Illegal Trade in Wildlife- Shocking Truth and Some Alternative Thoughts

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Keywords:

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Background

Recently there has been a lot of media coverage regarding the illegal trade on different species of highly endangered and threatened wildlife and contraband forest products such as illegally felled timber, rare ornamental and medicinal plants and several related natural resources. Trafficking links have been established for illegal trade routes across both inter- and intra-state boundaries as well through international borders. Unfortunately, Kolkata being the gateway to South East Asia (a hot market for such live wildlife species as well as their skin, fur, felt, bones, body organs, tusks and horns for collection purposes, pet industry as well for use in traditional and indigenous medicinal practices) has turned out into a lucrative platform for such illegal trade in both wildlife and forest products. Every year a number of such illegal wildlife trade agents, transporters, handlers, poachers, trappers and linkmen are arrested, tried in the court, convicted and sentenced; however, to unfold the real truth they are only the minor scapegoats in a billion dollar international trade market. The other important question that must be raised is that there is no news ever on the arrest or punishment for the affluent buyers and consumers of wildlife and illegal forest products in the nation. They are the one who are actively supporting the trade directly and indirectly. The reason is not quite difficult to assess; these people represent a socially, economically and politically powerful lobby and hence cannot be brought to the books conventionally. Those that are convicted and punished are the poorest of the poor and hence do not have any escape routes what so ever.

Figure 1. Illegal trade in exotic avian species.

Table. 1. List of CITES Species for the Purposes of the Environment Protection and Biodiversity Conservation.

Threatened species		Near Threatened species		Nearly Protected species	
Common name	**Scientific name**	**Common name**	**Scientific name**	**Common name**	**Scientific name**
Short-nosed Sturgeon	*Acipenser brevirostrum*	Atlantic Sturgeon	*Acipenser oxyrinchus*	Helmeted water toad	*Calyptocephalella gayi*
Common Sturgeon	*Acipenser sturio*	Duckbill cat	*Polyodon spathula*	Hellbender	*Cryptobranchus alleganiensis*
Cui-ui	*Chasmistes cujus*	European eel	*Anguilla anguilla*	Amji's salamander	*Hynobius amjiensis*
Ikan	*Probarbus jullieni*	African Blind Barb	*Caecobarbus geertsi*	Muscovy Duck	*Cairina moschata*
Asian Bonytongue	*Scleropages formosus*	Arapaima	*Arapaima gigas*	Black-bellied Whistling-duck	*Dendrocygna autumnalis*
Totoaba	*Totoaba macdonaldi*	Humphead wrasse	*Cheilinus undulatas*	Fulvous Whistling -duck	*Dendrocygna bicolor*
Giant Catfish	*Pangasianodon gigas*	Seahorses	*Hippocampus spp*	Mexican Stone Curlew	*Burhinus bistriatus*
Cameroon Toad	*Amietophrynus superciliaris*	Brilliant-thighed Poison Frog	*Allobates femoralis*	Pink Pigeon	*Nesoenas mayeri*
Osgood's Ethiopian Toad	*Altiphrynoides osgoodi*	Sanguine Poison Frog	*Allobates zaparo*	King Vulture	*Sarcoramphus papa*
Tomato Frog	*Dyscophus antongilii*	Poison Dart Frogs	*Ameerega spp.*	Blue-knobbed Curassow	*Crax alberti*
Giant	*Andrias spp.*	poison arrow frogs	*Phyllobates spp*	Yellow-knobbed	*Crax daubentoni*

Salamanders				Curassow	
Kaiser's spotted newt	*Neurergus kaiseri*	Six-fingered Frog	*Euphlyctis hexadactylus*	Plain Chachalaca	*Ortalis vetula*
New Zealand Brown Duck	*Anas chlorotis*	Indian Bullfrog	*Hoplobatrachus tigerinus*	Northern Helmeted Curassow	*Pauxi pauxi*
Laysan Duck	*Anas laysanensis*	Tree frogs	Agalychnis spp.	Northern Crested Guan	*Penelope purpurascens*
White-winged Wood Duck	*Asarcornis scutulata*	Malagasy Poison Frog	*Mantella spp.*	Black Chachalaca	*Penelopina nigra*
Hawaiian Goose	*Branta sandvicensis*	Malagasy Golden Mantella	*Mantella aurantiaca*	Ocellated Turkey	*Meleagris ocellata*
Hook-billed Hermit	*Glaucis dohrnii*	Gottlebes Frog	*Scaphiophryne gottlebei*	Satyr Tragopan	*Tragopan satyra*
Relict Gull	*Larus relictus*	Achoque	*Ambystoma dumerilii*	Amazonian Umbrellabird	*Cephalopterus ornatus*
Eskimo Curlew	*Numenius borealis*	Shoebill	*Balaeniceps rex*	Long-wattled Umbrellabird	*Cephalopterus penduliger*
Jabiru	*Jabiru mycteria*	Black Stork	*Ciconia nigra*	Rodriquez Island Warbler	*Acrocephalus rodericanus*
Hermit Ibis	*Geronticus eremita*	Andean Flamingo	*Phoenicopterus andinus*	Toucan Barbet	*Semnornis ramphastinus*
Japanese Crested Ibis	*Nipponia Nippon*	American Flamingo	*Phoenicopterus ruber*	Saffron Toucanet	*Baillonius bailloni*
Nicobar Dove	*Caloenas nicobarica*	Bleeding Heart Dove	*Gallicolumba luzonica*	Red-breasted Toucan	*Ramphastos dicolorus*
Great Pied Hornbill	*Buceros bicornis*	Narcondam Hornbill	*Aceros narcondami*	Spot-billed Toucanet	*Selenidera maculirostris*
Spanish Imperial Eagle	*Aquila adalberti*	Knysna Turaco	*Tauraco corythaix*	Scalloped Hammerhead	*Sphyrna lewini*
Cuban Hook-billed Kite	*Chondrohierax uncinatus wilsonii*	hawks	*Falconiformes spp*	Porbeagle	*Lamna nasus*
White-tailed (Sea) Eagle	*Haliaeetus albicilla*	Lammergeier	*Gypaetus barbatus*	Sasin	*Antilope cervicapra*
Philippine Eagle	*Pithecophaga jefferyi*	Osprey	*Pandion haliaetus*	Wild Water Buffalo	*Bubalus arnee*
Andean Condor	*Vultur gryphus*	Secretary Bird	*Sagittarius serpentarius*	Dorcas Gazelle	*Gazella dorcas*
Gyrfalcon	*Falco rusticolus*	Blood Pheasant	*Ithaginis cruentus*	Chousingha	*Tetracerus quadricornis*
Maleo Megapode	*Macrocephalon maleo*	Gray Jungle Fowl	*Gallus sonnerati*	Barbary Deer	*Cervus elaphus barbarus*
Western Tragopan	*Tragopan melanocephalus*	Crowned Crane	*Balearica regulorum*	Red Brocket Deer	*Mazama temama cerasina*
Mississippi Sandhill Crane	*Grus canadensis pulla*	Bustards	*Otididae spp.*	Whitetail Deer	*Odocoileus virginianus mayensis*
Kagu	*Rhynochetos jubatus*	Great Bustard	*Otis tarda*	Golden Jackal	*Canis aureus*
Red Siskin	*Carduelis cucullata*	Yellow Cardinal	*Gubernatrix cristata*	Bengal Fox	*Vulpes bengalensis*
Saffron-cowled Blackbird	*Xanthopsar flavus*	Java Sparrow	*Lonchura oryzivora*	Little Red Fox	*Vulpes pusilla*
Myna	*Leucopsar rothschildi*	Hwamei	*Garrulax canorus*	Griffith's Red Fox	*Vulpes griffithi*
Dalmatian Pelican	*Pelecanus crispus*	Black-necked Aracari	*Pteroglossus aracari*	Indian Gray Mongoose	*Herpestes edwardsii*
Yellow-crested Cockatoo	*Cacatua sulphurea*	Long-billed Corella	*Cacatua tenuirostris*	Ruddy Mongoose	*Herpestes smithi*
Red-necked Amazon Parrot	*Amazona arausiaca*	Antipodes Green Parakeet	*Cyanoramphus unicolor*	Aardwolf	*Proteles cristatus*
Cuban Parrot	*Amazona leucocephala*	Princess Parrot	*Polytelis alexandrae*	Tayra	*Eira barbara*
Vinaceous Amazon Parrot	*Amazona vinacea*	Black footed Cape Penguin	*Spheniscus demersus*	Niligri Marten	*Martes gwatkinsi*

