



## Module 22

# Wild Animal Welfare: The Commercial Use of Wildlife

## Lecture Notes

### Slide 1:

This lecture was revised by World Animal Protection scientific advisors in 2012 using updates provided by Dr Caroline Hewson.

### Slide 2:

This module continues our discussion on the effects of human activities on wildlife welfare. This presentation discusses the commercial uses of wild animal species – namely, trade and hunting.

We will first consider the context in which these activities occur, and why welfare is not a dominant concern for the parties involved. We will then focus on the welfare problems in each usage. We will also consider specific welfare examples, and the solutions to the problems concerned.

### Slide 3:

The most diverse and desired wildlife species live in tropical and sub-tropical regions of the southern hemisphere. The countries in those regions tend to be poor or developing, which creates two difficulties:

- it is hard for the authorities to enforce the protection of wildlife
- the poorest people are typically rural and many live on the edges of protected areas. They may find their traditional farming livelihood restricted, while having little or no benefit from living next to the protected areas.

These local factors, combined with the international desire to possess or otherwise use the wildlife concerned, contribute to trapping, hunting and trading practices that endanger the species, and severely diminish the welfare of the individual animals who are traded.

### Slide 4:

In addition to national legislation that may cover these issues, there are specific international agreements and associations that are supposed to work together to combat trade in wildlife, especially endangered species. However, note that these agreements are not generally concerned with the welfare of the individual animals concerned, but with conservation as a whole.

The most prominent international legislation is CITES, which stands for the Convention on International Trade in Endangered Species of wild fauna and flora. Another is the Convention on Biological Diversity (CBD) – which includes a focus on sustainable development.

There are also transport regulations by which air carriers, in particular, may help to prevent illegal trade in wildlife. The bodies concerned are the Animal Transportation Association (ATA) and the International Air Transport Association (IATA). These bodies and regulations and associated policy-makers increasingly recognise the close connection between wildlife protection, animal welfare and the welfare of local people. However, often, conflicting issues can mean slow progress in terms of changes in legislation to improve the welfare of wildlife being trapped, hunted and traded.

### Slide 5:

These delays and conflicts seem to be partly due to the fact that conservationists and human development advocates might differ from each other in their priorities and their ethical reasoning.

A recent review pointed out that the argument may focus too much on differing claims of efficacy of using protected areas, or other methods, rather than on the underlying differences in ethical position and values that are driving disagreements. By establishing the differences in ethical position and values, it may be possible to create a convergence of values.

Today, we are more concerned with the effects on the welfare of the animals involved, but it is useful to recognise the wider ethical and regulatory contexts, which primarily involve the preservation of groups – people and species.

CITES in particular is a prominent regulatory structure and does concern the welfare of animals, so we will now review it briefly.

### Slide 6:

CITES is an international treaty drawn up to control the international trade of endangered species of animals and plants. It was originally introduced in order to help protect endangered species from excessive international trade. The text of the convention was passed in 1973 and it came into force in 1975. It originated with 25 member countries, and in February 2012 there were 175 member countries.

## Slide 7:

Species are categorised according to the level of threat imposed on them by international trade and their susceptibility to it. There are three appendices: Appendix I affords the greatest protection and Appendix III the least protection.

Appendix I prohibits all commercial trade in a species and is used for those species that are threatened with extinction. Species which are not yet endangered but still require monitoring are listed under Appendix II, which allows trade but only under certain controls. Appendix III is intended to help individual countries protect native species which may be endangered in their country. This listing allows trade only with an export permit from the country listing the animal, or a certificate of origin from a country that did not list it.

Despite the presence of CITES, the strength of the convention depends on the introduction and enforcement of national laws by the member parties. Many signatories to CITES have passed strict laws and created national policing bodies to enforce CITES regulations. However, there is still a large, organised and profitable illegal wildlife trade. In 2008 CITES (TRAFFIC, 2008) estimated its worldwide value at approximately US \$300 billion per year, but it is difficult to obtain precise estimates because much of the trade is hidden.

