



IMPROVING DOG OWNERSHIP

The economic case for dog licensing

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EXECUTIVE SUMMARY

Now is the time for a joined-up approach to improving dog welfare through an effective dog health and welfare strategy funded by a dog licence. There are estimated to be more than 10 million dogs in the UK, a figure that is rising (Murray *et al.*, 2010), which means that an average of 23 per cent of households in England own a dog (Upton *et al.*, 2010). Owning a dog carries its own responsibilities and costs, which are estimated at £650 a year to ensure good health and welfare (RSPCA, 2009b), varying according to the type and size of dog. There are also external social costs arising from dog ownership, which include the cost to the health service of dog attacks on people, valued at £3.3 million in England in 2009 (The Information Centre, 2009/10); attacks on livestock in the UK, valued at £2.8 million in 2009 when adjusted for inflation (RSPCA & Kennel Club, 1998); and costs arising from road accidents involving dogs, valued at £14.6 million in Britain in 2008 (Ganeshan, 2008). The cost of delivering a comprehensive dog warden service, which would include dealing with the stray dog issues and other social issues such as preventing dog fouling, is valued at £46 million for Britain (Upton *et al.*, 2010). Government is moving towards cost sharing as a policy instrument, particularly for farm animals, and the RSPCA believes that a health and welfare strategy could fund solutions to these issues.

We believe that 2010 is the right year to discuss the introduction of dog licensing under the cost and responsibility sharing initiative (Defra, 2010). In January an independent report to the government on dog breeding and welfare concluded that there was a need for licensing of breeders and identification of dogs produced from these breeders (Bateson, 2010). This arose from the need to improve the welfare of individual dogs, which the report found to be inadequate due to either irresponsible breeding of pedigree dogs or general poor welfare in large-scale dog breeding operations. It called for a new body to oversee and improve dog breeding. Dog welfare is a devolved issue but in all four of the UK's devolved legislative bodies, radical changes are being considered to improve the situation.

In April, England saw the introduction of the Dog Code, which gives owners advice on how they should ensure the welfare of their dog complies with the Animal Welfare Act 2006. A Dog Code has been operational in Wales since December 2008. In April 2010 Defra launched its consultation to review dog control measures. In May the Scottish Parliament agreed new dog control legislation. In June 2010, after six-months' intensive study of dog welfare, the Welsh Assembly Government agreed recommendations on breeding and identification, new legislation, education and other initiatives to improve dog welfare. In Northern Ireland, the only part of the UK with a dog licence scheme, a consultation on updating and improving the scheme recommends a rise in the licence fee and new initiatives to improve dog welfare.



JOE MURPHY/RSPCA PHOTO LIBRARY

Over 10 million dogs are owned in the UK, providing benefits such as companionship to millions of people.

Twenty-three European countries have a dog licence or registration scheme (Tasker, 2007). In some countries where it operates, such as Germany, Slovenia and the Netherlands, dog control provisions have improved, with low rates of strays and compliance rates of more than 50 per cent (Upton *et al.*, 2010).

A dog licence could improve the culture of dog ownership, leading to improved dog care and management. In particular, it could reduce numbers of dogs being bred, as concessions could be given to neutered dogs. At present, costs are covered by central and local government and non-governmental organisations (NGOs) such as the RSPCA. Local authorities pay for costs arising from stray dog issues; central government pays for hospital costs arising from dog bites; and NGOs such as the RSPCA fund rehoming costs, enforcements costs and educational initiatives, estimated to be over £50 million in 2009 (RSPCA, 2009c)^a. Underfunding is a historic problem that has affected dog control issues since the dog licence was scrapped in 1987. The old dog licence never covered its costs as the fee didn't keep up with inflation and underfunding has continued. Incidents of dog bites are increasing (Upton *et al.*, 2010), as are incidents involving dangerous dogs and the numbers of stray dogs (RSPCA, 2009a).