Giant Scops Owl	*Mimizuku gurneyi*	Grass owls	*Tytonidae spp.*	Yellow-bellied Weasel	*Mustela kathiah*
Ostrich	*Struthio camelus*	Whale Shark	*Rhincodon typus*	Siberian Weasel	*Mustela sibirica*
Red Serow	*Capricornis rubidus*	Bokharan Deer	*Cervus elaphus bactrianus*	Bushy-tailed Olingo	*Bassaricyon gabbii*
Cyprian Red Sheep	*Ovis orientalis ophion*	Gray Wolf	*Canis lupus*	Kinkajou	*Potos flavus*
Musk Deer	*Moschus spp.*	Mexican Bobcat	*Lynx rufus escuinapae*	Masked Palm Civet	*Paguma larvata*
Cheetah	Acinonyx jubatus	European Brown Bear	*Ursus arctos*	White-lined Bat	*Platyrrhinus lineatus*
Mountain Cat	Leopardus jacobitus	La Plata River Dolphin	*Pontoporia blainvillei*	(Greater) Naked -tailed Armadillo	Cabassous tatouay
Japanese otter	*Lutra Nippon*	Little Mariana Fruit Bat	*Pteropus tokudae*	Collared Anteater	*Tamandua mexicana*
Fin Whale	*Balaenoptera physalus*	Grizzled Grey Tree Kangaroo	*Dendrolagus inustus*	Central American Agouti,	*Dasyprocta punctata*
White Flag Dolphin	*Lipotes vexillifer*	Spotted Cuscus	*Spilocuscus maculatus*	Spiny Tree Porcupine	*Sphiggurus spinosus*
Assam Rabbit	*Caprolagus hispidus*	Southern White Rhinoceros	*Ceratotherium simum*	Himalayan Marmot	*Marmota himalayana*
African Wild Ass	*Equus africanus*	Chinese Pangolin	*Manis pentadactyla*	Geckos	*Hoplodactylus spp.*
Roloway Monkey	*Ceropithecus roloway*	White-throated Capuchin	*Cebus capucinus*	Olive Keelback Water Snake	*Atretium schistosum*
Dwarf lemurs	*Cheirogaleus spp.*	Slender Loris	*Loris tardigradus*	Atlanta Coral Snake	*Micrurus diastema*
Asian Elephant	*Elephas maximus*	Australian Lungfish	*Neoceratodus forsteri*	Daboia	*Daboia russellii*
American Crocodile	*Crocodylus acutus*	Brown Caiman	*Caiman crocodilus fuscus*	Alligator snapping turtle	*Macroclemys temminckii*
Nile Crocodile	*Crocodylus niloticus*	Coastal Horned Lizards	*Phrynosoma coronatum*	Map turtles	*Graptemys spp.*
Guatemalan beaded lizard	*Heloderma horridum charlesbogerti*	Rainbow Boa	*Epicrates cenchria*	Guangxi Stripe-necked Turtle	*Ocadia glyphistoma*
Indian (Rock) or Tiger Python	*Python molurus*	Zhou's box turtle	*Cuora zhoui*	Cape stag beetles	*Colopon spp.*
Short- necked Swamp Turtle	*Pseudemydura umbrina*	Medicinal Leech	*Hirudo medicinalis*	Butterfly	*Prepona praeneste buckleyana*
Sampson's Pearly Mussel	*Epioblasma sampsoni*	Emperor Scorpion	*Pandinus dictator*	Red coral	*Corallium japonicum*
Oahu Tree Snails	*Achatinella spp.*	Mountain Apollo Butterfly	*Parnassius apollo*	Brown Sea Cucumber	*Isostichopus fuscus*
Monkey-puzzle Tree	*Araucaria araucana*	Fire corals	*Millepora spp.*		*Gnetum montanum*
Aztec Cactus	*Aztekium ritteri*	Giant Clam	*Tridacna gigas*	Almendro	*Dipteryx panamensis*
Pitayita	*Mammillaria solisioides*	Queretaro yucca	*Yucca queretaroensis*	Almendro	*Dipteryx panamensis*
Beddome Cycad	*Cycas beddomei*	Snake-root Devil-pepper	*Rauvolfia serpentina*	Rose cedar	*Cedrela fissilis*
Euphorbias	*Euphorbia moratii*	Ajo	*Caryocar costaricense*	Spanish cedar	*Cedrela odorata*
Aloe	*Aloe alfredii*	Tree Ferns	*Cyathea spp.*	Bigleaf Mahogany	*Swietenia macrophylla*
Indian Tropical Pitcher Plant	*Nepenthes khasiana*	Desert Cistanche	*Cistanche deserticola*	Coco de mer	*Lodoicea maldivica*
Orchid	*Aerangis ellisii*	Bottle liana	*Adenia firingalavensis*	Korean pine	*Pinus koraiensis*
Fern -Leafed Cycad	*Stangeria eriopus*	African Cherry	*Prunus africana*	Tetracentron	*Tetracentron sinense*
Ceratozamias, Horncones	*Ceratozamia spp.*	Philippine Garland Flower	*Hedychium philippinense*	Ramin	*Gonystylus spp.*

Source: Retrieved from CITES species (2013) CITES species (2013) List of CITES Species for the Purposes of the Act. Environment Protection and Biodiversity Conservation Act 1999.Wildlife Trade Regulation Section, Department of the Environment, Australian Government, Canberra, Australia Available at: http://www.environment.gov.au/system/files/pages/f5130a16-2507-4c78-9a2a-462040217875/files/cites-compilation.pdf [Updated 30.10.2013]

Challenges

The real game players are organized groups with connections in high offices, extensive networks, funding; and personnel who are highly trained with adorable skills necessary for conducting such illegal trade. Such groups even have their own intelligence unit empowered with all kinds of modern gadgets and technology. What the local administration has been able to seize or capture or bring to the books are only showing the tip of the iceberg. The problem is way deep rooted with strong nexus among secret business communities, under ground wildlife trade agencies, corrupt small time politicians, government officers, forest officials, staffs and forest guards, customs and border officials as well as the police. Without active and hidden support of some of these corrupted stakeholders a thriving wildlife trade could not survive in any nation. It is impossible to accept that such trades have been undergoing without the knowledge of the local and regional administration of cities, towns and municipalities along such impacted trade routes.

