

## WILDLIFE INDICATORS

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# INTRODUCTION WILDLIFE INDICATORS

## RSPCA concern

Unfortunately, humans' interactions with wildlife are often more negative than positive. Humans cause suffering and death to wild animals unintentionally and deliberately, in many ways and for many reasons including accidents, not giving them adequate care in captivity and killing them for sport.

Where interactions can be controlled, the RSPCA would like to see a major reduction in the detrimental impact of humans on wild animals.

## Background

In the UK, wild animals live free and also in captivity such as in zoos, circuses and as companions. There are a number of pieces of UK legislation covering wild animals including the Wildlife and Countryside Act 1981, the Zoo Licensing Act 1981, the Wild Mammals (Protection) Act 1996, the Hunting Act 2004 and the Animal Welfare Act 2006. This and other legislation gives a limited amount of protection to wildlife, but there is still a need to review, standardise and improve many existing laws so that free-living and captive wild animals receive a greater degree of protection.

Measuring the welfare of free-living wild animals is challenging for many reasons. It is difficult to obtain

consistently accurate data over periods of time long enough to establish clear trends, and even more difficult to interpret them. As wild animals live out of the sight and control of humans, it is difficult to obtain accurate information.

## The welfare indicators

The wildlife indicators highlight a small number of the issues concerning the welfare of free and captive native and non-native wild animals in the UK. The growing non-domestic pet trade is scrutinised. Two indicators look at the numbers of wild-caught birds and reptiles that enter the UK and the European Union, whilst another examines whether and in what way people selling non-domestic animals as pets inform their customers about how to care for the animals.

Another indicator focuses on how the actions of humans can cause accidental suffering and death to wild animals. Data are used to estimate the number of dolphins and porpoises that die through by-catch in waters around the UK – an unfortunate result of the fishing industry. Finally, against a background of concern for the welfare of zoo animals, the work of UK zoos will be examined to assess whether they are fulfilling their duties to conserve animals and educate the public.

**MEASURING THE WELFARE OF FREE-LIVING WILD ANIMALS IS CHALLENGING FOR MANY REASONS. IT IS DIFFICULT TO OBTAIN CONSISTENTLY ACCURATE DATA OVER PERIODS OF TIME LONG ENOUGH TO ESTABLISH CLEAR TRENDS, AND EVEN MORE DIFFICULT TO INTERPRET THEM. AS WILD ANIMALS LIVE OUT OF THE SIGHT AND CONTROL OF HUMANS, IT IS DIFFICULT TO OBTAIN ACCURATE INFORMATION.**

## **WELFARE INDICATOR:** The number of cetaceans by-caught around the UK

### RSPCA concern

By-catch (when non-target animals are entangled, trapped or injured in fishing nets) poses a significant threat to the welfare and conservation of cetaceans in waters around the UK and globally.

The RSPCA is extremely concerned about the levels of suffering by-caught cetaceans endure. Cetaceans caught in the nets can become injured as they struggle to try to get free and will eventually die if unable to return to the surface to breathe. As a result, some animals may later be found stranded, dead or alive. Entanglement injuries can be used as an indicator that animals were previously caught in nets.

The number of porpoises and dolphins dying in UK fisheries over the last 10 years has been consistently high. Yet no consistent effort of mitigation has been undertaken, even though enforcement of UK cetacean by-catch legislation<sup>1</sup> would bring a reduction in the frequency of harbour porpoise by-catch.

The RSPCA believes the government must take action to enforce such legislation, and must be proactive in supporting research into alternative fishing technology and by-catch mitigation methods, with the aim of eliminating all cetacean by-catch.

### Background

The issue of small cetacean (dolphin and porpoise) entanglement in UK fisheries was first highlighted in 1992, when large numbers of dead dolphins washed up on the beaches of Cornwall and Devon. Within the first three months of 1992, 118 dead dolphins were stranded, and post-mortem investigations revealed for the first time that the deaths of many of these animals could be attributed to by-catch<sup>2</sup>. Post-mortem evidence pointed clearly at a prolonged and traumatic death for the entangled animals – blood-filled froth had started to form in the lungs, skin was lacerated from net meshes, teeth were broken, all indicative of a sustained struggle by these air-breathing mammals trapped underwater. Because cetaceans are conscious breathers, they did not inhale water into their lungs ('drowning') but instead were categorised as dying from asphyxia as their oxygen supplies ran out<sup>2</sup>.

Observers were placed on fishing vessels in south-west England between summer 1992 and spring 1994<sup>3</sup> in an attempt to identify the source of dolphin mortality. The findings revealed that, rather than dolphins, there were many porpoises dying in nets set on the sea floor (bottom-set gillnets). Estimates put the mortality of porpoise by-catch at more than 2,000 animals each year in that fishery<sup>3</sup>, which was considered to be a threat to the survival of the population, as well as a huge welfare concern. Subsequent studies in other European fisheries revealed dolphin deaths in trawl nets at a rate ranging from one to two dolphins every 100 hours of fishing<sup>4</sup>. Clearly, multiple fisheries were to blame for the cetacean mortality.

Efforts have been made to mitigate cetacean by-catch. Acoustic alarms (called 'pingers') have been developed to deter porpoises from gillnets and have proved effective in trials in North America and south-west England<sup>5</sup> at reducing porpoise by-catch by up to 90 per cent. This is not seen as the definitive solution to the problem<sup>6</sup> and further fishing gear development is required.

Ongoing work in the UK<sup>7</sup> and in Europe, is aiming to address the deaths of common dolphins in trawl nets. Mortality rates in the sea-bass fishery in the English Channel and south-west approaches are extremely high and indicate that more than 900 common dolphins died in the UK bass fishery between 2000 and 2005<sup>8,9</sup>. Many more French than UK boats use this fishery, so overall mortality will be significantly greater. Research projects are underway to design escape hatches from trawl nets, or to deter dolphins from entering trawl nets using acoustic harassment devices.

Under the EU Common Fisheries Policy, a Regulation has been introduced to monitor and reduce cetacean by-catch in certain fisheries. The UK has adopted this Regulation into domestic law<sup>10</sup>, thus placing an obligation on certain fisheries either to carry observers



**THERE IS LITTLE CHANGE FROM THE PREVIOUS YEAR.**

or to fix acoustic deterrent pingers onto their nets. Though the observer work is underway, fishermen are failing to comply with pinger requirements, as they believe that pingers are unreliable (and costly). Additionally, the large number of small boats using bottom-set gillnets, which are known to cause porpoise deaths, are exempt from the regulations (which only apply to vessels 12m or over).

### The indicator figures

The actual death toll of cetaceans in fisheries is unknown, but estimates can be made from observer programmes that sample a small proportion of fishing fleets, and from the analysis of carcasses found on beaches. The total number of cetaceans stranding on UK shores has doubled over the last 13 years from 360 in 1994 to 719 in 2006<sup>11,12</sup>. Between 2005 and 2006, the number of cetaceans stranded fell by just 23. It is possible that the increase over the last 13 years is due to the growth in a type of fishing known as pair trawling, used largely to catch sea bass. To reveal the cause of death post-mortem examinations were conducted<sup>11,12</sup> on stranded cetaceans that were not badly decomposed.

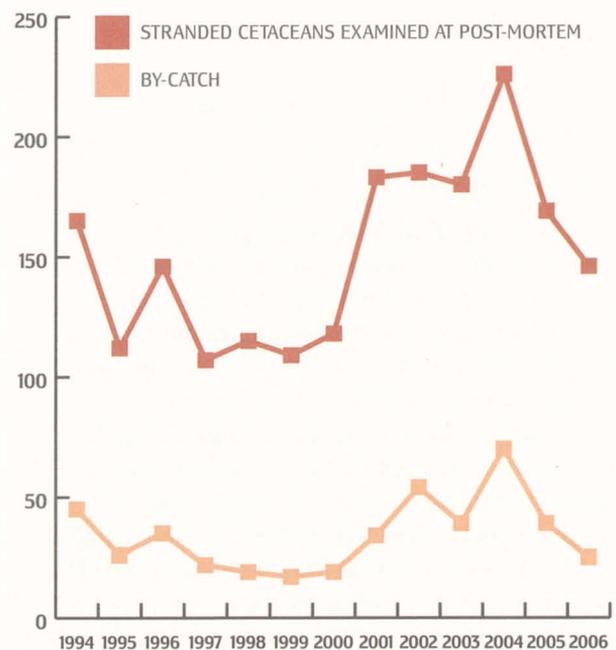
Figure 1 shows the numbers of stranded cetaceans examined, and the numbers of those deaths, which are known to have been caused by by-catch. Figure 2 shows these figures as percentages. It can be seen that the proportion of deaths known to be caused by by-catch has run consistently at around 20 per cent, and this figure will be higher if analysis is restricted to porpoises and dolphins. These figures do not provide information on the scale of the problem, as most discarded carcasses never reach the beach<sup>13</sup>.