The illegal wildlife trade has been reported to be almost as profitable as the illegal drug trade. However, the illicit nature of both trades makes it difficult to quantify their profitability accurately. The trade in illegal drugs is closely researched, but even there the stated value may be given at the production level, the wholesale level, or retail level. Moreover, value is not the same as profitability. Thus, while there are parallels in the structure of both the illegal drug and the illegal wildlife trades (e.g. both involve complex networks and hierarchies of people, and the practice of smuggling), it may be, for example, that the initial 'production' of drugs is more costly than the initial capturing of wildlife, because illegal drug production is more highly policed and potentially harder to hide. For example, in 2009, the US was reported to have approximately 200 special officers to police wildlife trafficking, compared to 5,000 special agents for policing the drug trade (South & Wyatt, 2011).

Taking such points into account, the wholesale value of the illegal drug trade is estimated to be worth up to ~ US \$320 billion, and the wildlife trade up to ~US\$20 billion and it is certainly possible that wildlife trafficking may generate a similar percentage profitability to drug trafficking, for some of those involved (Haken 2011; South & Wyatt, 2011).

## Slide 8:

Although CITES is principally concerned with the conservation of species, animal welfare is covered in the original text of the convention and also in the resolutions relating to the ranching and captive breeding of animal species.

However, CITES does not cover the way in which an animal is prepared prior to international shipment, for example, even though this preparation determines the likelihood of whether the animal will survive shipment.

A more detailed example of how CITES is relevant to both the conservation of a species and the welfare of an individual animal will be covered when bear farming is discussed later in this module.

In general, the effectiveness of the convention for species and individuals depends on the goodwill of governments and especially the local people, particularly in regard to local financial realities.

Some authorities believe illegal trade with its associated welfare concerns are a financial necessity for the survival and development of largely impoverished local people (Abensberg-Traun, 2009). However, a World Bank-funded report (TRAFFIC, 2008) disagreed because studies of projects that were introduced to provide local people with alternative sustainable income indicated that those initiatives had not reduced illegal wildlife trade (TRAFFIC, 2008).

### Slide 9:

We shall now move on to the welfare effects of the practices associated with trade in wildlife. We start with capture, either by trapping, hunting or fishing.

- Trapping is the capturing and/or killing of target and non-target animals by humans for food, commercial gain or pleasure using one of a variety of traps.
- Hunting is the stalking, chasing and killing using a variety of weapons (rifles, spears, etc.) and/or the use of dogs to chase, bring down and kill animals.
- Fishing is the hunting and killing of fish, crustaceans, cephalopods, amphibians and some invertebrates by hooking, trapping or gathering of these animals.

### Slide 10:

There are broadly three major reasons why animals are trapped, hunted and fished.

1. Use of the animals for food and other products (e.g. hide, fur, ivory, whale oil, etc.), either for reasons of subsistence, or for commercial gain. In this context *subsistence* refers to the traditional hunting, trapping and fishing to provide a source of meat for local communities (for example, the hunting of various antelope species by the Bushmen of southern Africa); while *commercial* gain: to supply markets locally, nationally and internationally (for example, the trapping of African mammals to supply the bushmeat trade; or the hunting of whales to supply the demand for meat, oil and other products).
2. The second reason is because of competition or conflict with local communities. The main kinds of competition or conflict are:
  - a. Competition for food sources (e.g. if wild animals hunt the same prey species as humans, or kill their livestock or eat their crops)
  - b. Competition for land and other resources (e.g. all wild animals)

- c. Species that pose a physical threat to the local human population (e.g. wolves, tigers, lion, leopard, jaguar, elephants and buffalo). Those conflicts may give rise to the need to cull the wildlife for population control so that the animals are not forced to draw on farmed land or livestock. An example of this is elephant culls in South Africa.
3. The third reason is for human recreation and sport, where animals are hunted for trophies or as a pastime. For example, hunting large carnivores (e.g. bear, lion, leopard) and herbivores (e.g. buffalo, elk, etc.), and 'big game' fishing (e.g. marlin, shark, etc.)

## Slide 11:

Hunting practices affect almost all wild animals either directly or indirectly. Target animals are affected directly, for example when they are hunted for food or trophies.