A dog licence scheme could provide the financial base to undertake these, and future, measures. The total costs of running a properly funded scheme is estimated to be, at a minimum, £107 million. Given a 75 per cent compliance rate, and a population of 10 million dogs, this would equate to setting an annual dog licence fee of £14.30 per dog; at 50 per cent compliance, the cost would rise to £21.50 per dog.



ANDREW FORSYTH/RSPCA PHOTOLIBRARY

A dog licence is supported by two out of every three dog owners. (TNS, 2010)

The RSPCA feels that the government commitment to cost sharing, the Bateson report and recent legislative improvements, together provide the ideal basis to introduce a more joined-up strategy to manage social and animal problems associated with dog ownership, which is underpinned and funded by a new dog licensing scheme in England. This would mean that dog owners would contribute to costs derived from dogs, costs which are presently inadequately covered by central and local government. The scheme would have the potential to fund resources for other issues, such as covering the costs of the introduction of zoonotic diseases into the UK and the funding of a dog health and welfare strategy and improving dog welfare.

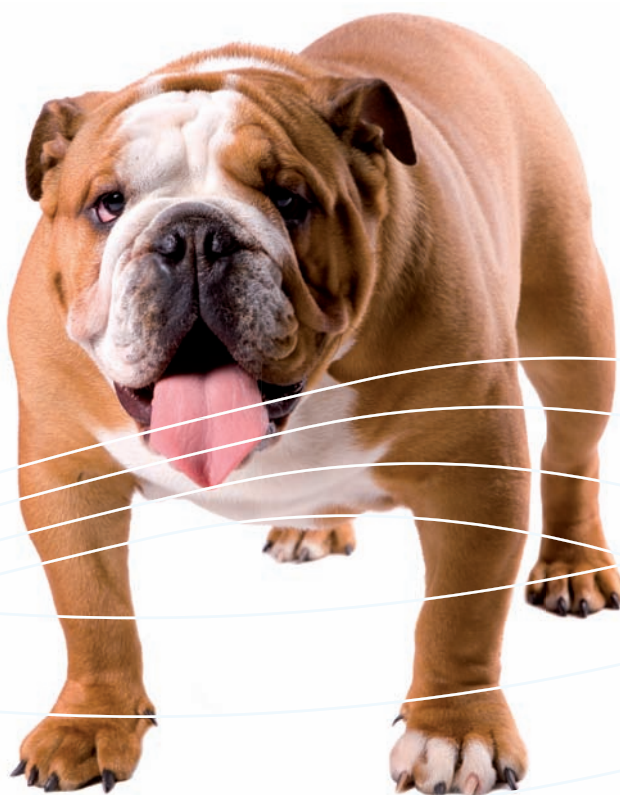
^aRSPCA Annual Report 2009c. In 2008 the Society spent £52 million, 57 per cent of its 2009 budget on pet animals, of which dogs were the highest cost.

INTRODUCTION

There are around 10 million dogs in the UK, although accurate figures are difficult to obtain as there is no central database (Murray *et al.*, 2010). For instance, previous estimates given by the Pet Food Manufacturers Association showed a total dog population of eight million (PFMA, 2009) being owned by six million households (23 per cent of the total number) (Upton *et al.*, 2010). Although historical information on dog numbers has varied over the last 30 years, the numbers appear to have been increasing since the start of the decade; this may be related to fluctuations in the UK economic cycle influencing consumer demand for dog ownership.

The regional distribution of dog ownership varies, ranging from lows of nine per cent of households in London and 20 per cent for south-east England, to 25 per cent in Wales and more than 35 per cent in Ireland and Northern Ireland (Downes *et al.*, 2009).

There is currently no national mandatory dog licence scheme in Great Britain. The last scheme was abolished in 1987 when the fee, 37.5p per dog, was deemed uneconomic to collect, did not cover the costs of the scheme let alone any costs incurred by irresponsible dog ownership, and was only paid for by one-half of dog owners (Hughes, 1998). Northern Ireland introduced a dog licence scheme in 1983, although this scheme, currently set at £5 per dog, is being reviewed as the dog fee has not been increased for more than 25 years (DARDNI, 2009).