There is no doubt that enforcement of UK cetacean by-catch legislation could bring a reduction in the frequency of harbour porpoise entanglement in nets. The government must take action to enforce the legislation, and must be proactive in supporting research into alternative fishing technology and by-catch mitigation methods. Cetacean by-catch has remained consistently high over the last 10 years and this situation should not be allowed to continue for another 10.

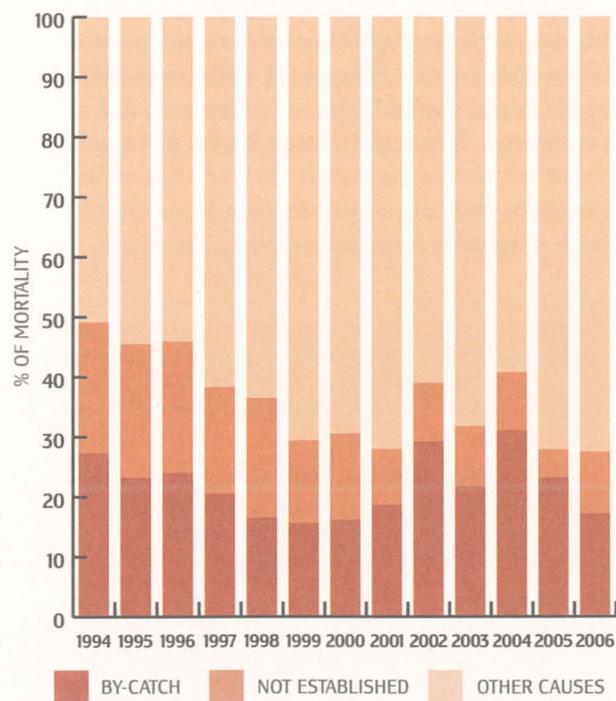
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- 12 Deaville R and Jepson P D (compilers). 2007. UK Strandings Investigation Programme: Annual report to Defra for the period 1 January–31 December 2006 (contract number CR0346).
- 13 Of 22 porpoise bodies tagged then discarded from fishing vessels off Cornwall, none were found to strand. Cornwall Wildlife Trust: Dolphin group observations, 1992–1994.

**FIGURE 1: THE NUMBER OF STRANDED CETACEANS EXAMINED AND NUMBER OF DEATHS CAUSED BY BY-CATCH, 1994–2006**



**FIGURE 2: PROPORTION OF TOTAL DEATHS (%) KNOWN TO BE CAUSED BY BY-CATCH AND OTHER CAUSES, 1994–2006**



Data source for Figures 1 and 2: Institute of Zoology.

## WELFARE INDICATOR:

The proportion and number of imported wild-taken reptiles and birds of the total trade into the UK and the EU

### RSPCA concern

A diverse range of live birds and reptiles continues to be seen on sale to hobbyists and the pet-keeping public through many avenues of sale including pet shops, commercial breeders and the internet. Despite improvements in experienced keepers' knowledge of the needs of many species now kept in captivity in the UK, and the ability of commercial breeders to supply some species completely from captive-bred animals, hundreds of thousands of wild reptiles continue to be removed from the wild each year to supply the demands of the pet trade in the EU, including the UK. However, since the introduction of EU legislation in October 2005 that stopped the importation of live birds taken from the wild into all EU member states, unsurprisingly EU bird imports decreased significantly in 2006.

The RSPCA is concerned that where animals continue to be taken from the wild, many animals still suffer or die before being exported, during transportation and once held in captivity for the pet trade<sup>12</sup>. To prevent the suffering of wild animals that are still taken for the pet trade, the Society advocates far stricter regulations to prevent the importation of vulnerable animals into the EU, which until recently was the largest market for the wild bird trade and remains so for reptiles. Stopping the trade for the most vulnerable animals will reduce the impact the trade has on wild populations and encourage traders to focus on species already obtainable from captive-bred sources.



**PROPORTION OF THE TOTAL TRADE IN LIVE CITES-LISTED REPTILES IMPORTED INTO THE UK. THERE IS LITTLE CHANGE FROM THE PREVIOUS YEAR.**



**TOTAL NUMBER OF LIVE CITES-LISTED REPTILES IMPORTED INTO THE UK. THERE HAS BEEN AN INCREASE IN THE TOTAL NUMBER OF IMPORTED REPTILES TAKEN FROM THE WILD.**



**PROPORTION OF THE TOTAL TRADE IN LIVE CITES-LISTED REPTILES IMPORTED INTO THE EU. THERE IS LITTLE CHANGE FROM THE PREVIOUS YEAR.**



**TOTAL NUMBER OF LIVE CITES-LISTED REPTILES IMPORTED INTO THE EU. THERE IS LITTLE CHANGE FROM THE PREVIOUS YEAR.**

### Background

Many pet keepers in the UK assume that any animal on sale is captive-bred and that all wild animals are protected by international regulations to limit their capture and use for the pet trade. Both of these assumptions are untrue.

International trade in wild animals is only regulated for species that are endangered or threatened by this trade (such as following the impact of habitat destruction and/or the removal of animals for food and the pet trade) and which are therefore listed on the Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES) appendices. The Convention to protect listed species is then implemented through EU CITES trade regulations<sup>3</sup> and enforced through the UK COTES (Control of Trade in Endangered Species) legislation<sup>4</sup>. As these controls do not monitor the trade in non-CITES listed species and the majority of wild animals are not protected by CITES, it is therefore difficult to determine how many species and individual animals in total are imported into the EU or UK from the wild. For example, of the approximate 9,000 species of birds and 7,700 species of reptiles recorded in the wild, less than 20 per cent of bird species and eight per cent of reptile species are protected through CITES to control their commercial international trade<sup>5</sup>.

Figures on CITES-listed animals entering the EU are therefore seen as only part of the total live animal trade. Figures on animals imported into the UK also provide only a partial picture, as they only record animals entering the UK as the first destination after export and not those imported from other EU countries.

Figures on the movements of both CITES-listed and non-CITES-listed animals between EU member states and into the EU are now collated into the central EU database called TRACES (the Trade Control and Expert System) and the European Community Eurostat database. However, neither database qualifies important information on the source of the animals being traded – no distinction is made between an animal caught in the wild and an animal bred in captivity. So at present CITES data is also needed to monitor the source of animals, to investigate any shifts in the number of animals taken from the wild compared to animals bred in captivity.

Figures for CITES-listed reptiles and birds imported into the UK and EU for 2000–2006<sup>789</sup> have been sub-divided according to the source assigned to each animal, as detailed to follow. However, the same could not be done for data extracted from the TRACES and Eurostat databases, for which source of animal is not recorded. Instead, these data represent combined totals for CITES-listed and non-CITES-listed species for each year.

The sources recorded only for CITES-listed species and provided for the years 1997–2006 included in Tables 1–4 are as follows:

### Wild-caught (w)

Includes **'wild-enhanced'** (specimens in trade are wild-caught from a population that is 'enhanced' through provision of resources, such as nesting sites), **'wild-introduced'** (specimens in trade are wild-caught from a population that is 'introduced' to an area outside the species' natural range) and **'wild'** (specimens in trade are wild-caught).

### Captive-bred (c)

Includes **'closed-cycle captive breeding'** (parents are born in a controlled environment that can be in-situ in its natural habitat, such as a game ranch in Africa, or ex-situ, such as a parrot breeding operation in the US; with no wild-caught animals added to the breeding stock) and **'bred in captivity'** (where parents are mated in a controlled environment with the occasional addition of animals from the wild allowed to prevent deleterious inbreeding, to dispose of confiscated animals or 'exceptionally' for use as breeding stock).

### Ranched or captive-reared (r)

Rearing in a controlled environment of specimens taken from the wild, such as eggs or hatchlings into captivity.