Other animals are affected indirectly when they are caught and killed but are not the intended target. Two examples of this are:

- large African mammals who are caught in snares placed to trap small antelope. Non-target species caught in the traps may include gorillas, chimpanzee, lions, etc.
- a wide variety of marine mammals may be caught in fishing nets, e.g. dolphins or turtles trapped in tuna nets.

## Slide 12:

Trapping, hunting and fishing affect the welfare of individual animals. The major welfare concerns are the pain, suffering and distress experienced by animals while being hunted, trapped or caught. In contrast to the handling and slaughter of domestic animals, there is generally no overseeing of the capture and killing of wild animals, and often practices may be inhumane. Particular points are as follows.

### Hunting

- Being stalked and chased before they are caught and killed can lead to physical injuries incurred while the animal tries to escape.
- In addition, stalking and chasing will lead to considerable fear and distress for many animals due to the presence of a predator, separation from his or her group and offspring, and relocation to an unusual environment.

### Trapping

- Traps or fishing nets often mean that the animal's attempts to struggle or escape lead to severe physical damage (e.g. damage or loss of limbs). This often results in a slow and very painful death, e.g. drowning of marine mammals in fishing nets. It is also likely to be very distressing, frightening and frustrating.
- In animals who escape, injuries can lead to further problems, due to debilitation and infection of any wounds, so that they cannot function normally (e.g. they cannot feed effectively, escape predators, reproduce, etc.). In many cases, this can lead to an even longer, slower and more painful death than those that occur during trapping.

- The escaped animals may remain separated from their social groups, increasing their distress and vulnerability.

### Slide 13:

With regards to killing of wildlife, the welfare concerns are the method of killing, which may mean the animal dies slowly while remaining conscious of this, and suffering associated pain and fear. This includes fish as well as terrestrial vertebrates, and possibly many invertebrates too. Details of humane methods of slaughter and killing are detailed in modules 16 and 17.

For a detailed discussion of fish welfare, see modules 23 and 24.

### Slide 14:

Next we consider the effects of trade on the welfare of the wildlife involved.

The trade in live wild animals refers to practices involved in the capture, transport, housing and sale of wild-caught animals, who are sold to supply the exotic pet trade, biomedical research, canned hunts, and zoological collections. (Canned hunting operations, also referred to as 'shooting preserves' or 'game ranches', are private trophy hunting facilities that offer their customers the opportunity to kill exotic and native animals who are trapped within enclosures.)

The trade in live wild animals can be considered to affect a wide variety of species including mammals, birds, reptiles, amphibians and fish from all over the world. However, the trade in wild animals appears to be a particular problem in Latin America, South-East Asia and East Asia.

### Slide 15:

The trade in live wild animals can be separated into two broad categories: local and national trade.

- Local trade, where animals are captured by members of the local communities to keep or sell to other members of the local community, tends to be restricted to the supply of exotic pets only. For example, small primates are caught and kept as pets in some Latin American countries.
- In national or international trade animals are captured either by (a) members of the local community who sell the animals to an intermediary, or (b) professional capture teams who go and collect wildlife from the wild and sell them on to traders. The animals are then transported nationally or internationally (e.g. to the UK, Europe, the USA, Japan, etc.) and sold. For example, many species of parrot are caught in Latin American countries and then traded both nationally and to Europe and the USA.

## Slide 16:

Wild animals are traded because people want them and will pay money for them. The markets that feed the demand are:

- the pet market –the majority of animals are traded to supply the demand for exotic pets. Many people consider that large pet suppliers in Western countries have increased this demand
- zoological collections – many wild animals are sold to private and public collections. Here, the demand is driven by our need to see wild animals in captivity. For example, many captive cetaceans are still caught in the wild because captive-breeding programmes for some species remain relatively unsuccessful
- biomedical research – some primate species, wild birds and marsupials are traded to supply biomedical research, because, in many cases, captive breeding is either insufficient or too costly to meet the demand or to supply new animals to the gene pool
- canned hunting – some animals (e.g. cheetah, lions and leopards) are traded to supply canned hunting, particularly in some sub-Saharan African countries.

The supply side of the market for wild animals is driven by the economic incentive. In many countries, trade in wild animals offers the local communities a relatively easy, readily available and often needed source of income. Many of the biodiversity-rich countries have a high abundance of wild animal species but are economically the poorest; thus it is both tempting and easy for local people to be involved in trade in wild animals.