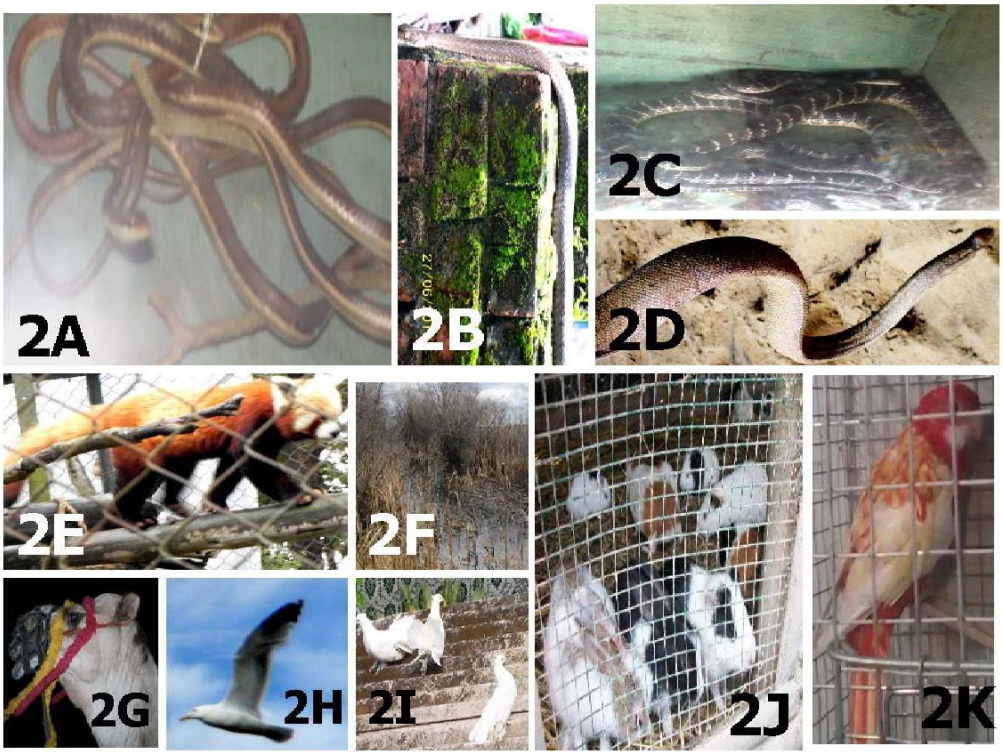

Figure 2. A, C, J & K. Illegal trade on exotic species of wildlife; B, D, F, H & I. Disturbances to different wildlife species in their pristine natural habitats; G. Transferring species to different non-suitable habitats under illegal wildlife trade for business enterprises, commercial and entertainment purposes**.**

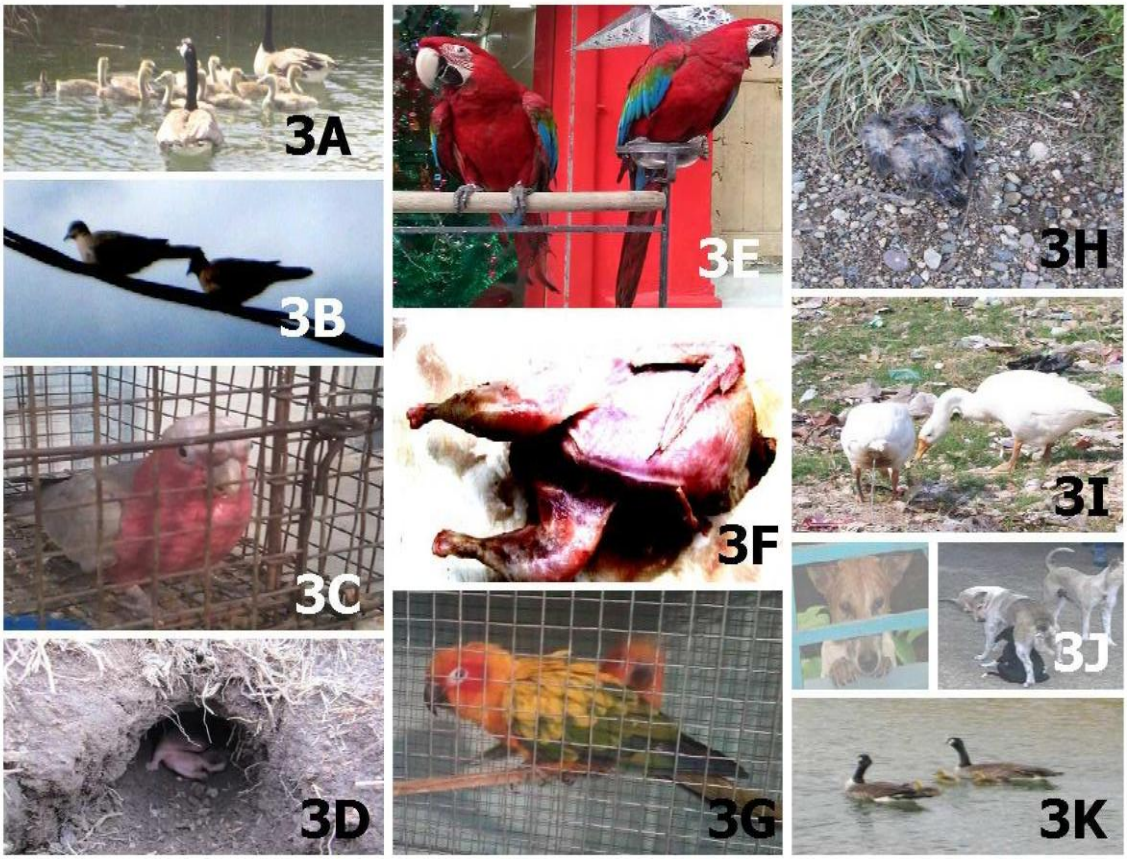

Figure 3. A. B. D. I & K. Species in their distinct ecological habitats; C, E & G. Illegalconfinements and trade in exotic species; F. Harvest for exploiting cheap wild meat; H. Death of species during transportation and under improper confinement resulting inconsiderable loss; J. Uncontrolled population of stray animals and unrestricted grazing of domestic animals adjoining unmonitored wildlife habitats indeveloping and under developed countries pose significant threats with respect to disease transmission and unwanted attacks on helpless wildlife.