CHRIS BRIGNELL/RSPCA PHOTOLIBRARY

A dog health and welfare strategy, funded by a licence, could improve the health of breeds and individual dogs.

The costs of dog ownership go beyond the cost of owning an individual dog, which the RSPCA estimates is around £650 a year, including feeding and veterinary fees, although of course this varies according to the breed of dog (RSPCA, 2009b). Dogs incur many external social costs, such as human health costs from dog bites and zoonoses, traffic accident costs, costs to the British farming industry, those arising from irresponsible dog ownership such as stray or unwanted dogs, and enforcement costs to improve welfare, reduce cruelty and provide protection for people and animals.

This report looks first at trends in dog health and welfare issues, which will then be financially costed. We will then consider how a dog health and welfare strategy funded by a dog licensing scheme could assist in recovering these costs. A number of countries will also be examined to see how dog licensing works elsewhere.



RSPCA PHOTOLIBRARY

Stray dogs is one of the many areas that could be improved by a dog licence. In 2008 responsibility passed entirely to local authorities, and numbers of stray dogs are rising.

TRENDS IN DOG WELFARE AND CONTROL OF DOGS

The welfare and control of dogs is a devolved issue in the United Kingdom, so the four legislative bodies have differing rules. Here, we examine trends in four main legislative areas.

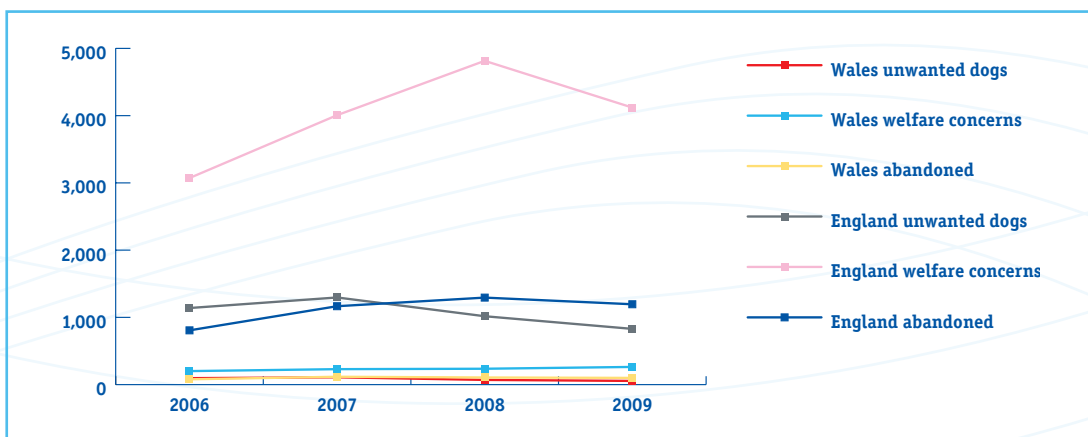
Welfare and cruelty legislation

The Animal Welfare Act 2006 in England and Wales and the Animal Health and Welfare (Scotland) Act 2006 introduced the new legal concept of a ‘duty of care’, under which owners, or others looking after dogs, are legally obliged to ensure that the welfare needs of the animals in their care are met. This includes the provision of a suitable environment, diet and housing; allowing the animal to exhibit normal behaviour; and protection from pain, suffering, injury and disease. Further information and guidance for dog owners is provided in the Dog Codes in England and Wales. Enforcement is undertaken by local authorities and the RSPCA, although the RSPCA, with its 300 inspectors, undertakes the majority of work and is responsible for 80 per cent of prosecutions in England and Wales (Hansard, 2009). Improving the welfare of dogs, is an important part of RSPCA inspectorate workload – in 2009 more than 70 per cent of defendants convicted were prosecuted for offences committed against dogs.