An annual review of the number of birds and reptiles imported into the EU (including into the UK) from both wild and captive-bred sources provides both a wild bird and wild reptile animal welfare indicator to monitor whether there have been any positive shifts in the importation figures that indicate a reduction in the trade in wild animals.

### The indicator figures for live reptiles

The number of live reptiles imported into the UK from outside the EU under CITES for 1990–1999<sup>6</sup> and 2000–2006<sup>7,8</sup> are shown in Table 1. Since 2000, the overall trade in live reptiles imported into the UK from outside the EU is far lower compared to the 10 years between 1990 and 1999. This may be due to an increase in the number of reptiles granted full protection under CITES in recent years (effectively putting a stop to their trade) coupled with a growth in the number of reptiles bred in captivity in the UK and elsewhere in the EU, to supply the demands of the UK pet trade (intra-EU figures are not included in CITES data given here). However, it is clear from looking at CITES trade figures since 2000 that trade of live reptiles into the UK has been increasing each year, particularly in 2006. More importantly, the number of individuals taken from the wild rose by 288 per cent between 2000 and 2006, representing as much as 82 per cent of all live reptiles imported. This is consistent with the origin of imported reptiles, as the most common countries

**TABLE 1: NUMBER OF LIVE CITES-LISTED REPTILES IMPORTED INTO THE UK FROM OUTSIDE THE EU**

	WILD-CAUGHT (W)	CAPTIVE-BRED (C)	RANCHED OR CAPTIVE REARED (R)	TOTAL TAKEN FROM THE WILD (W + R)	TOTAL INTO UK (W + R + C)	% OF NON-EU IMPORTS INTO UK TAKEN FROM THE WILD
1990–1999 <sup>6</sup>					226,809 (TOTAL FOR 10 YEARS)	
2000 <sup>7</sup>	3,157	2,089	1,600	4,757	6,846	69.5
2001 <sup>7</sup>	2,618	4,013	2,164	4,782	8,795	54.4
2002 <sup>7</sup>	3,544	1,393	2,356	5,900	7,293	80.9
2003 <sup>7</sup>	5,149	1,988	5,347	10,496	12,484	67.5
2004 <sup>7</sup>	4,793	2,925	5,436	10,229	13,154	77.8
2005 <sup>7</sup>	3,636	2,382	7,527	11,163	13,545	82.4
2006 <sup>8</sup>	6,564	6,410	11,898	18,462	24,872	74.2

Data source: UK government and the World Conservation Monitoring Centre.

exporting them into Heathrow are Guyana, Chile and Ghana where the species live in the wild<sup>10</sup>.

In 2006, 24,872 live CITES-listed reptiles were imported into the UK from outside the EU. This represents an increase of 84 per cent on previous years' figures.

Looking at all trade in live reptiles (including species not listed on CITES appendices) gives a clearer overall picture. In 2006, 178,244<sup>11</sup> live reptiles came into the UK from outside the EU but only 1,470<sup>11</sup> from other EU member states. Thus 99 per cent of all live reptiles imported into the UK originated from outside the EU. In previous years, this has been from South American or African countries where the CITES-listed reptiles are found in the wild<sup>10</sup>.

With regard to trade into the EU, the total number of live reptiles imported under CITES for 1990 and 1995<sup>6</sup> are shown in Table 2 (so as to provide a historical comparison with the more recent trade figures) and for 2000–2005<sup>7,8</sup>. EU figures show a different picture to that seen in the UK. When comparing the total number of live CITES-listed reptiles imported into the EU as a whole since 1990, the overall trend for the last 15 years is a steady increase in the number of live reptiles being imported each year up until 2003 (apart from a small decline in 2001). The latest available figures suggest that there has been a slight drop in total numbers imported since then, but not down to pre-2003 figures. However, the total proportion

taken from the wild increased to 42 per cent in 2005, with a greater dependence on ranched and captive-reared reptiles.

Looking at all trade in live reptiles in 2005, 1,613,842 were imported into the EU<sup>11</sup>. At time of writing, figures for 2006 were not available, however an estimate can be calculated. Since 2000, the UK has been responsible for three to five per cent of all CITES-listed reptile imports into the EU. Assuming the same is true for all reptile species and given that 178,244 reptiles (CITES-listed and non-CITES-listed) were imported into the UK from outside the EU in 2006, we estimate that between 3.6 and 5.9 million live reptiles were imported into the EU in 2006.

The greatest impact on wild animal trade since October 2005 is likely to be the introduction of EU-wide legislation that stopped the importation of wild birds into all EU member states on health grounds in an effort to reduce the risk of the transmission and spread of avian influenza<sup>12</sup>.

There is always a risk that the suspension of one trade may contribute to a shift in the effort of trappers and exporters, as demands change, towards different animals in order to maintain business. The 84 per cent growth in reptile trade into the UK between 2005 and 2006 could therefore have occurred following a shift from exporting wild birds towards wild reptiles. To support such a shift however, a wild-bird keeper in the EU would have to be willing to shift their interest to wild-caught reptiles, in preference to acquiring captive-bred birds that are already kept and sold in the EU to supply the trade.

**TABLE 2: NUMBER OF LIVE CITES-LISTED REPTILES IMPORTED INTO THE EU**

	WILD-CAUGHT (W)	CAPTIVE-BRED (C)	RANCHED OR CAPTIVE REARED (R)	TOTAL TAKEN FROM THE WILD (W + R)	TOTAL INTO EU (W + R + C)	% OF NON-EU IMPORTS INTO EU TAKEN FROM THE WILD
1990 <sup>6</sup>					<75,000	
1995 <sup>6</sup>					>175,000	
2000 <sup>7</sup>	41,374	143,735	34,405	75,779	219,514	34.5
2001 <sup>7</sup>	51,642	123,217	34,611	86,779	209,996	41.3
2002 <sup>7</sup>	43,885	155,561	46,637	90,522	246,083	36.8
2003 <sup>7</sup>	57,753	192,541	54,999	112,752	305,293	36.9
2004 <sup>7</sup>	46,198	176,383	49,617	95,815	272,198	35.2
2005 <sup>8</sup>	46,650	152,019	62,165	108,815	260,834	41.7

Data source: UK government and the World Conservation Monitoring Centre.

**IN 2006, 24,872 LIVE CITES-LISTED REPTILES WERE IMPORTED INTO THE UK FROM OUTSIDE THE EU. THIS REPRESENTS AN INCREASE OF 84 PER CENT ON PREVIOUS YEARS' FIGURES.**

However, if there was a direct link between stopping the international trade in wild birds and a subsequent long-term shift to trade in reptiles, then it would have been expected that such a shift would have occurred following the implementation of the US import ban of wild CITES-listed birds in 1992<sup>13</sup>. The number of live reptiles imported into the US recorded between 1989–1997 did show a temporary peak at 3.29 million reptiles in 1993 (a 15 per cent increase on the number of reptiles imported in 1992), but this increase was not maintained in the long-term as reptile numbers imported into the US then decreased each subsequent year until reaching a low in 1996 of 0.72 million animals<sup>14</sup>. So it is currently unclear whether the EU will see a similar short-term increase in reptile trade following the introduction of the wild bird ban, followed by a decrease in the longer term.

It is also possible, with the recent outbreaks of avian influenza in primarily captive poultry, that heightened public concern about potential disease may have contributed to a shift in pet keepers acquiring reptiles in preference to birds. So the large number of live reptiles imported into the UK last year could be led by a change in demand from the UK pet keeping market. Alternatively, commercial pet retailers could be intentionally shifting their efforts to buy and sell reptiles to the public, in response to the stop on imports of wild-caught birds; now even some hobbyists and traders promote reptiles as a less challenging pet for modern society.

However, 86 per cent of reptiles imported into the UK from non-EU countries in 2006 and 84 per cent imported into the EU in 2005 were species not protected by CITES. This clearly supports concerns about how few reptile species are protected from international trade. Hundreds of thousands of reptiles are imported into the EU from the wild without any monitoring or controls on the numbers exported to supply the pet market. It is completely understandable that traders will shift efforts to a greater diversity of species, when species new to the trade can be exported with no protection on welfare or conservation grounds.