## Slide 17:

Returning to welfare concerns in the trade in wild animals generally: the issues depend on the stage of the process: capture, transport and holding/housing. These will be discussed in the next few slides.

## Slide 18:

### Capture

- Rough collection techniques can result in stress, injury or death.
- The animals may be caught in inhumane traps and clubbed, or dragged from their dens, resulting in severe stress and injury.
- The animals are then often kept in overcrowded holding cages for days or weeks with limited or no access to food and water, until sufficient animals have been collected for a shipment. The picture shows birds crowded into a holding cage.
- Taking animals from the wild may result in imbalances in local ecology, with possible associated environmental damage.



- If enough animals are caught from a limited population it may result in the species vanishing from the region. When endangered species are caught, it could potentially be disastrous for the survival of the species worldwide.
- Capture can also lead to conspecifics being killed or injured while trying to catch the target animal; to the disruption of the species' social organisation; and to the separation of social animals from others in their group.
- Most animals need to be restrained once caught, which can be very distressing.

## Slide 19:

### Transport

The welfare concerns regarding the transport of captured animals are that:

- they may be transported for long distances, possibly even internationally
- they may suffer in overcrowded conditions
- they may be given insufficient, or no, food and water. Animals who are hungry and dehydrated weigh less than normal, so they are cheaper to transport. Their welfare can be severely compromised by these conditions, and the stress can suppress their immune systems, predisposing them to disease and mortality
- different species may be shipped together, causing fighting and injuries
- many captive-bred animals, who are raised under intensive and very stressful conditions, are also transported around the world, causing similar problems in terms of transport.

The above issues apply to the transport of animals generally. This topic is covered in Module 25, with regard to livestock.

## Slide 20:

If the housing conditions that wild animals are kept in before, during and after being sold are inadequate, they can cause severe discomfort, pain, suffering and distress. This can lead to frustration and boredom due to a very restricted and impoverished environment, coupled with the inability to adapt to captivity, increased risk of disease, parasite transmission, poor diet, overcrowding, social isolation and in many cases high mortality.

Wild animals who are sold as pets are known as *exotic* animals. In pet shops, they can suffer because:

- the manager/owner/staff of the shop may not know anything about the requirements of the species. She or he may keep the animals in conditions detrimental to their welfare; for example, the animals may suffer from malnutrition by being fed inappropriately or inadequately, and they may be housed in conditions which do not meet their temperature or lighting requirements



- the animals may be kept with others of the same or different species, increasing stress, disease and parasite propagation. There is often overcrowding, which also increases the risk of stress and disease. Stress is also increased by the handling of the animals by the shop owner or customers
- the shop owner/staff may not be able to give appropriate advice or products to prospective pet owners due to their lack of knowledge.

### Slide 21:

Once the wild animal is sold – as a pet, for research, to zoos, or for hunting – the welfare problems may continue:

- the animal is not domesticated and is unlikely to be suitable in temperament for the purpose required
- as the animal is likely to have been subjected to high levels of stress and possible injury or disease, he/she may not survive for a long time
- the new owner may not be knowledgeable about specific husbandry or nutritional requirements. Conditions may not allow the animal to express his/ her natural behaviour and this can lead to physical and mental disorders, e.g. self-mutilation – grey parrots plucking out their feathers, monkeys chewing their forelimbs or tails, etc.
- as exotic animals can be very expensive and time-consuming to maintain properly, once the novelty has worn off, animals can end up neglected and sick, or even abandoned. Such abandonment is obviously detrimental to the animal – in a strange environment, chances of survival are low, and he or she may die of malnutrition, disease or injury
- abandoned exotic animals can spread diseases to the local wildlife population. If large numbers of exotic animals are abandoned, they can also create an imbalance in the local ecosystem
- even if the owner seeks veterinary attention when the animal is sick, many vets may not have the necessary specialist knowledge to treat him/her. There is still limited scientific information about the diagnosis and treatment of diseases that can affect exotic animals, and there are unlikely to be any licensed treatments for these species. In many cases, the pharmacokinetics and safety profile of most veterinary drugs in wild animal species are unknown.