Trends in dog welfare problems can be crudely measured by numbers of dog welfare cases investigated by the RSPCA (Figure 1) and numbers of prosecutions for dog welfare and cruelty offences undertaken by the RSPCA (Figure 2). Both data sets show a rise until 2008 before a slight dip in 2009. Welfare cases investigated by RSPCA inspectors in England fell by 14 per cent between 2008 and 2009, although in Wales they increased slightly. The number of defendants convicted for offences relating to dogs fell by five per cent in England and Wales between 2008 and 2009. It is too early to assess any reason for this.

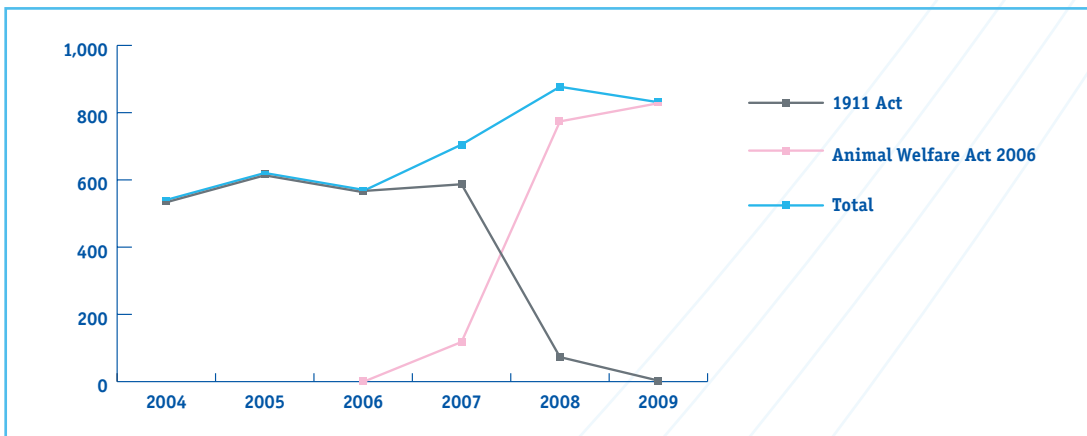
Enforcement on dog issues in Northern Ireland and Scotland is handled differently. In Northern Ireland, which is currently considering proposals for an Animal Welfare Act, and Scotland, it is undertaken by the police, local authorities and non-governmental organisations (NGOs), although prosecution rests with the police and Procurator Fiscal, respectively.

FIGURE 1: Trends in dog welfare and cruelty issues investigated by the RSPCA in England and Wales, 2006–09



Source: RSPCA 2010a, Prosecutions Annual Report 2008

FIGURE 2: Trends in convictions secured against defendants in England and Wales for dog offences under the Animal Welfare Act 2006 and Protection of Animals Act 1911, 2004–09



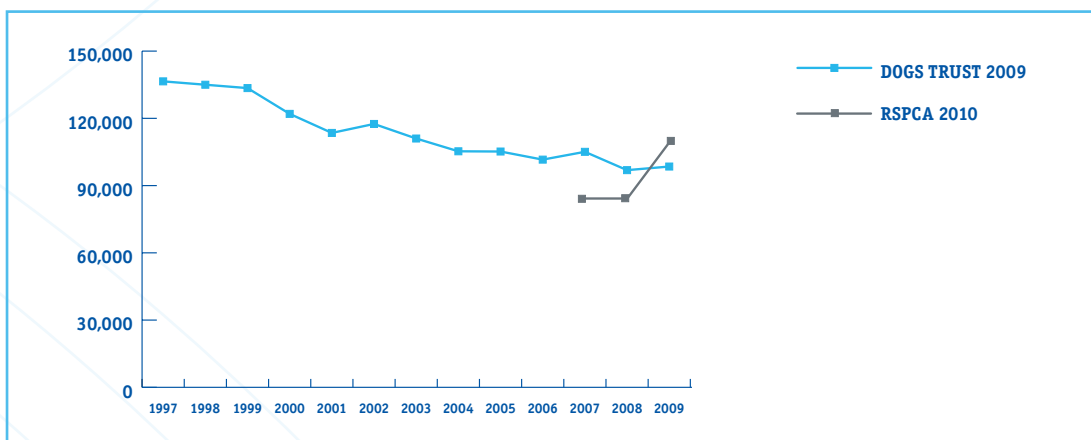
Source: RSPCA 2010a NB: 2009 figures have yet to be finalised