Table 2. Selected list of countries with their corresponding wildlife laws and regulations.

States	Laws and Regulations		Species under protection	Penalties against wildlife trade crime (Yes: +/ No: -)	Membership	References
	Species protection	Wildlife trade				
Iran	illegal hunting and animal protection by the criminal law(acts 679 and Chapter VI of the civil law approved in 1925 devoted to	Article 50 of the constitution approved in 1989 to avoid wildlife trade and for environmental protection ; the law (article 1;1956) for hunting and trade ; articles 13 (approved in	Endangered species mentioned in CITES that are existed in the iranian territory	+	CITES[1](since 3 October,1976 ; 01/11/1976 entry into force)	Khoshyari, 2014; CITES, 2014

	680); Aquatic animals protection (article22; 1995)	1995) and 67 (approved in 2004) for wildlife hunting and trade				
Lebanon	Chapter I (articles 1-4, 6) is approved to ensure protection and welfare of live animals in compliance with OIE and CITES conventions; Chapter II for animal sale and breeding; Chapter III for animal protection (animal welfare legislation existed from 1943)	Chapter I, article1.1 and article 5 emphasizes on wildlife trade and animal transportation	wild animals , farm animals, stray animals, domesticated animals	+	CITES, OIE[2](since 26 February 2013; 26/05/2013 entry into force), LATA[3]	Draft law for protection and welfare of animals ,2014; CITES, 2014
Turkey	Animal Protection Law (code: 5199, OJ 25509, adoption: 1 July 2004) Uprooting, Production and Trade of Natural Flower Bulbs (OJ 25563, adoption: 24 August 2004) and the Land Hunting Law (code: 4915, OJ 25165, adoption: 11 July 2003)	Possession, Breeding and Trade of Game and Wild Animals and their Products (OJ 25847, adoption: 16 June 2005)	145 plants, 15 mammals and 64 birds	+	CITES (since 23 September 1996; 22/12/1996 entry into force)	Kecse-Nagy et al.,2006 ; CITES, 2014
Croatia	The Law on Nature Protection OG 70/2005 (adopted: 08 June 2005	Articles 67-68 are about transboundary movement, keeping, breeding and trade of wild fauna and flora	60 plants, nine mammals and 67 birds	+	CITES (since 14 March 2000; 12/06/2000 entry into force)	Kecse-Nagy et al.,2006 ; CITES, 2014
Cyprus	the Law on the Protection and Management of Nature and Wildlife (No. 153(I)/2003); the Law for the Protection and Management of Wild Birds and Game No. 152(I)/2003 (adoption: 3 October 2003; the Law for the Protection, Health and Welfare of Animals of 1994 No. 46(I)/1994;	the Law for the Protection, Health and Welfare of Animals (No. 1994 46(I)/1994) which relates to import/export of species; the Customs Code Law (No. 94(1)/2004) for wildlife trade	59 plants, four mammals and 66 birds	+	CITES (since 18 October 1974; 01/07/1975 entry into force)	Kecse-Nagy et al.,2006 ; CITES, 2014
Bulgaria	The establishment of the rescue centres and the Hunting and Game Protection Act No. SG 78 (adoption: 2000, last	Chapter four of the Biodiversity Act (adoption: 2002, SG No. 77 amendment Nov. 2005, SG No 88) is dedicated to trade in endangered species of	66 species of plants, 10 mammals and 70 birds	+	CITES (since 16 January 1991; 16/04/1991 entry into force)	Kecse-Nagy et al.,2006 ; CITES, 2014

	amendment: No. SG 79/2002)	wild flora and fauna				
Slovenia	The Nature Conservation and protection Act (OG of the RS 119/02, 22/03, 96/04)	Protection measures in the Trade in Animal and Plant Species(OG of the RS 52/04)	69 plants, six mammals and 60 birds	+	CITES (since 24 January 2000; 23/04/2000 entry into force)	Kecse-Nagy et al.,2006 ; CITES, 2014
Slovakia	The Act on the Protection of Species of Wild Fauna and Flora by Regulating Trade No. 15/2005 (adoption: 2 December 2004) and No. 110/2005 (adoption 1 April 2005)	Act No.15/2005 for wildlife trade	70 plants, six mammals and 75 birds	+	CITES (since May 1992; 01/01/1993 entry into force)	Kecse-Nagy et al.,2006 ; CITES, 2014
Romania	The Ministerial Order No. 647/2001 of Water and Environmental Protection for Harvesting, Capture and Acquisition and Trading of the Plants and Animals of Wild Fauna and Flora; the Law No. 291/2003 on Environmental Protection , the Law No. 103/1996 on Hunting Fund and Protection of Game	The Order No 117/2003 for Harvesting, Capture, Acquisition and Trading on the Internal Market or at Export of the Plants and Animals of Wild Fauna and Flora	74 plants, 10 mammals and 70 birds	+	CITES (since 18 August 1994; 16/11/1994 entry into force)	Kecse-Nagy et al.,2006 ; CITES, 2014
Poland	The conservation of nature Act (16/04/2004) which regulates the international trade in wild fauna and flora	Protected Indigenous Animals(28.IX.2004), the Animal Protection Act (21 VIII. 1997)	51 plants, 15 mammals and 70 birds	+	CITES (since 12 December 1989; 12/03/1990 entry into force)	Kecse-Nagy et al.,2006 ; CITES, 2014
Lithuania	The Act on International Trade in Endangered Species of Wild Fauna and Flora No. IX-337 (adoption: 22 May 2001); the Environment Protection Law No. I-2223 21 (adoption: January 1992)	the Law No. VIII-498 (adoption: 6 November 1997) on Wildlife trade ; the Customs Law No. IX-2183 (adoption: 27 July 2004)	36 plants, eight mammals and 57 birds	+	CITES (since 10 December 2001; 09/03/2002 entry into force)	Kecse-Nagy et al.,2006 ; CITES, 2014
Australia	The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) f or marine,	Act 1999 (EPBC Act) for import and export of endangered species, export of national species, and import of live animal and plant	Threatened fauna (451 species) and flora (1298 species), etc.	+	CITES (ratified in July 1986; 27/10/1976 entry into force)	Wildlife trade and the law, 2014; CITES,