Even though the RSPCA fully supports the end of the wild-bird trade into the EU on welfare grounds, the Society would not welcome any subsequent shift within the pet trade to another taxa of sentient animals, such as to reptiles, or an increase in the pet trade targeting non-CITES-listed animals. However, whatever the reason(s) for the large increase in reptile imports into the UK, and possibly the EU as a whole, trade into the EU of 1.6 million live CITES-listed reptiles demonstrates an even greater need for the regulation of the reptile

trade into, and within, the EU to restrict the importation of species most vulnerable to suffering and mortality once captured and removed from the wild. Reptile traders and keepers also have a responsibility to carefully consider the source of the animal to be acquired; to choose species in the trade that can be supplied from captive-bred animals; and, where they have the best practice knowledge, to provide the facilities and care necessary for the animals' welfare when kept in captivity.

### The indicator figures for wild birds

Figures on CITES-listed birds imported into the UK from outside the EU<sup>8,9,15</sup> and into the EU<sup>8,9,15</sup> as a whole for 2000–2006 are given in Tables 3 and 4. Historical data on imports of wild-caught and captive-bred CITES-listed birds into the UK for 1997 to 1999<sup>17</sup> have also been included in Table 3.

These figures show that thousands of wild-caught CITES-listed birds were imported annually into the UK, with more than a 12-fold increase from 2001 to 2002 followed by a six-fold decrease from 2003 to 2004. By 2005, numbers of imported wild-caught birds had decreased back to the level reported in 2000. A decline in the import of CITES-listed birds is expected due to the EU-wide ban on imports of wild birds that came into force in October 2005 with the aim of reducing the risk of spreading avian influenza<sup>12</sup>. Thus it comes as no surprise that only 11 wild-caught CITES-listed birds were imported into the UK in 2006 – nine great bustards for reintroduction purposes and two Meyer's parrots for 'personal use'. Including captive-bred birds, 113 birds were imported in 2006.

It is important to remember that these figures show just part of the bird trade, as they only include birds listed under CITES. Including all birds, only 54<sup>11</sup> birds were imported in 2006 for conservation purposes, compared to 61,450<sup>11</sup> in 2005 and 66,586<sup>16</sup> in 2004. Prior to the ban there was some indication of a shift towards non-CITES species: listed species comprised 28 per cent of all trade in 2004 but only 9.6 per cent in 2005. In 2006, 154,537 birds (CITES-listed and non-CITES-listed species) were imported into the UK from other EU member states<sup>11</sup>; possibly indicating a shift towards intra-EU trade in captive-bred birds following the wild bird import ban, although comparable figures for previous years are unfortunately not available.

Looking at figures for live CITES-listed birds imported into the EU as a whole for each year from 2000 to 2005<sup>8,9,15</sup> (see Table 4), we see a 20 per cent decrease in the total number of birds taken from the wild in 2005 compared to 2000. However, far more wild-caught

birds were imported into the EU than captive-bred birds, with an average 83.6 per cent of the birds imported into the EU, up to 2005, being taken from the wild. Compared to 2000, the proportion of the total trade in birds taken from the wild was 15 per cent higher in 2005, up to 95 per cent of all imports. The steady downward trend in numbers of imported captive-bred birds up to 2005 (apart from the low in 2002) could have been the result of a shift in trade back to wild-caught birds (as shown in Table 4).

Between 2004 and 2005, there was a 23.3 per cent decrease in CITES-listed birds imported, which is probably the result of the EU import ban that came into force in October 2005. With the introduction of the import ban, a dramatic reduction in imports into the EU is expected to have occurred in 2006, as was seen in the UK. Although at the time of writing these figures were not available, we can calculate an estimate based on the situation seen in the UK (Table 4). In 2006, the number of CITES-listed birds imported into the UK fell to two per cent of 2005 figures. If the same trend occurred in the EU, then around 10,666 CITES-listed birds may have been imported in 2006 (see Table 4).

Figures for the movement of all birds (from both wild-caught and captive-bred sources) into the EU (which includes non-CITES-listed and CITES-listed birds) from TRACES and Eurostat databases show that 67,480<sup>16</sup> birds were imported in 2004 and 521,906<sup>11</sup> in 2005. Contrary to expectations, these figures are lower than those provided

for CITES-listed species. New figures for 2005 have been provided following improvements in the database<sup>11</sup>. This has lessened the difference but there does remain some discrepancy. Figures show a seven-fold increase in the total number of birds imported into the EU between 2004 and 2005, but as 2004 figures were provided prior to improvements of TRACES, whether this is a true reflection of the situation is unclear. If it is, given that imports of CITES-listed species reduced over the same period, this could indicate a shift prior to the ban towards trade in species not protected under CITES.

From UK bird import figures, the October 2005 import ban has all but ended trade in wild-caught CITES-listed birds. The same trend is expected in the EU as a whole, but perhaps with continued importation of significant numbers of captive-bred birds.

The RSPCA supports the European Commission's decision to amend EU legislation and introduce a permanent ban on the importation of wild-caught birds into the EU. However, the Society also welcomes the continued monitoring of trade in all species of birds and reptiles, particularly as there are some early indications that trade may be shifting from birds to reptiles, including those not listed under CITES. It is important to remember that no matter whether a bird is currently of conservation concern and protected by CITES, a close watch on the total trade is needed to monitor whether trade in particular species should be controlled or stopped on welfare grounds.

**TABLE 3: NUMBER OF LIVE CITES-LISTED BIRDS IMPORTED INTO THE UK FROM OUTSIDE THE EU**

	<b>WILD-CAUGHT (INCLUDING RANCHED) (W + R)</b>	<b>CAPTIVE-BRED (C)</b>	<b>TOTAL INTO UK (W + R + C)</b>	<b>% OF IMPORTS INTO UK FROM OUTSIDE THE EU TAKEN FROM THE WILD</b>
1997 <sup>17</sup>	4,800	357	5,157	
1998 <sup>17</sup>	4,845	422	5,267	
1999 <sup>17</sup>	4,826	411	5,237	
2000 <sup>9</sup>	4,572	1,663	6,235	73.3
2001 <sup>9</sup>	4,880	1,101	5,981	81.6
2002 <sup>9</sup>	61,000	2,986	63,986	95.3
2003 <sup>9</sup>	72,171	2,813	74,984	96.3
2004 <sup>9</sup>	11,850	6,486	18,897 <sup>15</sup>	64.6
2005 <sup>9</sup>	4,466*	1,445*	5,911*	75.6
2006 <sup>8</sup>	11*	101*	113*	9.7

\* Wild bird import ban into EU since October 2005<sup>12</sup>.

Data source: UK government and the World Conservation Monitoring Centre.

TABLE 4: NUMBER OF LIVE CITES-LISTED BIRDS IMPORTED INTO THE EU

	WILD-CAUGHT (INCLUDING RANCHED) (W + R)	CAPTIVE-BRED (C)	TOTAL INTO EU (W + R + C)	% OF EU BIRD IMPORTS THAT ARE TAKEN FROM THE WILD
2000 <sup>9</sup>	634,027	162,274	796,301	79.6
2001 <sup>9</sup>	645,764	85,169	730,933	88.4
2002 <sup>9</sup>	336,883	48,909	385,792	87.3
2003 <sup>9</sup>	374,122	70,952	445,074	84.1
2004 <sup>9</sup>	468,023	61,311	695,000 <sup>15</sup>	88.4
2005 <sup>8</sup>	505,713*	27,584*	533,297*	94.8
2006 <sup>†</sup>	–	–	EST <sup>†</sup> 10,666*	–

\* Wild bird import ban into EU since October 2005<sup>12</sup>.

† Estimate based on number of birds imported into the EU in 2005 and drop in total number of birds imported into UK from outside EU in 2006 (see text for more detail).

Data source: UK government and the World Conservation Monitoring Centre.



**PROPORTION OF THE TOTAL TRADE IN LIVE CITES-LISTED BIRDS IMPORTED INTO THE UK. THERE HAS BEEN A LARGE DECREASE IN THE PROPORTION OF THE TOTAL TRADE IN WILD BIRDS TAKEN FROM THE WILD.**



**TOTAL NUMBER OF LIVE CITES-LISTED BIRDS IMPORTED INTO THE UK. THERE HAS BEEN A LARGE DECREASE IN THE TOTAL NUMBER OF BIRDS TAKEN FROM THE WILD.**



**PROPORTION OF THE TOTAL TRADE IN LIVE CITES-LISTED BIRDS IMPORTED INTO THE EU. FURTHER ANNUAL DATA ARE REQUIRED.**



**TOTAL NUMBER OF LIVE CITES-LISTED BIRDS IMPORTED INTO THE EU. IT IS ESTIMATED THAT THERE HAS BEEN A LARGE DECREASE IN THE TOTAL NUMBER OF BIRDS TAKEN FROM THE WILD.**

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## **WELFARE INDICATOR:** The provision of quality written information for the sale of non-domestic pets (reptiles, birds, amphibians and mammals) in a sample of outlets

### RSPCA concern

Before acquiring any animal it is essential for the animal's welfare that the person responsible for its care fully understands its long-term needs in captivity and is completely prepared. The RSPCA believes that to help inform the person thinking about keeping an animal as a pet, anyone selling or rehoming the animal has a responsibility to help provide good-quality husbandry advice appropriate for the species.