Dog control laws

The dog control laws address several issues that could be covered by a dog health and welfare strategy. The Environmental Protection Act 1990 requires local authorities to appoint an officer, generally known as a ‘dog warden’. The warden is responsible for dealing with stray dogs found in the authority area and empowers local authorities to enforce the existing legal requirement of the Control of Dogs Order 1992 that all dogs should be identified with a collar and tag. Until April 2008, responsibility for dealing with stray dogs in England and Wales was shared with the police then, under the Clean Neighbourhoods and Environment Act 2005, it was transferred solely to local authorities in England and Wales. In Scotland police still have a statutory duty to accept strays. A local authority may impose a fine on the owner of a dog received as a stray and also charge the owner kennelling costs. A stray dog, defined as “one that is in a public place, not under the charge of its keeper” (Defra, 2007), that is not identified and reclaimed within seven days may be sent to a rehoming agency or euthanised.

Figure 3 illustrates trends in the numbers of strays collected by/for local authorities in the past 12 years, showing that the recent downward trend was reversed in 2009, possibly linked to the transfer of powers to the local authorities and the lack of 24-hour control measures.

FIGURE 3: Trends in stray dogs in the UK, 1997–2009

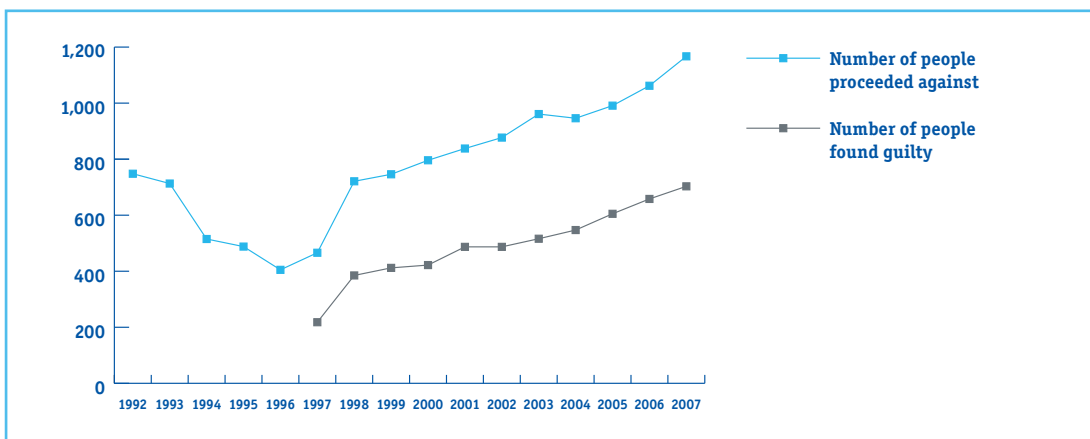


Source: Dogs Trust, 2009, RSPCA 2010b

Dangerous dogs are controlled under the Dogs Act 1871 and the Dangerous Dogs Act 1991 (DDA), which require dog owners to have proper control of their animals. Under the DDA, ownership of four types of dogs traditionally bred for fighting is prohibited, although under the DDA (Amendment) 1997 some dogs of these types may be owned if they are registered on the Index of Exempted Dogs (IED). This is the only publicly held national register of dogs currently kept in Britain.

Figure 4 shows the numbers of people convicted under the DDA 1991 for having either a dog out of control or an illegal breed. There has been a general upward trend in the numbers of people convicted under the Act since 1996.