	migratory, threatened and invasive species	species (wildlife trade)				2014
South Africa	The animal protection Act No 71, 1962; Environmental Conservation Act No.73, 1989;Sea Fishery Act No. 12 ,1988	Import, export and re-export species listed within the CITES (Articles 2 to 7); The Customs and Excise Act No. 91 related to wildlife import/export ; the natural conservation ordinance No 8, 1969 and No. 12 1983 for wildlife trade	CITES-listed species	+	CITES (acceded since 1973; ratified 15 July,1985; 13/10/1975 entry into force)	Bodasing and Mulliken, 1996; CITES, 2014
China	Wildlife Protection Law (WPL) in 1988 (it contains five chapters and 42 articles)	Wildlife Protection Law (WPL) in 1988 (it contains five chapters and 42 articles)*;* the wildlife protection, rescue, and domestication (Art. 1, Ch. I)	88 species of mammals, 707 species of birds, 291 species of amphibians, 395 species of reptiles and 110 species of insects	+	CITES(since December,1980; 08/04/1981 entry into force)	Li, 2007; CITES, 2014
India	The Wildlife Protection Act No. 53, 1972 for protection of plants and animal species (Chapter 1 to VI); the Indian Forest Act of 1878 and Act No. 16, 1927 for forest protection, the bird protection Act 1887; the wild bird and animal protection Act 1912 (amended in 1935); the Indian forest Acts 1927 and 1981; Environment protection Act 1986;	The protection of wildlife by the wildlife act 1972; the export/import policy and the foreign trade Act 1992 which restricts the wildlife trade including wild animals(or their parts and products) and specified plants issued by the Director General of foreign trade (Public notice 47/92-97, 30 March 1994) ; Chapter IIIA of 1991 for providing protection to endangered flora	As of 1991 India banned all trade in ivory; a number of medicinal plants in raw form; since 2000 India banned all wildlife (listed in CITES) export	+	CITES (since October1976; 18/10/1976 entry into force)	Singhar ,2002; Misra, 2003 ; CITES, 2014
USA	**The Migratory Bird Treaty Act** bans the capture, killing, sale, or transport (domestic and international) of any migratory bird, bird part, nest, or egg listed in the act; The **Marine Mammal Protection Act** (MMPA),1992 ; The wild bird conservation (WBC) Act 1982;	**The Lacey Act of 1900** prohibits foreign trade in endangered species and their parts. **The Endangered Species Act (ESA)** 1973 is a U.S. federal law that makes CITES law and strictly prohibits trade of threatened and endangered species within and between States; Importation, exportation, and transportation of wild life (Title50, Chapter I, Subchapter B, Part 14)	CITES-listed species	+	CITES (since 22 February 1977; 01/07/1975 date of entry into force)	U.S. Fish & Wildlife Service-international affairs, 2014; CITES, 2014
Canada	The Antarctic Environmental Protection Act**;** the *Canadian Environmental*	**The WAPPRITA Act, 1992 for international trade in** Endangered Species of Wild Fauna and Flora	CITES-listed plants and animals under supervision of WAPPRITA, Prohibited or	+	CITES (ratified since 10/04/1975 ; 09/07/1975 entry into	Environment Canada, 2012; CITES,

	Protection Act (CEPA), 1999**;** The Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act (WAPPRIITA)- assent on December 17, 1992- to protect Canadian and foreign species of animals and plants **from overexploitation made by illegal trade; the Migratory Birds Convention Act 1994; the Fisheries Act, 1999**		Regulated Foreign species on the basis of the approved laws in their country of origin; species whose entrance may endanger the Canadian species		force)	2014
Egypt	Birds of prey are totally protected (Decree No.66, 1962); Decree No. 701,1982 and Decree No.102,1983 declare the protected areas. Decree No. 1058,1984; Decree No. 66,1982; Decree No. 472,1982; Decree No. 39 and 40 ,1981; Decree No. 56,1980; Decree No. 442,1980; Decree No. 15 and 16,1980; Decree No. 424,1922; Decree No. 502, 1982	Article 117 of Act No. 53, 1922 prohibits any selling from protected birds useful for agriculture or protected wild fauna (Domestic trade and possessions) . The Act 53, 1966 (Article 117) prohibits specific wild fauna to be hunted or traded	Currently Egypt does not have any specific legislation for CITES unless there are only general protection that are given to wild animals in a given area (protected areas or for wild animal conservations); Lack of monitoring in international wildlife trade	+ (designated for a specific area)	CITES (04/04/1978 entry into force)	IUCN Environmental Law Centre,1986; CITES, 2014

[1]Convention on International Trade in Endangered Species; [2]The World Organization for Animal Health; [3]The International Air Transport Association for transporting live animals by air

Table 3. List of threatened animals.