### Background

The Animal Welfare Act 2006 in England and Wales clearly recognises the responsibility of any pet keeper to take reasonable steps to meet their animal's welfare needs in captivity. Annex E of the Regulatory Impact Assessment (RIA) also recognises the responsibility of pet vendors to help educate prospective purchasers in the husbandry and care of the animals they are thinking about buying. It is therefore advocated in the RIA that all commercial vendors of pet animals should issue information leaflets.

Nowadays the diverse range of animals that are available to keep as pets can be acquired from many different sources, including from breeders, specialist pet shops that sell non-domestic animals, generalist pet shops, pet fairs, animal auctions, animal centres, small-ad papers, hobbyist groups, distance sellers (such as the internet), or from friends and family. The animals may have been bred in the UK, bred overseas or caught in the wild before being exported for sale.

To investigate the ownership of non-domestic pets, including where pet animals were acquired, research was commissioned by the RSPCA that was completed by Dr Deborah Wells from Queen's University, Belfast in 2002<sup>1</sup>. The 1,024 surveys completed by keepers from around the UK (who kept reptiles, amphibians or insects) reported acquiring their pet from four main sources: 51.2 per cent from a non-domestic (specialist) pet shop; 16.6 per cent from a general pet shop; 22.5 per cent from a private breeder; and 9.8 per cent from a friend or relative.

The same respondents were also asked what husbandry advice they were given. Almost half were given only verbal advice by the seller, 31.2 per cent were given written information and 20.5 per cent were given no husbandry advice at all. The pet keepers then went on to state, when asked, that the most common problem they experienced with their pet was the lack of information provided by the supplier.

From this study, it is clear that despite more than three-quarters of pet suppliers providing some verbal or written advice, less than one-third gave written information and one in five pet owners surveyed were given no information at all by the supplier. As two-thirds of suppliers in the study were identified as either being specialist or generalist pet shops, that sector of the pet trade clearly provides an important source for passing on care sheets to those considering or already keeping a companion animal.

In recognition of the role pet shops play in helping inform the pet-buying public about the needs of animals in captivity and what equipment and long-term care is required once the animal is taken home, the RSPCA has selected the provision of good-quality written information, appropriate for the animals on sale in the individual pet shop, as an animal welfare indicator that will be monitored on



**THERE ARE NO COMPARABLE DATA AVAILABLE.**

an annual basis. Only then will it be possible to monitor trends in the provision of written care sheets that are informative and appropriate for the animal on sale that is being acquired as a pet.

## The indicator figures

A sample of pet shops in England and Wales has been surveyed to investigate the type of animals on sale in pet shops from four broad groups: mammals, birds, reptiles and amphibians. Part of the survey focuses on the availability of good quality, appropriate care advice that can be taken away for reference by those considering or intending to buy an animal on sale. The survey will be carried out on an annual basis.

### ■ Survey methods

Pet shops in England and Wales were identified using the *Yellow Pages* telephone directory. Only pet shops that sold live non-domestic animals belonging to four target groups (mammals, birds, reptiles and amphibians) were surveyed. This was determined using information gathered over the phone by MORI in 2003 for a different study<sup>2</sup> and by surveyors prior to conducting the survey.

For the survey itself, one species from each of the four animal groups was randomly selected in each shop. Details of any written information about that species on display was recorded and all free care sheets, including sheets on other species, were taken. Additional data on the types and numbers of animals on sale were also collected.

The type of information recorded and scored was based on the five main welfare needs of animals as outlined in the Animal Welfare Act 2006:

- an animal's need for a suitable environment – enclosure size and temperature
- an animal's need for a suitable diet – food and provision of water
- an animal's need to be able to exhibit normal behaviour patterns – details of when the species is naturally active (e.g. diurnal) and the provision of substrates to allow the performance of natural behaviours (e.g. branches for climbing/perching, hides, toys)
- an animal's need to be housed with, or apart from, other animals – appropriate grouping and the issue of breeding
- an animal's need to be protected from pain, suffering, injury and disease – health issues to be aware of/prevent and the need to seek veterinary care.

Other issues that were considered desirable for pet shops to cover included: the size to which the animal can grow, the lifespan, the source of the animal (e.g. captive-bred or wild-caught), the price of each animal and sources of further information (e.g. website address, free care sheets, advice from members of staff). Surveyors were also asked to note whether or not staff approached them and if any care information was provided without prompting.

### ■ Shops surveyed

Between December 2006 and March 2007, 424 shops spread across England and Wales were investigated (53 per cent of those found in the *Yellow Pages*, plus an additional 11 shops surveyed on an ad hoc basis). Of this group, 282 shops sold animals belonging to at least one of the target groups; the remainder either did not sell any target animals or no longer appeared to be in business.

### ■ Animals on sale

Mammals were sold in the largest proportion of pet shops surveyed, followed by birds, fish, reptiles, invertebrates and amphibians (see Figure 3).

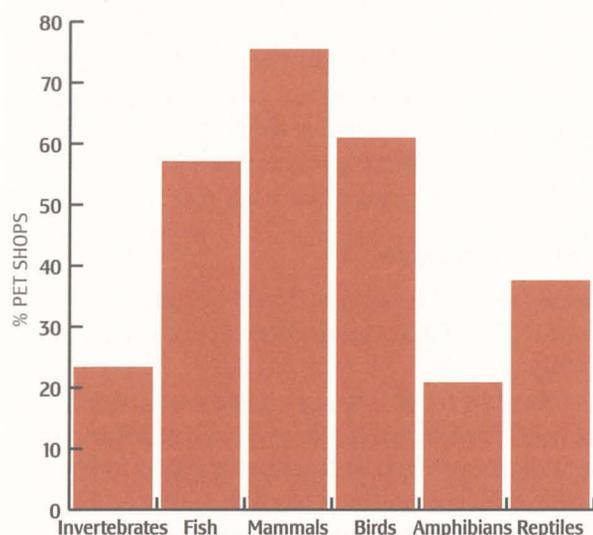
Across all the pet shops surveyed, 16,171 animals belonging to the four target groups (mammals, birds, reptiles and amphibians) were estimated to be on sale. In addition about 88,600 fish and 4,700 invertebrates were recorded (see Table 1). These numbers are all estimates, but figures for fish should be treated with some caution given the sheer numbers involved and the difficulty in counting individuals, especially of smaller species. Nevertheless the data serve to give some indication of numbers on sale.

This survey did not cover every pet shop across England and Wales, but data gathered from the sample that was surveyed can be used to get some idea of the total number of animals on sale. Assuming a similar proportion of unsurveyed pet shops held target animals (66 per cent) and that these held similar proportions of each animal type (see Figure 3), it is estimated that more than 31,000 mammals, birds, reptiles and amphibians were on sale across the country, and a further 167,000 fish and 9,000 invertebrates (see Table 5).

**A SAMPLE OF PET SHOPS IN ENGLAND AND WALES HAS BEEN SURVEYED TO INVESTIGATE THE MAMMALS, BIRDS, REPTILES AND AMPHIBIANS ON SALE IN PET SHOPS.**

**FOR MAMMALS, HAMSTERS WERE FOUND IN THE LARGEST NUMBER OF SHOPS, FOLLOWED BY MICE AND RATS, GERBILS/JIRDS AND CHINCHILLAS. RARER SPECIES INCLUDED CHIPMUNKS, PRIMATES (INCLUDING MARMOSETS) AND SUGAR GLIDERS.**

**FIGURE 3: AVAILABILITY OF DIFFERENT ANIMAL GROUPS IN SURVEYED PET SHOPS**



The most common species on sale, across the four groups, are shown in Table 6. For mammals, hamsters were found in the largest number of shops, followed by mice and rats, gerbils/jirds and chinchillas. Rarer species included chipmunks, primates (including marmosets) and sugar gliders.