### Slide 22:

A further concern regarding the global trade in exotic animals is that it can introduce diseases to different countries, adversely affecting the welfare of local wildlife, domestic animals and human beings there.

The local knowledge of these diseases may not be adequate in 'import' countries and there may be no suitable treatment or prevention, creating conditions for potential epidemics.

For example, in 2003, there were outbreaks of monkeypox in prairie dogs and human beings in the USA. The disease had been introduced by various species of rodent that had been imported from Ghana.

### Slide 23:

A wide variety of potential solutions have been proposed and implemented, as listed on this slide.

Keep in mind that disagreements about the approaches may reflect ethical differences between parties focused on conservation and those concerned with poverty alleviation.

Solutions include the following.

- Promote education and awareness among all those concerned: local communities; those who care for and preserve wildlife (e.g. vets); governments of the countries affected by the issues; non-government organisations; and (potential) buyers of wild animals or their parts. All these groups should be educated about the issues affecting wildlife and local communities. Also, better prospects for local communities should be promoted, so that local people rely less on wild animals to survive.
- Promote community-based management and ownership of wildlife: in this way, local communities have the opportunity to manage and, potentially, own the natural resources that surround them in order to use them in a sustainable manner. Some wildlife experts argue this can be accomplished through humane consumptive use (e.g. subsistence and commercial hunting, controlled trade in animal products), although others doubt that this can ever be truly humane or sustainable. Whaling is an example: during whaling, welfare cannot be guaranteed during capture or killing; there are no humane ways to kill a moving whale at sea from a moving platform. Some whales take up to an hour to die, which would not be acceptable for a farm animal: the standard for farm animals is that the animal must be stunned properly and rendered unconscious immediately before being killed. Non-consumptive use (e.g. eco-tourism) of wild animals therefore seems a more promising form of community-based management than sustainable killing.
- Increase legislation and enforcement by encouraging governments, local authorities, judiciary and enforcement agencies to enforce their existing wildlife legislation, to prosecute suspects, and to draft new legislation to protect wild animals. For example, legislation should target those who make a profit from the trade in animal products and increase the penalty for activities that compromise the welfare of wild animals. However, note also that any animal protection legislation may be difficult to enforce – see Module 5 for more details.
- Promote alternative livelihoods for those people directly involved in activities that compromise the welfare of wild animals so that they no longer depend on these activities to survive or make a living. For example, employing trappers/hunters as wildlife rangers, employing local people to run eco-tourism schemes, etc.

In addition to the above potential solutions, there is also a wide range of specific solutions and alternatives, some of which are mentioned under wildlife farming later in this lecture.

## Slide 24:

Specific solutions to reduce or stop trapping, hunting, and fishing include:

- permanent removal of traps, wire, etc. from the environment. For this to happen, you have to find the traps themselves and the material used to make them, and dispose of them permanently
- the use of appropriate fishing nets that do not trap any animals other than those they are set out to catch
- implementing non-wildlife related projects that benefit local communities such as small building schemes or setting up cottage industries. This will encourage people not to trap or hunt wild animals
- recruiting people from local communities to protect wild animals. Such programmes need to have access to the appropriate resources to do their job effectively, e.g. equipment, vehicles, etc.
- the provision of alternative and 'safe' protein sources, so that local people do not need to trap, hunt or fish wild animals. This can be accomplished by applying permaculture techniques that do not use 'slash and burn' methods to clear the environment but instead work in harmony with the environment to create sustainable agriculture (growing of plant-based protein-rich crops and free-range farming of meat-producing animals). Other measures include vacuum-packaged meat and controls over the price of meat, so that humanely produced meat is safe and affordable
- increased funding for wildlife projects and campaigns. Some funding could come from voluntary donations if people are made aware of the plight of wild animals and realise that without their financial support wild animals will continue to suffer.

## Slide 25:

Potential solutions to the trade in wild animals include those listed below.