Conservation status	English and Scientific name
Extinct (E)	Aurochs (*Bos primigenius*);Bali tiger (*Panthera tigris balica*); Blackfin cisco (*Coregonus nigripinnis*); Caribbean monk seal (*Monachus tropicalis*); Carolina parakeet(*Conuropsis carolinensis*); Caspian tiger (*Panthera tigris virgata*); Dodo (*Raphus cucullatus*); Dusky seaside sparrow (*Ammodramus maritimus nigrescens);*Eastern cougar(*Puma concolor couguar*); Golden toad (*Incilius periglenes*); Great auk (*Pinguinus impennis*); Japanese sea lion *(Zalophus japonicus*); Javan tiger(*Panthera tigris sondaica*); Labrador duck(*Camptorhynchus labradorius*); Passenger pigeon (*Ectopistes migratorius*); Schomburgk's deer (*Rucervus schomburgki*); Steller's sea cow (*Hydrodamalis gigas*); Thylacine (*Thylacinus cynocephalus*);Toolache wallaby (*Macropus greyi*); Western black rhinoceros(*Diceros bicornis longipes*); etc.
Extinct in the wild (EW)	Barbary lion *(Panthera leo leo)* ; Catarina pupfish (*Megupsilon aporus*); Hawaiian crow (*Corvus hawaiiensis*); Père David's deer (*Elaphurus davidianus*); Scimitar oryx(*Oryx dammah*); Socorro dove (*Zenaida graysoni*); Wyoming toad(*Bufo baxteri*); etc.
Critically endangered (CR)	Addax(*Addax nasomaculatus*); African wild ass (*Equus africanus*); Alabama cavefish (*Speoplatyrhinus poulsoni*); Amur leopard (*Panthera pardus orientalis*); Arakan forest turtle (*Heosemys depressa);* Asiatic (or Iranian) cheetah (*Acinonyx jubatus venaticus*); Axolotl (*Ambystoma mexicanum*); Bactrian camel (*Camelus bactrianus*); Black Rhino(*Diceros bicornis*); Brazilian merganser(*Mergus octosetaceus*); Brown spider monkey(*Ateles hybridus);* California condor (*Gymnogyps californianus*); Chinese alligator (*Alligator sinensis);* Chinese giant salamander (*Andrias davidianus*); Gharial (*Gavialis gangeticus*); Hawaiian monk seal (*Monachus schauinslandi*); Iberian lynx (*Lynx pardinus*); Javan rhino (*Rhinoceros sondaicus*); Kakapo (*Strigops habroptilus* Gray); Mediterranean monk seal (*Monachus monachus*); Mountain gorilla (*Gorilla beringei beringei*); Northern hairy-nosed wombat (*Lasiorhinus krefftii*); Philippine eagle (*Pithecophaga jefferyi*); Red wolf (*Canis rufus*); Saiga (*Saiga tatarica*); Siamese crocodile (*Crocodylus siamensis*); Spix's macaw(*Cyanopsitta spixii*); Southern bluefin tuna (*Thunnus maccoyii*); Sumatran orangutan(*Pongo abelii*); Sumatran rhinoceros(*Dicerorhinus sumatrensis*); Vaquita(*Phocoena sinus*); Yangtze river dolphin (*Lipotes vexillifer*); Northern white rhinoceros (*Ceratotherium simum cottoni*); etc.
Endangered (EN)	African penguin (*Spheniscus demersus*); African wild dog (*Lycaon pictus*); Asian elephant (*Elephas maximus*); Asian lion (*Panthera leo persica*); blue whale (*Balaenoptera musculus*); bonobo (*Pan paniscus*); Bornean orangutan (*Pongo pygmaeus*); common chimpanzee (*Pan troglodytes*); dhole (*Cuon alpines*); eastern lowland gorilla (*Gorilla beringei graueri*); Ethiopian wolf (*Canis simensis*); hispid hare (*Caprolagus hispidus*); giant otter (*Pteronura brasiliensis*); giant panda (*Ailuropoda melanoleuca*); Goliath frog (*Conraua goliath*); green sea turtle(*Chelonia mydas*); Grevy's zebra (*Equus grevyi*); hyacinth macaw (*Anodorhynchus hyacinthinus*); Japanese crane (*Grus japonensis*); Lear's macaw (*Anodorhynchus leari*); Malayan tapir (*Tapirus indicus*); markhor (*Capra falconeri*); Persian leopard (*Panthera pardus ciscaucasica*); proboscis monkey (*Nasalis larvatus*); pygmy hippopotamus (*Choeropsis liberiensis*); red-breasted goose (*Branta ruficollis*); Rothschild's giraffe (*Giraffa camelopardalis rothschildi*); snow leopard (*Panthera uncial*); takhi (*Equus ferus przewalskii*); tiger (*Panthera tigris*); Vietnamese pheasant (*Lophura hatinhensis*); volcano rabbit (*Romerolagus diazi*); wild water buffalo (*Bubalus arnee*); fishing cat (*Prionailurus viverrinus*); etc.
Vulnerable (VU)	African grey parrot (*Psittacus erithacus*); African bush elephant (*Loxodonta africana*); African lion (*Panthera leo*); American paddlefish (*Polyodon spathula*); common carp (*Cyprinus carpio*); clouded leopard (*Neofelis nebulosa*); cheetah (*Acinonyx jubatus*); dugong (*Dugong dugon*); far eastern curlew (*Numenius madagascariensis*); fossa (*Cryptoprocta ferox*); Galapagos tortoise (*Chelonoidis nigra*); gaur (*Bos gaurus*); blue-eyed cockatoo (*Cacatua ophthalmica*); golden hamster (*Mesocricetus auratus*); whale shark (*Rhincodon typus*); hippopotamus (*Hippopotamus amphibius*); Humboldt penguin (*Spheniscus humboldti*); Indian rhinoceros (*Rhinoceros unicornis*); Komodo dragon (*Varanus komodoensis*); lesser white-fronted goose (*Anser erythropus*); mandrill (*Mandrillus sphinx*); maned sloth (*Bradypus torquatus*); mountain zebra (*Equus zebra*); polar bear (*Ursus maritimus*); red panda (*Ailurus fulgens*); sloth bear (*Melursus ursinus*); takin (*Budorcas taxicolor*); yak (*Bos grunniens* and *Bos mutus*); etc.
Near threatened (NT)	American bison (*Bison bison*); Asian golden cat (*Pardofelis temminckii*); blue-billed duck (*Oxyura australis*); emperor goose (*Chen canagica*); emperor penguin (*Aptenodytes forsteri*); Eurasian curlew (*Numenius arquata*); jaguar(*Panthera onca*); leopard (*Panthera pardus*); larch mountain salamander (*Plethodon larselli*); magellanic penguin (*Spheniscus magellanicus*); maned wolf (*Chrysocyon brachyurus*); narwhal (*Monodon monoceros*); solitary eagle (*Buteogallus solitarius*); white rhinoceros (*Ceratotherium simum*); striped hyena (*Hyaena hyaena*); tiger shark (*Galeocerdo cuvier*); white eared pheasant (*Crossoptilon crossoptilon*); etc.

Least concern (LC)	American alligator (*Alligator mississippiensis*); American crow(*Corvus brachyrhynchos*); Indian peafowl(*Pavo cristatus*); olive baboon (*Papio anubis*); bald eagle (*Haliaeetus leucocephalus*); brown bear (*Haliaeetus leucocephalus*); brown rat (*Rattus norvegicus*); brown-throated sloth (*Bradypus variegatus*), Canada goose (*Branta canadensis*); cane toad (*Rhinella marina*); common wood pigeon(*Columba palumbus*); cougar (*Puma concolor*); common frog(*Rana temporaria*); giraffe(*Giraffa camelopardalis*); grey wolf (*Canis lupus*); house mouse (*Mus musculus*); wolverine (*Gulogulo*); human(*Homo sapiens*); palmcockatoo (*Probosciger aterrimus*); mallard (*Anas platyrhynchos*); meerkat (*Suricata suricatta*); mute swan (*Cygnus olor*); platypus(*Ornithorhynchus anatinus*); red-billed quelea (*Quelea quelea*); red-tailed hawk (*Buteo jamaicensis*); rock pigeon (*Columba livia*); scarlet macaw (*Ara macao*); southern elephant seal (*Mirounga leonina*); milk shark (*Rhizoprionodon acutus*); red howler monkey (*Alouatta seniculus*); etc.

Source: http://en.wikipedia.org/wiki/Category:Species_by_IUCN_Red_List_category

Possible solutions

While criticism is easy and conventional, it is also important to recognize the sincere and dedicated efforts of several individuals; who the media cannot always provide the right space in their columns. It is absolutely true that without their active support and dedicated hard work the little initiatives that we are able to see and the success that we do see in the context of preventing illegal wildlife trade would