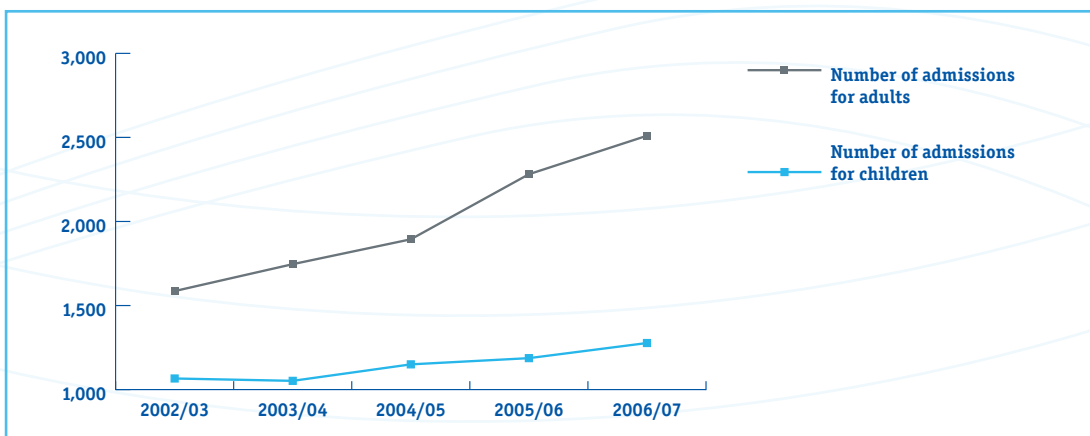
FIGURE 4: Number of people proceeded against and found guilty under the Dangerous Dogs Act 1991 in England and Wales



Source: Office for Criminal Justice Reform, Ministry of Justice; Hansard 6 February 2007 col. WA117–118; Hansard 16 May 2007 col. 801–802W; Hansard 30 March 2009 col. 983–988W.

Trends in dog attacks can be derived from details of hospital admissions caused by being bitten or struck, although this would be an underestimate as it does not include people who were bitten but did not go to hospital. Dog bites and costs arising from them continue to rise in the UK despite legislation such as the DDA (see Figure 5).

FIGURE 5: Trends in dog bite incidents – number of admissions for adults and children to hospitals in England and Wales as a result of dog bites, 2002–07

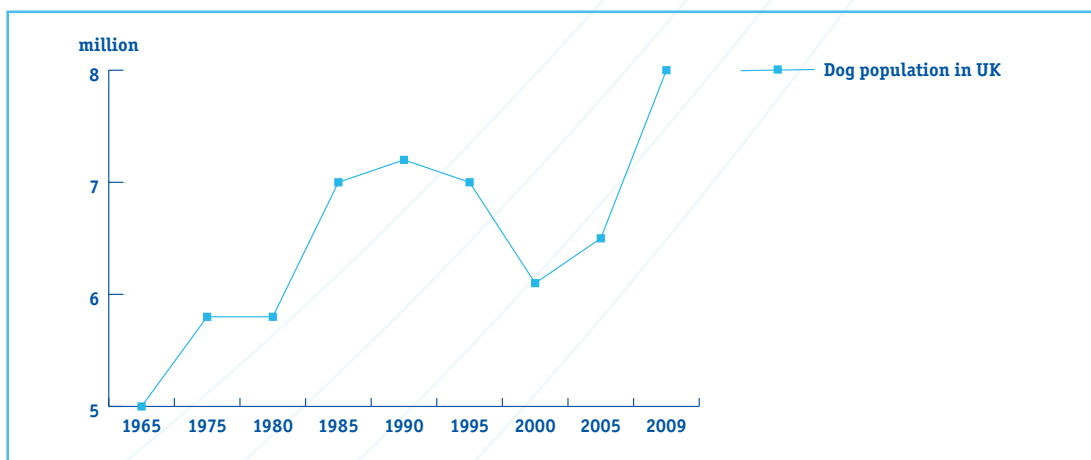


Source: Hospital Episode Statistics: Admitted patient care – provisional monthly HES for admitted patient care, outpatient and accident and emergency data, April, November 2009/2010. The Information Centre for Health and Social Care. Children are defined as under 18 years old. Data are collected on first admission and do not represent the number of patients as more than one admission by a person could occur in one year.