- Target the end market to discourage people from keeping exotic pets: educate those who market wildlife to consumers, consumers themselves and children (the picture is of a member of an anti-poaching team explaining the use of snares to children in a Kenyan school).
- Sustainable breeding of wildlife to supply the demand for exotic pets. The animals should be bred in a sustainable manner in appropriate captive conditions. For many species, this is not feasible as they are not adapted to captive life, may suffer from a range of diseases and from stress, and may have poor reproductive rates.
- Sustainable trade in wildlife to supply the demand for exotic pets. Again the animals should be captured, housed and transported in an appropriate, humane, sustainable and cost-effective way. However, this may still affect wild populations negatively, and probably still causes some extent of stress and fear for the captured animals.

- Further research into all aspects of the trade in live wildlife is needed to provide accurate and objective information that can be used to develop effective strategies.

### Slide 27:

Now that we have considered the welfare effects of the trade in live animals, we shall consider how the trade in parts of wild animals affects the welfare of the individuals concerned.

We will use the example of turtles.

Turtles are hunted for their meat and for their shells. In addition to being caught from the wild, turtles are also captive-bred for commercial purposes. For example, the populations of the hawksbill turtle have declined in general worldwide. There are various factors related to this decline, such as destruction of their habitat, marine pollution, and fishing by-catch. However, one of the most significant causes is the commercial trade in the turtles' shells, which are used in many different products, including handicraft items, jewellery and other accessories.

International trade in hawksbill turtles has been strictly regulated since the introduction of CITES, and the hawksbill is now 'critically endangered'. Despite this, trade remains a constant threat.

Hawksbills range over a huge area of the globe and so poaching of hawksbill turtles is a worldwide problem. The welfare problems associated with the turtles' capture and subsequent slaughter are of serious concern.

### Slide 28:

The welfare concerns arise as follows.

Turtles are reptiles. Their physiology creates serious welfare concerns during capture and slaughter. Compared with mammals:

- reptiles have a low metabolic rate which means that blood loss from injuries is relatively slow
- reptiles' nerve tissue is also extremely resilient and can remain viable for very long periods without a supply of oxygen. Indeed, several studies have shown that reptiles often remain conscious long after decapitation
- the only humane way to kill a reptile is rapid and complete destruction of the brain, or use of lethal injection.

Injuries sustained during capture, most notably those caused by harpooning, will not kill the turtles immediately, but will cause prolonged pain and suffering. Once on board, turtles are stored on their backs and left exposed to the tropical sun. They will often reach critical temperatures and die or become debilitated from heatstroke. Survivors are often left on their backs, unfed, dehydrated and covered in excrement from the dead and dying for two weeks or more until the catch is brought ashore.

It is estimated that 25 per cent of turtles captured die before reaching the shore where they are checked over by prospective buyers (World Animal Protection internal report).

The slaughter process is of further welfare concern. Still fully conscious, the turtle is turned on his or her back and a knife is used to cut along the soft lower and upper portions of the shell. Once the knife has cut all the way around the circumference of the shell, the hard covering is torn off to expose the turtle's internal organs and muscles. Throughout this, the turtle can see and otherwise sense what is going on around itself, right up until death.

### Slide 29:

There are many other examples of the commercial exploitation of wild animals. The rest of this presentation will concentrate on the following examples of wildlife 'farming':

- bear farming
- civet farming
- the fur trade and fur farming.

### Slide 30:

To help reduce the capture of wildlife as replacement stock, breeding farms may be used instead. A particular example is the case of the green python in Indonesia. It is a protected species that is in high demand by collectors because of its colouring. Under CITES you may only export captive-bred snakes. However, surveys of Indonesian breeding farms indicate that some do not honour this and instead 'launder' wild-caught snakes through the farms. The reason for this is that it is more profitable for the farmer, who can sell the wild-caught snakes for US \$225, instead of the US \$500 price they need to charge if they are to make a profit after breeding according to the regulations which incur significant costs to the breeder. Purchasers overseas believe they are buying 'captive-bred' snakes at a good price. Part of the solution is to educate customers about the necessary costs of supplying animals according to regulations.

The welfare of wild-caught animals, and the welfare of snakes and other wildlife on breeding farms, needs better monitoring.

### Slide 31:

Bear gall-bladders and bear bile are used in traditional Chinese medicine (TCM). The farming of bears for this purpose began in China in the early 1980s, as a government initiative to help conserve wild bear populations. The case given was that the bile extracted from one farmed bear, in one year, would be the equivalent to killing 40 wild bears for their gall-bladders. However, there are both animal welfare and conservation concerns associated with the bear farming industry.