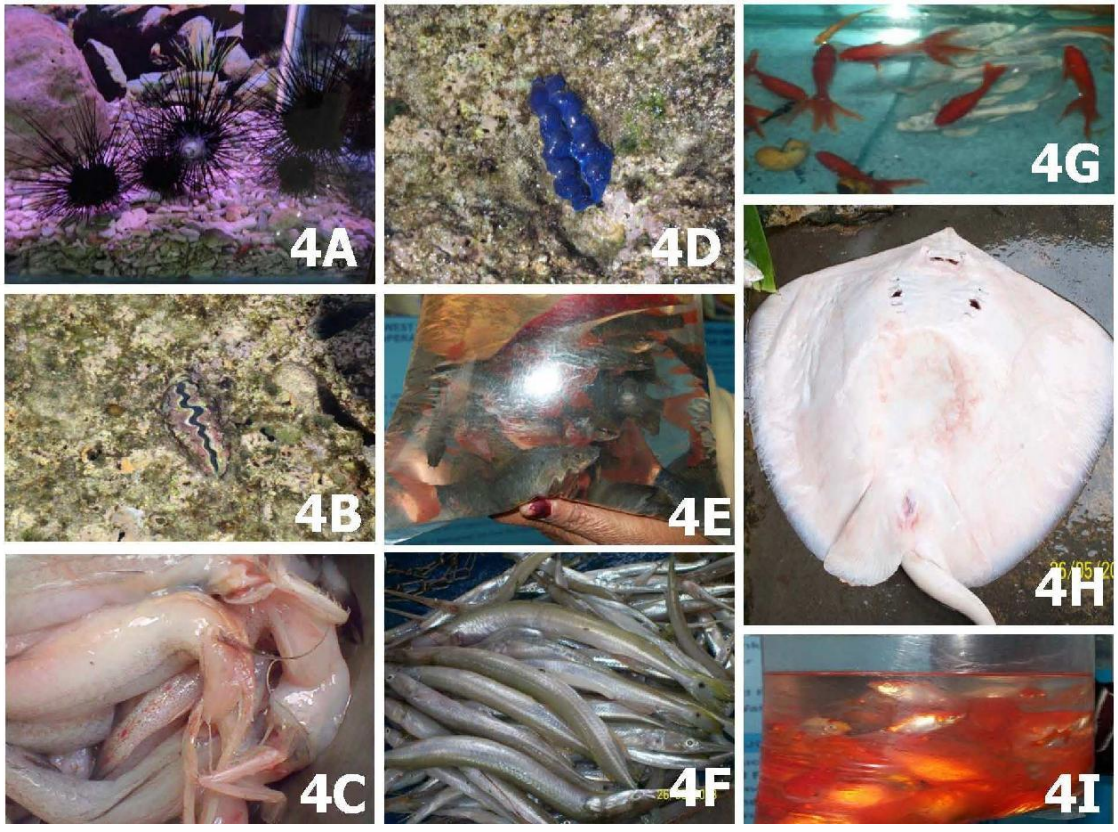

Figure 4. Illegal harvest, capture, confinement and trade on different fresh and salt water aquatic species of invertebrates and vertebrates with commercial and ornamental values.

Figure 5. Global ecosystems are drastically impacted if the wildlife thriving in such pristine habitats are impacted through different anthropogenic disturbances beyond the carrying capacity of such fragile and highly sensitive ecosystems: A. Coniferous Forest Belts, The Rockies, British Columbia, Canada; B. Mangrove forest mud flats in the Sunderbans, West Bengal, India (photo by Pradyumna Patra); C. Snowfed river bed in the rugged Western Himalayas, Uttarakhand, India and D. Samalayuca Dune Fields (Medanos de Samalayuca), Chihuahua, Mexico (photo by Juan José Fraire).

have never come true. This is a serious problem that has developed over decades and has now blossomed into a chronic situation as the profit margins have jumped beyond our wildest imagination and the traders and business communities associated with such illegal trades have turned more confident and desperate in handling such risky assignments. This will indeed be a hard nut to crack and solutions are not easy. The deep network, money game and comprehensive intelligence that such trades have established over decades will not be easily vanquished. Hence a more practical step wise management strategy will be important for adoption.

One of the corner stone of the success behind such trades has been in several instances community members that reside beside or adjoining forest belts. Being close to the nature and growing up in such an unique environment they are empowered with intricate knowledge about the forests, wildlife and other forest resources, animal behavior, their possible nesting/breeding/resting/hibernation sites, animal migration routes that even trained

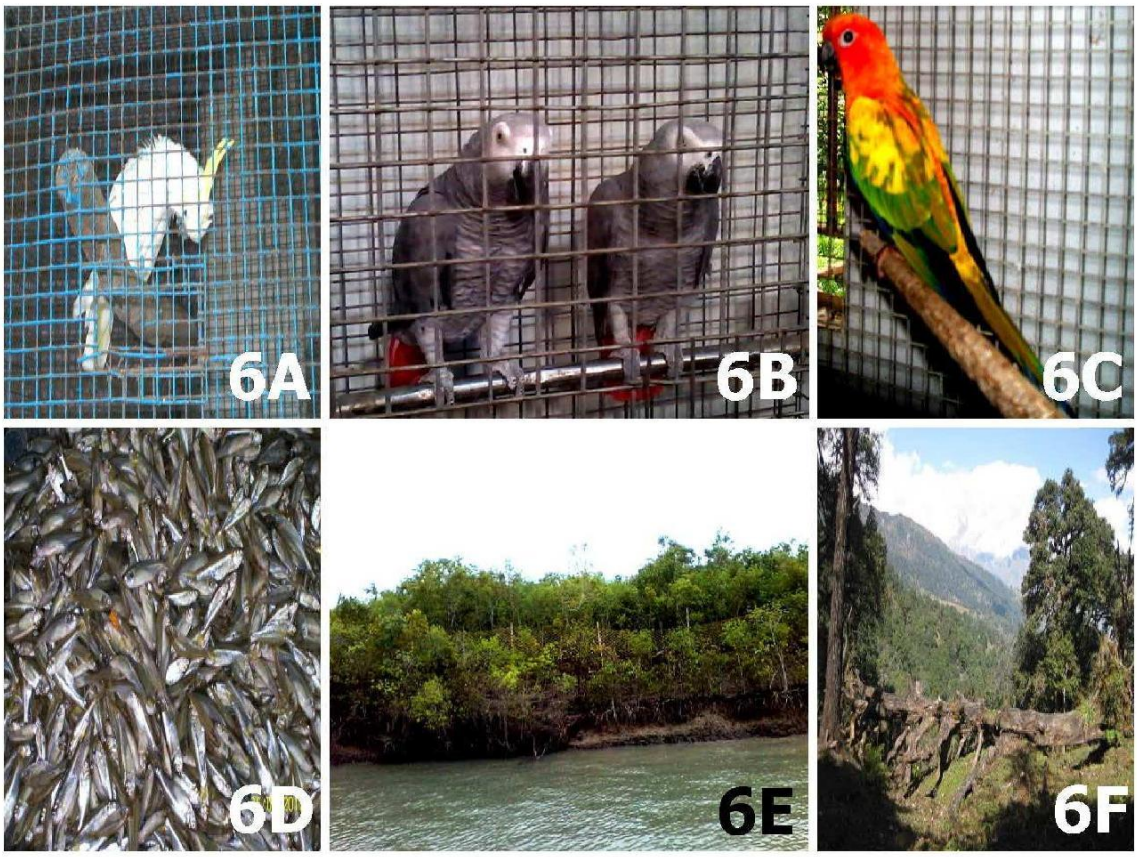

Figure 6. A-C. Close confinement under poor sanitary conditions and little available space are extremely detrimental to caged species; D. Over exploitation of several species from available local ecosystems and their rapid commercial use is threatening such species with extinction; and E-F. Unrestricted and unmonitored, unlawful human encroachments in sensitive ecosystems are further depleting species bases through illegal wildlife trade, confinement, harvest and capture in developing and under developed countries.

researchers and hardened foresters should be envious of. Such traditional knowledge is usually passed from generations to generations and even from one family to another. The illegal traders on wildlife and forest products target such individuals as the bottom level workers for the success of their trade. Therefore it is important to identify and reach such individuals and involve them in the conservation process. Without them being taken into the fold, there is very little opportunity to obtain any success in curbing such trades. Such low level collectors, poachers, hunters, transporters are the one that we usually are successful in arresting, convicting and punishing. While the big fishes always escape through the cogs in the system and the trade continues to flourish after a short disruption.