Birds were the next most popular taxa on sale, although they were held in greater numbers than mammals (see Table 6). Budgies were the most popular species, in terms of the number of shops where they were recorded on sale, closely followed by finches, canaries and cockatiels (Table 6). Lovebirds, parakeets, large parrots and macaws were all found in 40 to 60 shops.

Most shops that sold reptiles stocked various species of lizards and snakes, although tortoises were also popular. Fewer shops sold terrapins, and crocodylians were found in only six.

Amphibians were the least common taxa on sale, being recorded in only 21 per cent of shops. Frogs were the most common amphibian (14 per cent of shops), while toads, newts and salamanders were sold in only five to six per cent of shops.

**TABLE 5: ESTIMATED NUMBER OF NON-DOMESTIC ANIMALS ON SALE IN SURVEYED PET SHOPS**

	ESTIMATED NUMBER OF ANIMALS ON SALE		EXTRAPOLATION TO PET SHOPS ACROSS ALL OF ENGLAND AND WALES
	AVERAGE PER SHOP (RANGE)	TOTAL	
MAMMALS	23 (1–100)	4,489	8,690
BIRDS	36 (1–350)	5,942	11,309
REPTILES	52 (1–1,243)	5,160	9,870
AMPHIBIANS	11 (1–60)	580	1,136
FISH	564 (10–6,500)	88,611	166,865
INVERTEBRATES	80 (1–3,000)	4,735	9,296
TOTAL		109,517	207,166

Data source: RSPCA.

**TABLE 6: NUMBER OF PET SHOPS SURVEYED THAT SOLD EACH ANIMAL TYPE**

ANIMALS ON SALE	NO. OF SHOPS	%	ANIMALS ON SALE	NO. OF SHOPS	%	ANIMALS ON SALE	NO. OF SHOPS	%
<b>MAMMALS</b>	<b>213</b>	<b>75.5</b>	<b>BIRDS</b>	<b>172</b>	<b>61</b>	<b>REPTILES</b>	<b>106</b>	<b>37.6</b>
HAMSTER	180	63.8	BUDGIE	132	46.8	LIZARD	93	33.0
MOUSE/RAT	139	49.3	FINCH	114	40.4	SNAKE	90	31.9
GERBIL/JIRD	127	45.0	CANARY	101	35.8	TORTOISE/TURTLE	79	28.0
CHINCHILLA	75	26.6	COCKATIEL	100	35.5	TERRAPIN	31	11.0
DEGU	26	9.2	PARRAKEET	67	23.8	CROCODILIAN	6	2.1
CHIPMUNK	16	5.7	LOVEBIRD	52	18.4	<b>AMPHIBIANS</b>	<b>59</b>	<b>20.9</b>
PRIMATE	6	2.1	MACAW/LARGE PARROT	42	14.9	FROG	40	14.2
SUGAR GLIDER	4	1.4	CONURE	9	3.2	TOAD	18	6.4
OTHER	103	36.5	OTHER	58	20.5	NEWT	15	5.3
<b>FISH</b>	<b>161</b>	<b>57.1</b>	<b>INVERTEBRATES</b>	<b>66</b>	<b>23.4</b>	SALAMANDER	14	5.0

Data source: RSPCA.

### ■ Care information provided to potential buyers – on signs

Across the 282 shops surveyed, the presence of care information was recorded for 484 animals on sale from the four target groups: 168 mammals, 160 birds, 107 reptiles and 49 amphibians. Data on the availability of written care information in the form of signage near to enclosures is presented in Table 7.

Most pet shops (82.3 per cent) displayed some sort of written information about at least one of the four animal groups surveyed. The cost of the animal was most commonly on display, and only 59.6 per cent of shops displayed information in addition to price. Information specific to the animals' welfare needs (environment, diet, behaviour, social grouping and health) was found in around half of the pet shops surveyed, but only 14 per cent provided information on all five aspects of welfare. Welfare-related information about diet and social grouping was most frequently displayed (41.8 per cent and 41.5 per cent of shops respectively), while providing a suitable environment and substrates to allow the performance of natural behaviours were similarly close (36.5 and 37.9 per cent respectively).

Health-related information, such as signs of ill health to look out for and mention of the need to take the animal to a vet if it became ill, was the least often provided (20.9 per cent of shops). Additional information about the lifespan of the species, and therefore the degree of commitment required of buyers, was reported on signage in around one-quarter of shops (Table 7).

Across the four animal groups, those thinking of buying a mammal as a pet were given the most written care information via signs. Only 14.9 per cent of shops that sold mammals displayed no information at all, compared to 22.5 per cent for birds, 22.4 per cent for amphibians and 19.6 per cent for reptiles. Similarly, mammals were the group that had the most information displayed about their welfare needs in captivity (Table 7).

An important aspect that people should consider before buying a pet is how large the animal can grow, particularly when buying a reptile. Indeed for reptiles this information was most often on display, albeit only in about one-quarter of shops selling reptiles (Table 7). Some shops sold boa constrictors, which can grow to more than three metres in length, yet they did not provide this information to the public.

**TABLE 7: AVAILABILITY OF WRITTEN INFORMATION ON SIGNAGE DISPLAYED IN PET SHOPS ('SPECIALIST' SHOPS ARE SHOWN IN BRACKETS)**

INFORMATION DISPLAYED IN STORE ON SIGNS	FOR ONE OR MORE SPECIES SURVEYED (% SHOPS) N=282	MAMMALS (% SHOPS) N=168 (N=50 SPECIALIST SHOPS)	BIRDS (% SHOPS) N=160 (N=23 SPECIALIST SHOPS)	AMPHIBIANS (% SHOPS) N=49 (N=0 SPECIALIST SHOPS)	REPTILES (% SHOPS) N=107 (N=18 SPECIALIST SHOPS)
AT LEAST ONE 'WELFARE NEED'	49.6	54.8 (82.0)	32.5 (33.3)	38.8 (-)	38.3 (22.2)
ALL FIVE 'WELFARE NEEDS'	14.2	14.9 (30.0)	7.5 (8.3)	8.2 (-)	10.3 (5.6)
ADULT SIZE	18.4	14.3 (16.0)	8.8 (0)	20.4 (-)	23.4 (0)
LIFESPAN	27.7	28.6 (42.0)	17.5 (8.3)	28.6 (-)	45.8 (5.6)
SOURCE OF ANIMAL	15.6	8.9 (14.0)	10.0 (0)	12.2 (-)	18.7 (16.7)
PRICE	70.9	69.0 (68.0)	59.4 (66.7)	73.5 (-)	70.1 (44.4)
SOURCES OF FURTHER INFORMATION	36.5	43.5 (66.0)	22.5 (0)	38.8 (-)	22.4 (0)

Data source: RSPCA.

Information regarding the source of the animal (e.g. bred in captivity/taken from the wild) was rarely displayed for any animal, but for reptiles this information was most commonly on display. More specifically, source was displayed for 23.4 per cent of lizards surveyed and 20 per cent of tortoises. In other groups, the source was most often displayed for macaws and large parrots (37.5 per cent), degus (30 per cent) and frogs (14.3 per cent).

Information displayed in 'specialist' shops – taken to be those that sold only animals belonging to one of the four animal groups – is shown in brackets in Table 7. Shops that sold only mammals displayed substantially more information about the animals on sale, both relating to the animals' welfare needs as well as lifespan and sources of further information. The same was not true of other animal groups.

### ■ Care information provided to potential buyers – written information to take away free of charge

Results relating to the availability of freely available care sheets are presented in Table 8. Care sheets were available to members of the public in only one-fifth of shops surveyed (20.9 per cent). An additional 4.3 per cent apparently did hold care sheets but they were unavailable at the time of the survey (e.g. due to them being updated, the printer not working, etc.) and another eight per cent

held care sheets on some species, but not those selected for the survey. Therefore, around one-third of shops usually held care sheets of some description.

However, 80 per cent of care sheets were collected in a single chain of pet stores – Pets at Home. Discounting Pets at Home, which produce their own leaflets, brings the proportion down to just five per cent. Of these five per cent, most appeared to produce their own care sheets (81.25 per cent), while the rest provided care sheets produced by pet food manufacturers.

