern. The guard hair forms a thick layer in most species. A tail is always present, the nose pad is naked and usually 4-5 claws are present in each foot.
The following is a description of the main skin types usually seen:

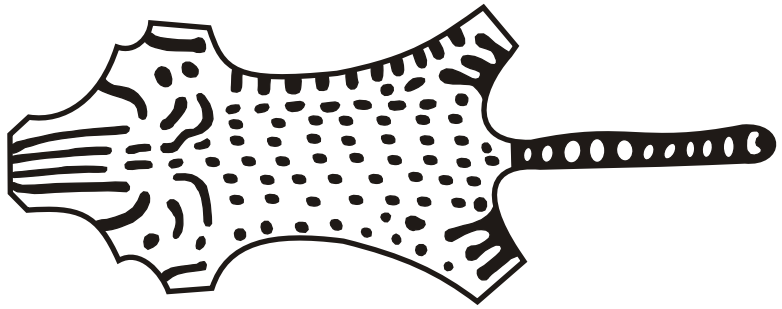
Felidae:

Striped Cat Type: Transverse strips on each side of the back and legs, tail usually thick or with slight taper, with transverse rings.



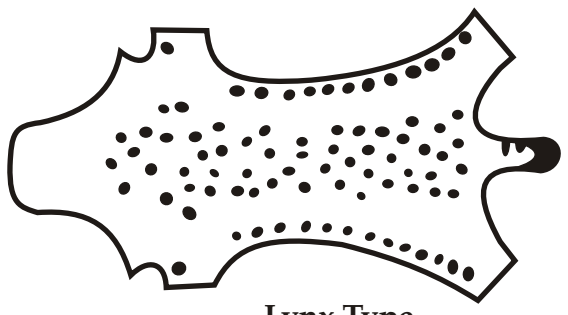
Striped Cat Type

Spotted Cat Type: Spots or rosettes arranged almost longitudinally, in rows, tail thick or slightly tapered, with transverse rings or with spots.



Spotted Cat Type

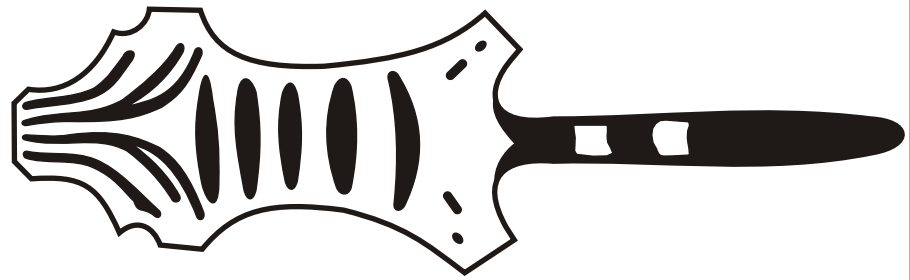
Lynx Type: Upper side usually spotted or plain, belly with distinct spots, short tail.



Lynx Type

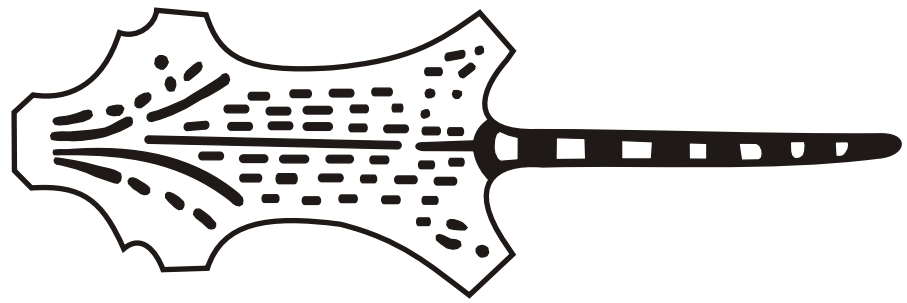
Viverridae:

Banded Civet Type: Broad transverse bands from one flank to the other, long tail, bushy, ringed with black distal part.



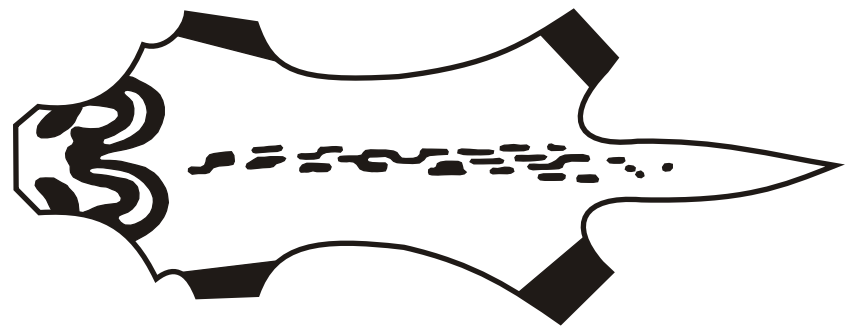
Banded Civet Type

Genet Type: Upper back spotted, belly unspotted, very long tail, usually tapered.