What are we actually doing with such resource individuals? Being pushed socio-economically, they have very little opportunity to find any stable employment other then falling prey to lucrative

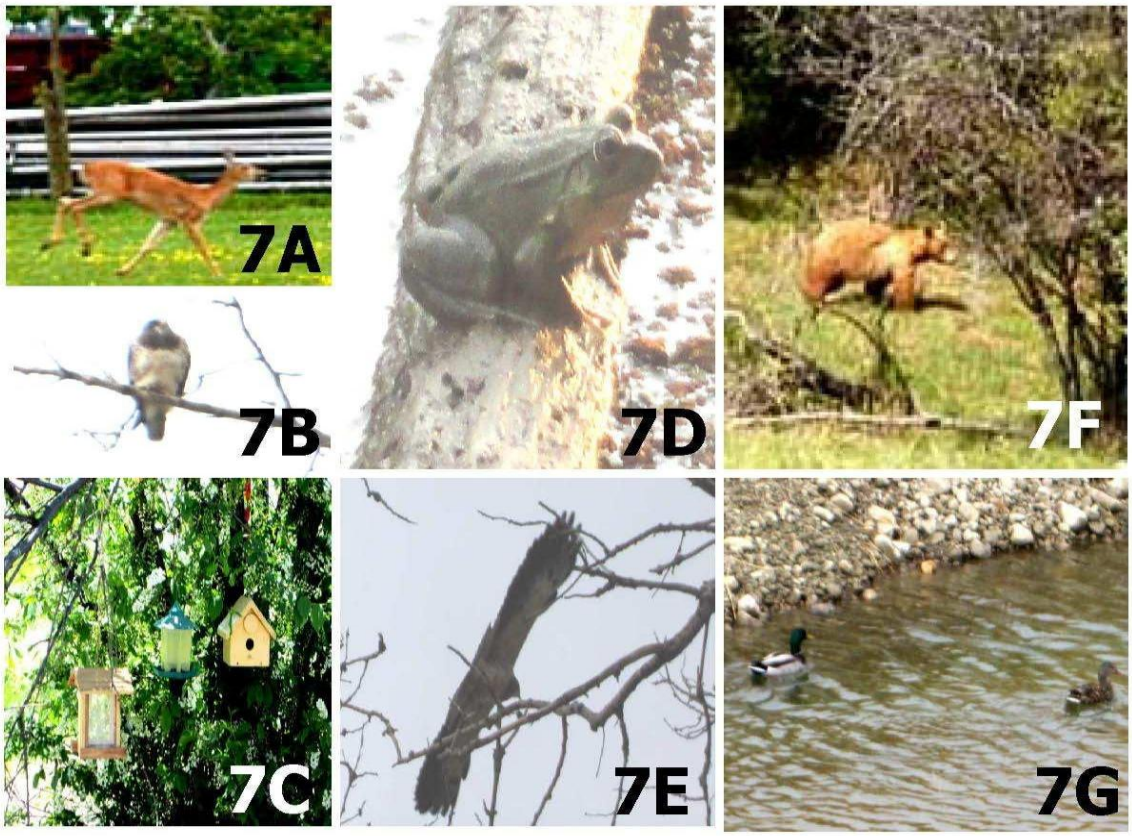

Figure 7. Wide diversity of protected wildlife species in different ecosystems with undisturbed opportunity of breeding, foraging and hunting can help building up their vulnerable population ravaged by illegal wildlife trade and trafficking practices across the planet. It is important that close monitoring and strict surveillance of such wildlife species in their respective wild habitats as well as in rural and urban settings are provided with appropriate protection and/or conservation.

financial proposals and traps prepared by the local agents of such traders and businessmen. Once released from jail they have no other option but to go back to that same trade and livelihood to support their families. Here we need some changes in our attitude and look at the whole phenomenon with empathy and a holistic, long term view. If such individuals could be employed in some form or other as local tourist guides, forest guards, workers for the forest department, informers and any other suitable positions that could possibly change the dynamics of the illegal trade proportionally. Their indigenous knowledge and forest skills could thus be utilized in protecting the same resources that we are unfortunately loosing at an alarming rate. Such model has a huge socio-economic component to deal with but is one of the possible routes for success. Unless the people at the lowest ranks are taken care off; the dream of conserving endangered wildlife and protecting fragile ecosystems can never really become a reality. However, since the model needs funding, support, encouragement and patience from the government as well as the general public, over night success could not be expected.

Figure 8. A-C. Grazing of domestic animals around the forest fringes and in the core areas of protected forests are another important factor contributing to the exposure of the local wildlife to illegal traders particularly in under developed and developing countries. Such grazing activities usually result in habitat fragmentation through vegetation loss exposing the wildlife nesting and hiding behind vegetation by marauding bands of professional and non-professional hunters, poachers, trackers and illegal traders exploiting the resources for financial gains in a non-sustainable manner; and D-E. Dependence (almost exclusively on scanty forest resources) of different local fringe and forest dwellers as well as rural poor, tribal and aboriginal communities, and displaced populations (due to war, famine or political and/or economic instabilities) get entangled in the illegal wildlife trade and trafficking for income generation as well harvesting of easily available wildlife species for their immediate daily sustenance.

The establishment of local and regional DNA banks is absolutely important. If such facility comes into existence, then it will not only provide an important service to several litigations related to disputed illegal wildlife trading cases and aid to forensic investigations; but it could also cater to the wildlife conservation initiatives. Such centers could serve as an important datacenter of specific gene sequences with identifiable genetic markers for several enlisted wildlife species under threatened and endangered categories. This would help both the forest officials and local administration as well as the judiciary to clearly identify seized body parts such as bush meat, fur, task, feather, skin, horns or any other wildlife products

beyond any dispute to their source species and also clearly identify if the species are endemic or exotic or whether they belong to a specific eco-region. That way it would make it easier for the lawmakers to book the culprits of wildlife violators to their corresponding crimes under the Indian wildlife laws and regulations and Indian penal code convincingly. Establishment of such modern centers of DNA technology could certainly strengthen the legal and judiciary systems and help in protecting the precious wildlife as well as tracking and booking the wildlife offenders convincingly in the court of law.

Photo credits: S. K. Basu

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