In the late 2000s there were estimated to be more than 10,000 bears on farms in China, Vietnam, Myanmar/Burma, Laos and Korea.

Due to public pressure the Vietnamese authorities have banned the extraction of bile. However, several hundred microchipped bears still remain on the farms.

### Slide 32:

The bears in the farms endure a variety of conditions which exceed their adaptive limitations. Specific issues include:

- housing provided for adult and juvenile bears is unsuitable on account of the size of the cages, the space between the cages and the materials with which the cages are constructed
- behavioural abnormalities such as stereotypies, excessive inactivity and self-mutilation are present. We note in Module 15, on environmental enrichment, the research that shows some carnivores, including bears, should never be kept in captivity because it is so hard to meet their basic behavioural needs
- reproductive success is poor
- early weaning and maternal separation is commonplace
- many farms have no veterinary support, while others only employ technicians. Surgery is frequently not carried out by experts, nor is it done under sterile conditions
- bears show clear signs of poor health, as a direct result of surgery-related health problems, despite the introduction of the new catheter-free fistula method
- bears suffer from sores, skin conditions, ectoparasites, hair loss, bone deformities, injuries, swollen limbs, dental and breathing problems, diarrhoea and scarring.

Many farms supplement their captive populations with wild-caught bears, especially in Vietnam, Laos and Myanmar/Burma.

Bear farming, which requires maintaining bears with permanent gall-bladder fistulae or cannulae, is incompatible with modern husbandry practices designed to ensure the physical and mental health of bears as the bears frequently suffer from severe infections and peritonitis. This picture shows the extraction of bile from an anaesthetised bear. This procedure will be repeated on the same bear frequently.

### Slide 33:

These pictures show a selection of bear bile products. The small glass vials contain pure bear bile powder. Due to the massive over-production of bear bile, new products and new markets are being actively sought, e.g. bile is now used in non-traditional products such as wines, tonics and ointments.

Bear bile products from China have been found on sale in Australia, Canada, Indonesia, Japan, Malaysia, Singapore, Taiwan and the USA. This international trade is all totally illegal because the bears on the farms in China (Asiatic black bears, sun bears and Chinese brown bears) are all listed on Appendix I of CITES.

The extensive illegal international trade is also having a negative effect on wild bear populations. Wild bear gall-bladders from Bhutan, Canada, China, India, Indonesia, Japan, Korea, Malaysia, Nepal, Pakistan, Russia, Tibet, the USA and Vietnam have been found for sale in traditional Chinese medicine shops in various countries around the world.

### Slide 34:

All international commercial trade in live specimens, body parts or derivatives is banned. However, there are three CITES resolutions which relate to bear farming, as shown on the slide.

CITES Resolution 12.10, listed first here, permits the international trade of animals and/or products from a specific CITES registered facility which conforms to certain criteria. One criterion specifies that all stages of the procedure must be carried out in a humane (non-cruel) manner.

This resolution would be applicable if China applied to register one of its bear farms for legal international trade. The facility would need to meet all the criteria listed in the Resolution. Currently, no bear farm meets these criteria. Many scientific specialists state that, given the bile extraction procedure, the criteria could never be met.

In addition, in Resolution 10.8 (Conservation of and trade in bears), Parties to CITES are encouraged to research and promote the use of alternatives to bear species in traditional medicines. Similar recommendations are made in Resolution 10.19 (Traditional medicines).

Despite these regulations to guide improvements in bear farming, the animals' welfare is broadly unchanged.



### Slide 35:

In light of the limited use of the CITES regulations, and given the research on the impossibility of adequately meeting the welfare needs of bears in captivity generally, together with the poor welfare of bears on farms, it is fair to say that bear farming should end, on the grounds of:

- animal suffering
- negative effects on wild bear conservation
- the existence of suitable herbal TCM and synthetic alternatives to bear bile.

### Slide 36:

Consumer demand for bear bile products could also be stopped. This can be achieved by actively promoting the herbal and synthetic alternatives to bear bile, and by non-governmental organisations (NGOs) working in partnership with national governments.