Genet Type

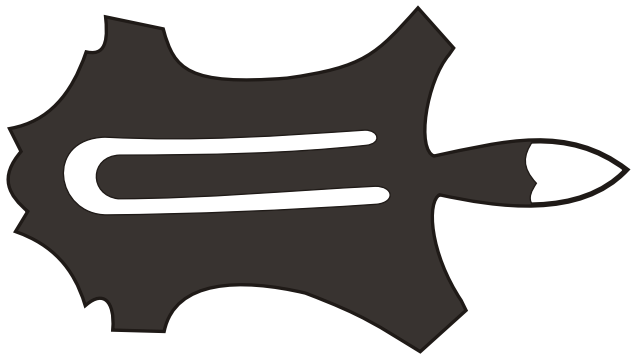
Civet Type: Lyre pattern on neck, tail medium length, usually tapered, lower body and /or legs usually darker than sides, dorsal crest.



Civet Type

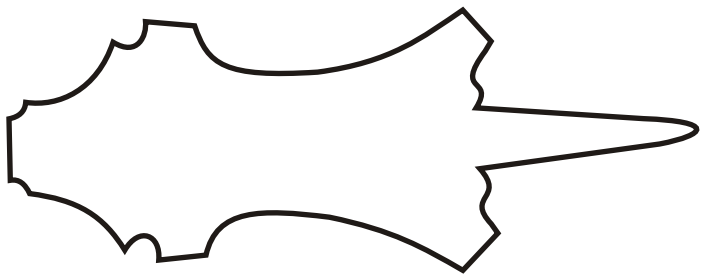
Mustelidae:

Skunk Type: Whiter pattern on black or dark brown background, long hair, bushy tail, tail either white or at least tip white.



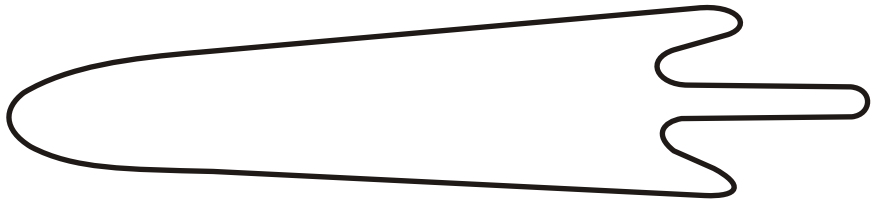
Skunk Type

Otter Type: Upperparts brown with metallic sheen, tail usually tapered.



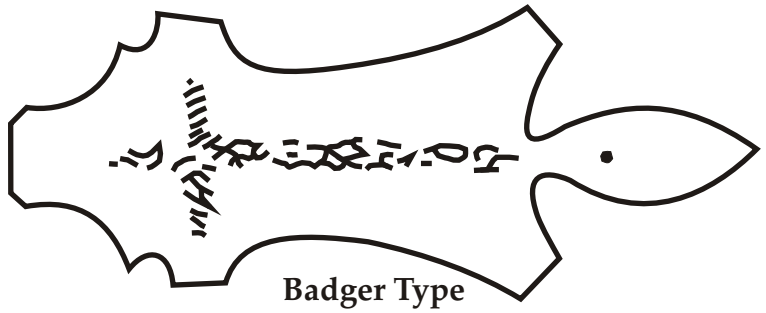
Otter Type

Mink Type: Skins usually not cut open at belly, guard hairs distant from each other, underfur clearly visible, short tail.



Mink Type

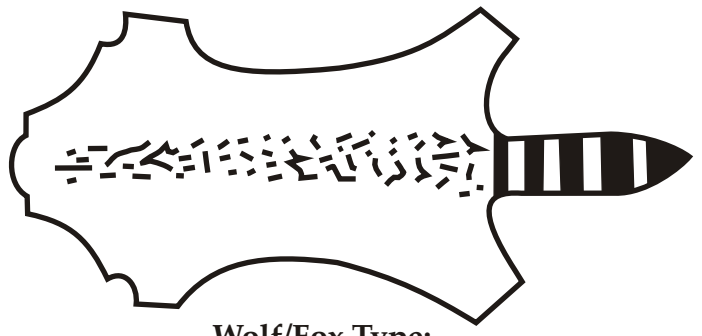
Badger Type: Upperparts grizelled, lower parts black, short tail.