Laws managing the populations of dogs

The Breeding of Dogs Act 1973 and the Breeding and Sale of Dogs (Welfare) Act 1999 control the breeding and selling of dogs through a licence system. The aim is to control the welfare of dogs bred by commercial breeders, defined as places where more than four litters are bred each year. The legislation is due to be reviewed and updated under the Animal Welfare Act in England and Wales as the legislation has suffered from issues such as poor enforcement due to the lack of clear definitions and guidelines. For instance, in Wales 195 places are licensed, compared to 782 that are not (WAG, 2009). Aside from the Welsh data there are no reliable figures on numbers of, or trends in, dog breeders in the UK. Trends are also difficult to establish about the population of dogs. There seems to have been an increase during the past decade to around eight million animals (Figure 6) (PFMA, 2010) but this figure was revised upwards in 2010 to more than 10 million dogs (Murray *et al.*, 2010).

FIGURE 6: Dog population trends in the UK, 1965–2009



Source: Pet Food Manufacturers Association, 2009: www.rspca.org.uk; LSE (1989) The costs of stray dogs and proposals for a national dog registration scheme. Report for the RSPCA.

Some dog owners already have their pets registered on a database, for example Petlog or PETID, but this is voluntary and accounts for less than 10 per cent of the dog population. Any revenue raised is not passed onto the local community to improve dog health and welfare.



ANGELA HAMPTON/RSPCA PHOTOLIBRARY

A dog licence would be useful in designing control programmes for exotic infectious diseases, should these be introduced into the UK.

THE SOCIAL COSTS OF DOGS AND BENEFITS OF A DOG LICENCE SCHEME

The RSPCA believes that a responsible government, committed to promoting and protecting both human and animal welfare, should play a proactive and key role in solving social and dog welfare problems. Responsible dog ownership brings many benefits, both to the owner and also financially through, for example, the purchasing of pet food and equipment. Irresponsible dog ownership and management can affect the whole of society not just the millions of dog owners. The issues covered in the previous section will now be costed.

Issues associated with dog ownership that could be funded under a dog health and welfare strategy

- Antisocial dog behaviour leading to dog attacks on people, including issues associated with dangerous dogs.
- Dog attacks on farm livestock.
- Dog-related road traffic accidents.
- Stray dog programmes.
- Risks to human health of dog-related zoonotic disease, including rabies and human echinococcosis.
- Dog population issues (quantity and quality), including over-supply, sale of dogs, and breeding of dogs that are disease prone or deformed.

Dog ownership involves private costs of food, housing and healthcare. A responsible owner may also take out insurance for the animal and pay for microchipping for more reliable identification. However, other costs arise from dog ownership, referred to here as 'social costs'. These costs, outlined in the box above and summarised in Table 1 (see page 14) are evaluated below.

Dog attacks on humans and farm animals, traffic accidents, and hospital care

Attacks by dogs on humans

In England, in 2008/09, there were 10,563 'finished consultant episode' bed days due to dog bites (The Information Centre, 2009/10). Given that the cost of an average hospital bed day is £317.40 (Europa, 2008), the total cost of attacks on humans in England in that year is £3,352,696. Assuming a corresponding rate per head of human population in Scotland and Wales, the total cost for Great Britain amounts to £3,885,650. This is a minimum as it doesn't cover injuries that are not reported or do not lead to a stay in hospital.

Attacks by dogs on farm animals

Under the Dogs (Protection of Livestock) Act 1953 the owner commits an offence if a dog attacks or chases livestock. As the government has not kept records of attacks on livestock since 1978 (when over 8,000 farm animals were killed or injured) (Hansard, 1987), it has not been possible to obtain fresh data on the costs of dog worrying and attacks on animals. In 1989 an estimate of £1 million was given (LSE, 1989), which rose to £1.7 million in 1996 and then to £2 million by 1998 (RSPCA/Kennel Club, 1998). Allowing for inflation, the cost is now estimated at £2.8 million.

Road traffic accidents

A dog must be held on a lead on any designated road under the Road Traffic Act 1988.