When care sheets were provided, they all covered at least one of the five welfare needs of the animal in question, while 80 per cent contained information on all five aspects. All five welfare needs were covered equally, appearing in care sheets in 22 to 23 per cent of shops. There is therefore far more information provided in care sheets – when they are made available – than on signage in stores (Table 8). A high proportion of sheets also provided valuable information about the expected lifespan of the animal (over 68 per cent).

Again, those considering buying a mammal as a pet were provided with most information – care sheets were available in 26.2 per cent of shops that sold mammals. Care sheets were far scarcer for those thinking of buying birds (10.6 per cent of shops), reptiles (9.3 per cent) and particularly amphibians (6.1 per cent).

**TABLE 8: AVAILABILITY OF WRITTEN INFORMATION TO BE TAKEN AWAY FROM PET SHOPS FREE OF CHARGE**

INFORMATION PROVIDED IN THE FORM OF FREE CARE SHEETS	FOR ONE OR MORE SPECIES SURVEYED (% SHOPS) N=282	MAMMALS (% SHOPS) N=168	BIRDS (% SHOPS) N=160	AMPHIBIANS (% SHOPS) N=49	REPTILES (% SHOPS) N=107
AT LEAST ONE WELFARE NEED	20.9	26.2	10.6	6.1	9.3
ALL FIVE WELFARE NEEDS	16.7	25	8.1	4.1	0.9
ADULT SIZE	6.7	5.4	1.3	4.1	6.5
LIFESPAN	14.2	17.9	8.1	4.1	2.8
SOURCE OF ANIMAL	4.6	0	8.1	0	0
SOURCES OF FURTHER INFORMATION	17.7	25.6	10	0	3.7

Data source: RSPCA.

As with signage, information about the size to which the animal could grow was most often provided for reptiles (69.9 per cent of shops that provided reptile care sheets), closely followed by amphibians (67.2 per cent). Information on the source of the animal was only ever provided for birds, and this was solely due to leaflets provided by Pets at Home which stated that all birds on sale had been bred in captivity.

Overall, free written information in some form (either on signs in store or in free care sheets) was provided in 83.3 per cent of shops surveyed (see Table 9). However, information other than price was available in 59.6 per cent of shops. Welfare-related information, covering at least one of the five 'welfare needs' as described in the Animal Welfare Act 2006, was provided for about half the animals surveyed, but only one-third covered all five needs. The majority of shops did not provide specifics on the size to which the animal could grow or the number of years it could live. Overall, those considering buying a pet mammal were given the most information, followed by those considering reptiles and birds; buyers of amphibians were not well informed at all, with only 11 per cent of shops mentioning any welfare needs.

### ■ Information provided by staff

An additional avenue of delivering information about the needs of pet animals is via staff in stores. Surveyors reported that they were approached by a member of staff in 39.4 per cent of shops, and given unsolicited advice about the care and welfare needs of the animals on display in 15 per cent of shops. Surveyors noted that in several stores staff were very helpful and knowledgeable, and in some cases staff made it clear that they would not sell an animal without being certain the buyer had a full understanding of the needs of the animal and the level of commitment required.

Despite the legal responsibility pet owners now face to meet their animals' welfare needs, this survey shows that most of those that are best placed to inform new owners are failing to provide this service. Most pet shops that were surveyed did not provide members of the public with free written care information detailing what the animals' needs were, and the level of responsibility required of them, to allow people to make a considered, informed choice before deciding to buy an animal.

**WELFARE-RELATED INFORMATION, COVERING AT LEAST ONE OF THE FIVE 'WELFARE NEEDS' AS DESCRIBED IN THE ANIMAL WELFARE ACT 2006, WAS PROVIDED FOR ABOUT HALF THE ANIMALS SURVEYED, BUT ONLY ONE-THIRD COVERED ALL FIVE NEEDS.**

**TABLE 9: AVAILABILITY OF ANY SORT OF FREE WRITTEN CARE INFORMATION FROM PET SHOPS**

INFORMATION PROVIDED IN THE FORM OF SIGNAGE OR FREE CARE SHEETS	FOR ONE OR MORE SPECIES SURVEYED (% SHOPS) N=282	MAMMALS (% SHOPS) N=168	BIRDS (% SHOPS) N=160	AMPHIBIANS (% SHOPS) N=49	REPTILES (% SHOPS) N=107
AT LEAST ONE WELFARE NEED	53.9	59.5	36.6	10.8	41.1
ALL FIVE WELFARE NEEDS	27.7	35.1	15.1	12.2	11.2
ADULT SIZE	23	19	9.4	22.4	27.1
LIFESPAN	34.4	39.3	23.8	30.6	17.8
SOURCE OF ANIMAL	18.4	8.9	16.3	12.2	18.7
PRICE	70.9	69	59.4	73.5	70.1
SOURCES OF FURTHER INFORMATION	36.9	45.8	24.4	38.8	22.4

Data source: RSPCA.

Great improvements could be made in both the signage in store and particularly the availability of free care sheets. Producing care sheets obviously has financial implications, particularly for smaller independent stores. However, ensuring that buyers are fully versed in what they are taking on is an obligation of any pet seller. Furthermore, freely available care sheets are available for many non-domestic species from the RSPCA and other organisations. Staff in store obviously represent an important avenue for delivering such information and making sure that people know what they are taking on before they buy a new pet. However, provision of good-quality, written information remains a vital means of informing potential pet owners, allowing them to mull over the options and make the correct choice, both for them and the animal.

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## WELFARE INDICATOR: Evaluation of the effectiveness of zoos in meeting conservation and education objectives

### RSPCA concern

Zoos have passed through various stages in their history, each stage largely typified by a desire to meet the needs of humans more than the needs of individual animals<sup>1</sup>. For most of their history, zoos' main purpose has been to demonstrate wealth and prestige, although very recently conservation has been the main stated purpose of zoos, with awareness-raising through education being the primary means of achieving this aim<sup>2,3,4</sup>.

The RSPCA is concerned that there may be welfare problems occurring in animals kept by zoos that cannot be justified by unsupported claims of conservation or education benefit. The Society is also concerned that current legislation is too weak to ensure that zoos are of real conservation or educational benefit.

### Background

From their original purpose zoos have, over the last forty years, claimed a role as agents for conservation through their work on preserving biodiversity<sup>5</sup>, but their success in this role has been questioned<sup>6</sup>. Further, zoos state that one of their aims is to educate and inspire people to take action on behalf of wildlife conservation<sup>7</sup>, although evidence of their success at meeting this target is sparse<sup>8</sup>.

Zoos are required to take conservation measures under Article 9 of the Convention on Biological Diversity 1992<sup>9</sup>, which within the EU has been implemented by the Zoos Directive (Council Directive 1999/22/EC<sup>10</sup>). The main impact of the Directive is to require all zoos in the UK (and all EU member states) to implement conservation and public education measures. In the UK the requirements of the Directive are incorporated into the Zoo Licensing Act 1981 (as amended) and the Secretary of State's Standards of Modern Zoo Practice<sup>11</sup>.

Zoos are thus required to promote public education and awareness as well as contribute towards conservation via activities in at least one of five areas: research, training, information exchange, breeding and/or repopulation/reintroduction<sup>12</sup>. It is apparent that animal welfare may be compromised in zoos and it is possible that some people might regard this as acceptable if there are significant conservation and education benefits arising from keeping animals. Such benefits are claimed by zoos<sup>13</sup>; in the Society's view such claims should be closely scrutinised.

The RSPCA is concerned that if there are welfare problems in zoos they might be the unintentional side effect of zoos pursuing causes they may not currently be well placed to serve. The RSPCA believes there may be a danger of animals being kept in unsuitable conditions if zoos over-emphasise their roles in conservation and education. It is apparent that some animals suffer greatly in zoos, but zoos keep them because they claim there are great conservation and education benefits in doing so<sup>13</sup>. The RSPCA strongly questions this approach.

### The indicator figures

To test the conservation and education claims of zoos, the RSPCA will monitor the number and content of publications that evaluate zoos in these areas. By reviewing such publications the success of reintroduction programmes, field conservation projects and education programmes will be carefully monitored, providing a background against which poor animal welfare can be assessed.

Given the large scope of this indicator, the education value of zoos for the general public has been the focus of this year's report. The conservation role of zoos will be investigated next year, and developments on education will be monitored.