Badger Type

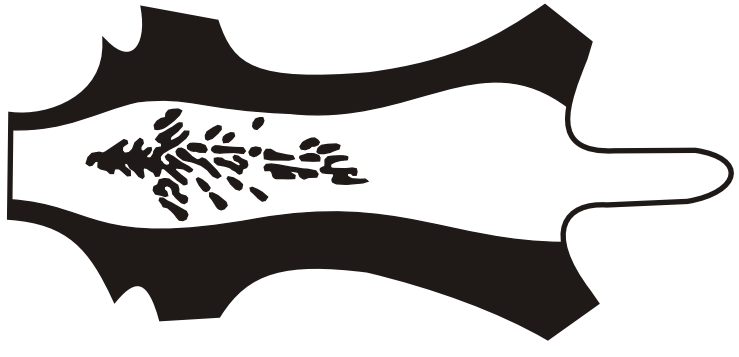
Canidae:

Wolf or Fox Type: Hair usually long, except in some tropical species, bushy tail with a dorsal scent gland, distinct shoulder cross in most species.



Wolf/Fox Type:

Racoon Dog Type: Similar to wolf/fox type, but underparts darker.

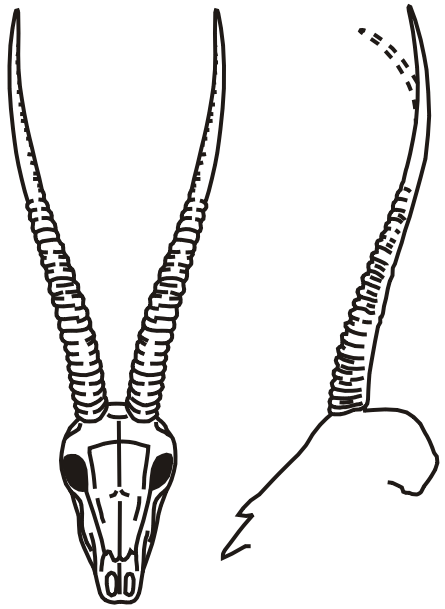


Raccoon Dog Type

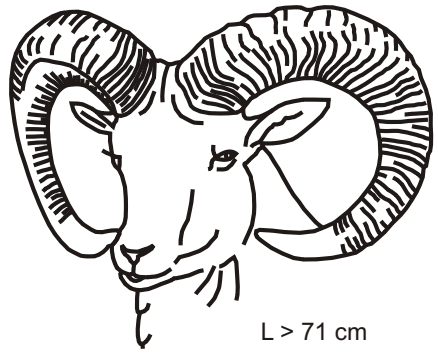
Racoon : Body without a distinct pattern, tail ringed, bushy, face with a dark mask.