### Slide 37:

Next we consider civet farming.

Civet musk is used in perfumes by several perfumeries in France. Civet musk is produced in Ethiopia where approximately 3,000 civets are kept in primitive conditions on over 200 farms.

Over 1,000 kilograms of musk are exported from Ethiopia to France each year where the majority is used by the perfume industry.

There are considerable animal welfare implications involved in civet farming. The animals are taken from the wild and held in small confined wooden cages (shown in the photos). Inadequate food and bedding are provided. Almost 40 per cent of civets die within the first three weeks following capture (World Animal Protection internal report).

The musk is extracted by squeezing the perineal gland at the base of the civet's tail. It is a very painful and traumatic process which often results in physical injuries. Civet musk is completely non-essential for the perfume industry, as musk can be artificially synthesised and this form is already used in many commercially available perfumes.

### Slide 38:

Fur is used out of economic necessity in some areas of the world, although this is becoming rarer as products from other parts of the country or world become increasingly available. However, the use of fur for commercial gain has seen the development of the fur trade, which is a multi-billion dollar worldwide industry.

There are severe animal welfare and conservation implications associated with both wild-caught and farmed fur animals, particularly trapping methods, husbandry conditions and killing methods.

There are various sources of animals used in the fur industry:

- wild/feral animals trapped or hunted
- farmed species
- stolen pets
- surplus animals from stray control programmes.

We will focus on wildlife here.

### Slide 39:

The majority of animals slaughtered for their fur are reared on fur farms. However, 15 per cent of skins come from animals who are caught in the wild, mainly with traps and snares (World Animal Protection internal report).

Every year, trappers around the world kill an estimated ten million raccoons, coyotes, wolves, bobcats, opossums, beavers, otters and other fur-bearing animals. Commercial trapping mainly takes place in the USA, Canada and Russia, with smaller numbers of animals caught in countries such as Argentina and New Zealand.

The welfare problems with trapping are as discussed earlier. For example, the animal may gnaw and pull at the trapped leg until it is pulled off. Trapping can result in wild populations being diminished.

There are various types of traps but the leghold trap is the most widely used. The American Veterinary Medical Association (AMVA) has called this kind of trap inhumane and the leghold trap is prohibited in at least 80 countries, including those in the European Union (EU).

Other inhumane traps include pole traps (which are leghold traps that hoist the animal into the air) and conibear traps (which crush the animal's neck). Although alternative traps have been proposed, such as a 'padded' leghold trap or a cage trap, wild animals still try to escape, breaking their teeth and causing other severe injuries.

In 1999, the International Organization for Standardization (ISO) set some international standards for the humane capture and killing of animals in traps. However, in 2007 a scientific review of the animal welfare aspects of traps used to catch mammals in Europe and North America pointed out that we need much more detailed research on the welfare aspects of each kind of trap and into each of the many different species concerned before conclusions can be drawn (Lossa et al., 2007).

The authors concluded, "Few traps currently in use have been tested according to the ISO standards and, in addition, new traps have been designed and old traps modified since the publication of the standards. [...] We conclude that many of the practices commonly used to trap mammals cannot be considered humane. Current legislation fails to ensure an acceptable level of welfare for a large number of captured animals."

As of 2012, there do not appear to have been any substantial improvements in the welfare aspects of the ISO standards.

## Slide 40:

You now have an overview of the many welfare and wider conservation issues in trade, trapping and hunting of wildlife. Many of these issues will be outside your remit as a practising veterinary surgeon, and you may simply have to care for any affected animals who are brought to you. Your care may be medical, but should also consider environmental enrichment and general husbandry concerns.

Wildlife medicine is a clinical specialisation within the profession and increasing resources are available. However, bear in mind your role in the education of your clients regarding the serious welfare problems associated with the trade in wildlife. Also, note that euthanasia may sometimes be the most humane option for a given case, especially in light of the history of the animals becoming pets, e.g. the possible stress of illegal capture and trade. Open and understanding discussion with your clients will be important in all cases.

Also, remain aware of the bigger challenges of protecting the species while also helping the people who are encroaching on them in order to survive and make a living.