**THERE ARE NO COMPARABLE DATA AVAILABLE.**

Education is now stated as a central role of zoos<sup>14</sup>. Imparting knowledge, and more importantly influencing the attitudes and behaviour of the public, is given high priority. For example, the accreditation organisations of zoos in the UK (British and Irish Association of Zoos and Aquariums, BIAZA) and Europe (European Association of Zoos and Aquaria, EAZA) see the educational role of zoos as essential to conservation: "If conservation is to succeed, people need to be inspired to care about and understand animals and the threats they face in the wild"<sup>15,16</sup>. The equivalent organisation in the US, the American Association of Zoos and Aquariums (AZA), goes further in its mission: "AZA conservation education connects people to nature through our living collections and creates measurable changes in audience behaviour, knowledge and attitudes that help ensure a positive future for people, wildlife and wild places"<sup>17</sup>.

In order to evaluate the success with which zoos educate the visiting general public, a review of published peer-reviewed literature was carried out. Although some work has been published elsewhere, peer-reviewed research has, by its nature, undergone a quality-control review process prior to publication and therefore this was the focus of the study.

A search of the literature (1980–2007) was performed using the databases Web of Knowledge<sup>18</sup> (from 1992 only – the earliest entry) and the Education Resources Information Centre (ERIC)<sup>19</sup>. Search terms included: 'zoo', 'aquari\*', 'wildlife', 'safari' and 'park' coupled with 'education\*', 'school', 'learn' and 'visitor'. Abstracts were then reviewed to identify the relevant publications. The bibliographies of these publications were also reviewed in order to identify any work that may not have been captured.

This review revealed that few studies have used direct measures (e.g. questionnaires, interviews, knowledge tests) to quantify the knowledge and attitude of visitors before and after a visit. Even fewer have tried to measure whether zoos meet their objective of stimulating a positive change in visitors' behaviour to benefit conservation (e.g. by recycling, donating to a wildlife organisation, writing to their MP).

Only one study in a UK zoo was found in the peer-reviewed literature. Visitors to Jersey Zoo<sup>20</sup> were found to have improved knowledge of one specific issue as a result of their visit to the zoo: departing visitors were able to name more endangered species than those that had just arrived. This change was not long-lived, however, as revealed by a follow-up some seven to 15 months later. No change in the attitude of visitors towards conservation was detected in this study.

Although not yet published at the time of writing, one other study that directly measured education in UK zoos was found. This study deserves mention here as it represents one of the most

comprehensive studies to date. The study encompassed five UK zoos: Bristol, Chester, Colchester, London and Paignton<sup>21</sup>. Visitors were asked questions before and after a visit to assess their conservation knowledge, their commitment to conservation (measured by asking them to allocate hypothetical money to different causes) and their capacity to get involved (by naming ways they could contribute personally). No significant change in any of these measures was found across the five sites, with the exception of one zoo in which visitors appeared to show a heightened awareness of how they could contribute, but this is thought to be an artefact of visitors being in a hurry to enter. Extensive tests were carried out to ensure that this lack of positive results was not caused by a lack of statistical power.

Other studies have evaluated the education value of zoos overseas, and although this review is concerned with the UK, these additional studies tell us whether UK zoos could successfully educate the public. For this reason, they are also reviewed here.

Visitors (both adults and school children) to San Diego Zoo's exhibit on Africa's 'rocky islands' (kopjes) were asked a series of questions about the exhibit after they had passed through<sup>22</sup>. The majority was unable to answer questions about the exhibit correctly, despite 91 per cent having looked at or read at least one sign. Most visitors (58 per cent) reported no change in their interest in wildlife conservation, although 37 per cent did.

Another study on Lincoln Park Zoo's gorilla and chimpanzee exhibits reported more positive results<sup>23</sup>. Departing visitors demonstrated significantly greater knowledge about gorillas and chimpanzees than those entering the zoo, but frequent visitors were no more knowledgeable than first-time visitors suggesting that this improvement was short lived. Attitudes towards gorillas and chimpanzees did not change significantly as a result of the visit, and frequent visitors did not differ significantly from first-time visitors. Interestingly, less knowledgeable people also had more negative attitudes.

In terms of affecting action, one study at Brookfield Zoo<sup>24</sup> failed to detect a significant effect of multiple visits to an exhibit called The Swamp on visitors' intent to get involved in conservation. Another study, at Zoo Atlanta, aimed to investigate whether its interactive elephant exhibit encouraged active support for elephant conservation<sup>25</sup>. Visitors leaving the zoo were asked to take a stamped addressed postcard and send it to the White House. Significantly more postcards were returned by visitors who had more 'experience of elephant shows' (the elephant demonstration at Zoo Atlanta and/or elsewhere, including circuses). Only 5.9 per cent (1/17) of those who saw the elephant show and experienced the interactive

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elephant display at the zoo returned the postcard compared to 3.8 per cent (1/26) of people who saw neither. It is unknown how many passively saw the elephant exhibit, but overall it would appear that the exhibit is unlikely to have had a great impact on visitors' involvement in conservation.

Four further overseas studies measured the overall educational impact of a zoo visit. Visitors to Monterey Bay Aquarium<sup>26</sup> left with a broader general understanding and an improved attitude towards conservation. They also showed a modest improvement in their commitment to conservation, but this had disappeared several months later. Similarly, a later study at the same aquarium<sup>27</sup> showed that on leaving, visitors had significantly better conservation knowledge (compared to when they went in, 27 per cent more visitors were 'extensively knowledgeable' when they left) and interest (33 per cent more visitors were 'extensively interested' on exit). Long-term effects were not followed up. Visitors to San Francisco's UnderWater World aquarium<sup>28</sup> were also asked if they thought that they had learned anything (rather than testing their knowledge directly). The majority (78 per cent) felt that they had not.

While not yet peer reviewed and published, another recent extensive study, set up by the AZA, should be mentioned. This study covered four sites in the US: two zoos and two aquariums<sup>29</sup>. Overall, the study showed no improvement in visitors' conservation-related knowledge, but a small subset (approximately 10 per cent) of visitors showed a significant improvement. Given that 86 visitors were used for this part of the study, only eight or nine people showed significant signs of learning. The authors attributed the lack of learning to an unexpectedly high starting point for visitors' knowledge, but no

statistical detail is provided in this initial report as support. Attitudes towards conservation were 'supported and reinforced' in 61 per cent of visitors, but the proportion of visitors that showed a significant improvement in attitude is unfortunately not quantified. In terms of whether the zoo inspired visitors to alter their behaviour in some way, there was a 54 per cent increase in the number of visitors who saw themselves as 'part of the solution to nature's problems' immediately after the visit. In the follow-up, almost one year later, 61 per cent of visitors discussed some aspect of what they had learned during their visit, but the most important question of whether they were then spurred on to take action and become involved in some sort of conservation-related activity appears not to have been asked.

Overall, it appears that little has changed since 2002 when an AZA study concluded that: "While there is some evidence of zoo experiences resulting in changes in visitors' intention to act, there are very few studies demonstrating actual changes in behaviour"<sup>30</sup>. It seems that zoos are only just beginning to seriously evaluate, in a quantitative manner, the impact their education programmes have on visitors and whether they are fulfilling their objectives. In this respect they are lagging well behind institutions such as museums and science centres<sup>30</sup>. Yet zoos have an additional responsibility to deliver their objectives, given that keeping animals in captivity can bring with it a cost to their welfare<sup>31</sup>. For instance, abnormal repetitive behaviours are an ongoing problem in zoo animals<sup>32</sup> and significant efforts are put in to mitigating them<sup>33</sup>. Given these costs, we suggest that it is not enough for zoos to aim to have an educational impact, they should demonstrate a substantial impact. From our review of the literature, this does not yet appear to be the case.

**TO TEST THE CONSERVATION AND EDUCATION CLAIMS OF ZOOS, THE RSPCA WILL MONITOR THE NUMBER AND CONTENT OF PUBLICATIONS THAT EVALUATE ZOOS IN THESE AREAS. BY REVIEWING SUCH PUBLICATIONS THE SUCCESS OF REINTRODUCTION PROGRAMMES, FIELD CONSERVATION PROJECTS AND EDUCATION PROGRAMMES WILL BE CAREFULLY MONITORED, PROVIDING A BACKGROUND AGAINST WHICH POOR ANIMAL WELFARE CAN BE ASSESSED.**