Horns of Some Indian Species

Chiru



Urial

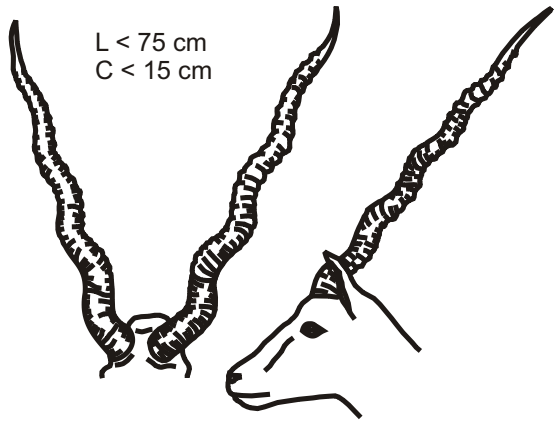


L > 71 cm

C > 22 cm

Markhor

Blackbuck

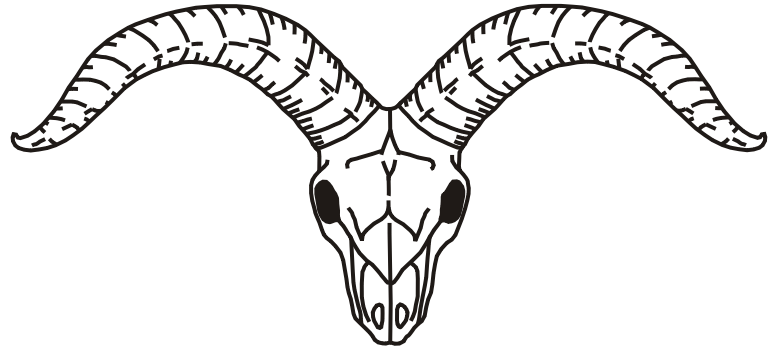


L < 75 cm
C < 15 cm

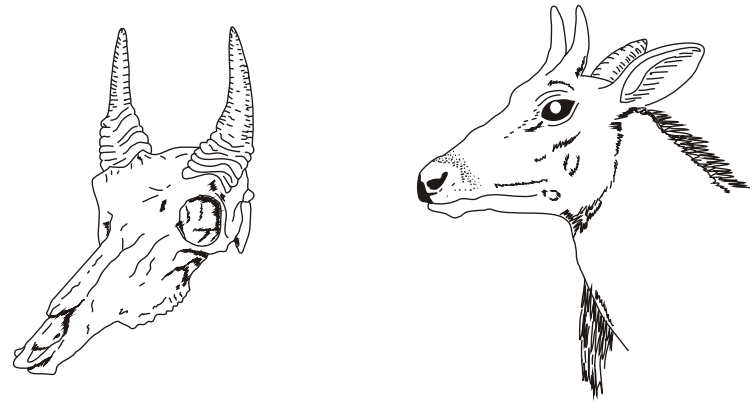
KEY

L: Length
C: Circumference

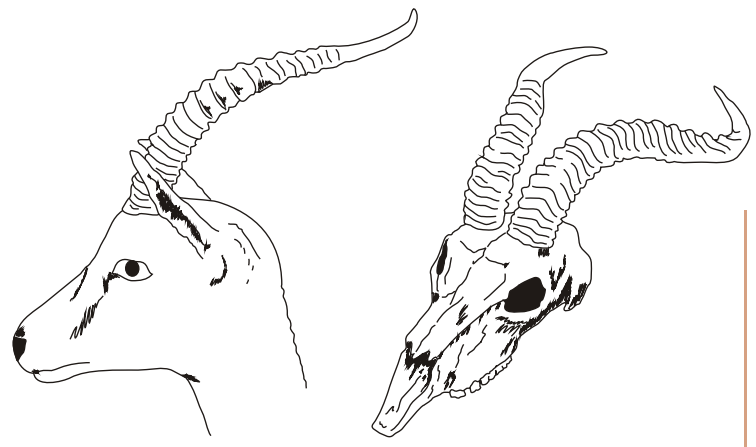
Blue Sheep



Blue Bull

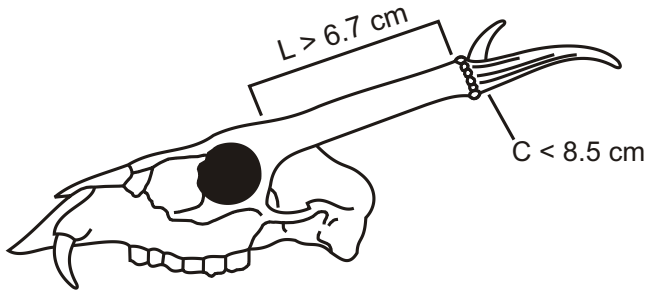


Chinkara

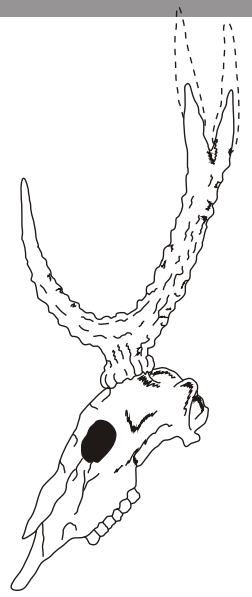


Antlers of Some Indian Species

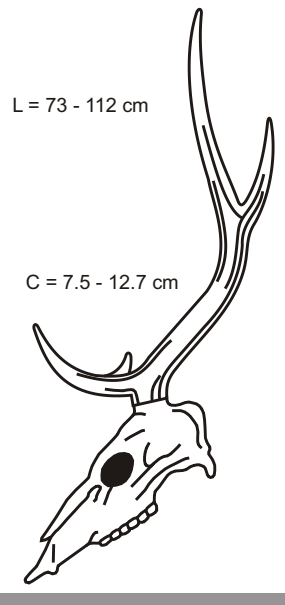
Muntjac



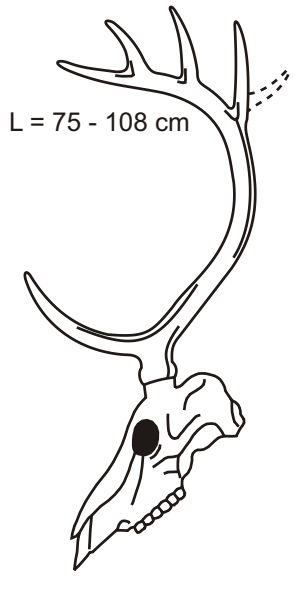
Sambar



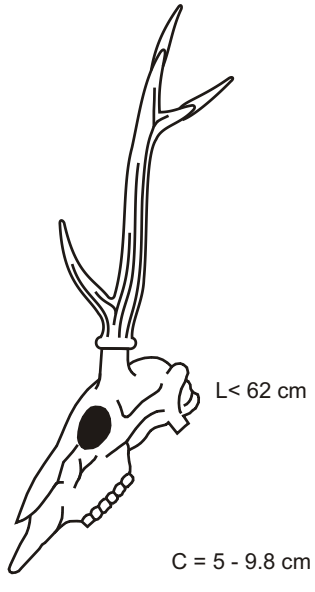
KEY
L: Length
C: Circumference



Spotted Deer



Swamp deer



Hog Deer

Tracks and Signs of some Indian Species

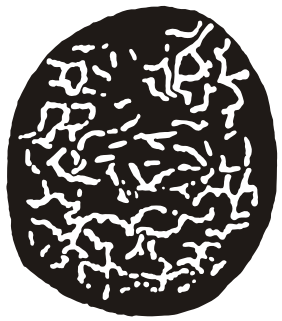
Tiger

Leopard

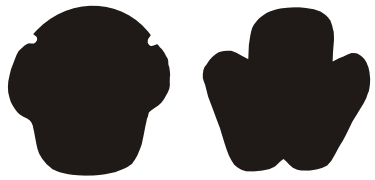
Ratel / Honey Badger

Hyena

Elephant



Rhino



Fishing Cat

Jungle Cat

Sloth Bear

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List of Abbreviations

AF	Afghanistan
BSF	Border Security Force
BT	Bhutan
CBI	Central Bureau of Investigation
CCMB	Centre for Cellular and Molecular Biology
CCTV	Closed Circuit Television
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CISF	Central Industrial Security Force
COMINT	Communications Intelligence
CoP	Conference of Parties
CrPc	Criminal Procedure Code
CSIR	Council for Scientific and Industrial Research
DGFT	Director General of Foreign Trade
DNA	Deoxyribonucleic Acid
DRI	Directorate of Revenue Intelligence
EXIM	Export-Import Policy of India
ELINT	Electronic Signal Intelligence
EU	European Union
FAO	Food and Agriculture Organisation
GMAD	Global Marine Aquarium Database
GMO	Genetically Modified Organism
GSM	Global System for Mobile communications
HUMINT	Human Intelligence
IATA	International Air Transport Association
IFAW	International Fund for Animal Welfare
ILOs	INTERPOL Liaison Officers
IMEI	International Mobile Equipment Identity
IMINT	Imagery Intelligence
IN	India
INTERPOL	International Criminal Police Organisation
I.O.	Investigating Officer
ITBP	Indo-Tibetan Border Police
IUCN	International Union for Conservation of Nature
IVRI	Indian Veterinary Research Institute
LaCONES	Laboratory for the Conservation of Endangered Species
Lao PDR	Lao People's Democratic Republic
MAPs	Medicinal and Aromatic Plants
MASINT	Measurement and Signature Intelligence
MM	Myanmar
MMS	Multimedia Messaging Service
NCB	National Central Bureaus
NGO	Non-governmental Organisations
NP	Nepal
PA	Protected Area
PAN	Permanent Account Number
PDA	Personal Digital Assistant
PK	Pakistan
SARS	Severe Acute Respiratory Syndrome
SCC	Supreme Court Cases
SIM	Subscriber Identity Module
SoC	Scene of Crime
SSB	Sashastra Seema Bal
SWOT	Strength Weakness Opportunities Threats
TAR	Tibet Autonomous Region
TCM	Traditional Chinese Medicines
UN	United Nations
UNEP	United Nations Environment Programme
UNEP-WCMC	UNEP World Conservation Monitoring Centre
UNODC	United Nations Office on Drugs and Crime
WCCB	Wildlife Crime Control Bureau
WFF	Wildlife Forensic Facility
WII	Wildlife Institute of India
WLPA	Wildlife (Protection) Act, 1972
WWF	World Wide Fund for Nature, the Conservation Organisation

Photo Credits

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