Data on the numbers of road accidents^a in Britain involving a dog in the road were reported by the Department for Transport until 2004. Numbers of accidents of this type had shown a steady decline over the previous decade. In 2004 there was one human fatality, 32 serious accidents and 254 slight accidents involving dogs. These statistics only report human casualties, so road accidents in which no-one was injured are omitted. If it is assumed that these data apply in 2008/09, resultant cost underestimates may be balanced by the continuing decline in numbers of accidents. These accidents can be valued according to existing economic valuation (Ganeshan, 2008)^b, thus, the overall cost for Britain in 2008 can be surmised as £14,625,800 (Upton *et al.*, 2010).

Stray control costs

There is a cost arising from stray dogs due to the statutory duty of a local authority to provide a dog warden service, the associated responsibilities of dealing with dangerous or noisy dogs; and ensuring compliance with local dog control orders. Provision of all these services can be seen as a cost of protecting the environment. Indeed, the dog warden's activities are often associated with those of the local environmental protection officer. The costs are currently met by local authorities from public funding. It is appropriate, therefore, for these costs to be recovered from a dog licence fee, which could be made directly to the local authorities.

As there is considerable variation on costs incurred between councils, particularly between urban and rural areas, a questionnaire was sent to a representative number of local authorities in the UK. This found the average recorded cost of the dog warden service to be £112,715 (Upton *et al.*, 2010). Given that there were 408 local councils then, this gives a total cost to the UK of £45,987,720 or nearly £46 million. Previous estimates (in 1989) found the cost to be £22.5 million (LSE, 1989), which would rise to £41.7 million in 2010 when adjusted for inflation.

If numbers of non-returned strays are reduced, savings in kennelling costs will increase. Local authorities are obliged to keep stray dogs for seven days. Many stray dogs are then given to charities such as the RSPCA and Dogs Trust to rehome. The latest data shows that between 42 and 46 per cent of stray dogs collected were returned to their owners (RSPCA, 2009a; Dogs Trust, 2009). There is an average length of stay of 30.5 days in kennels run by the RSPCA, Dogs Trust, Wood Green Animal Shelters, Blue Cross and Battersea Dogs & Cats Home and a cost of £7.54 per dog space so the potential savings in kennelling costs for stray dogs are substantial, ranging from £2.8 million to £7.5 million. It can also be assumed that with the reduction in demand for kennelling capacity the need for euthanasia of healthy dogs may be avoided. At present, there are some 15,000 healthy dogs euthanised by local authorities and animal welfare organisations each year (RSPCA, 2009a)^c. Although this a huge reduction on the 90,000 dogs estimated as euthanised in 1987 (LSE, 1989), the year the previous dog licence system stopped, the number should be further reduced. In countries with a dog licence, improvements have occurred (see page 21).

Currently, these costs are met partly from public funds, through the dog warden service, and partly from voluntary support provided by animal welfare charities such as the RSPCA.

^a Chris Waite, Road Safety Statistician, Department for Transport, pers. comm.

^b Valuations of casualties in 2008 are given by Ganeshan (2008): for a fatality – £1,906,200; for a serious accident – £218,100; and for a slight accident – £22,600.

^c RSPCA (2009a). The number of stray dogs collected by local authorities in the UK. In *The Welfare State: Measuring animal welfare in the UK 2009*.

Other costs: zoonotic disease

European legislation harmonising animal health and disease control, for the intra-community movement of dogs, was adopted in 2003 (Regulation 998/2003). This led to the dismantling of quarantine controls for dogs into the UK from designated countries. The movement of dogs under the Pet Travel Scheme, known as PETS, has two costs arising: firstly, the risks and impact that any imported disease could bring to the human population and the ease of containing such an outbreak; secondly, the risk of any disease outbreak on dog welfare and the welfare of other animal populations.

The UK was allowed to extend its derogation on harmonising control measures for ticks and *Echinococcus* in 2010, but it is expected that it will have to comply in 2012. There are fears that if border disease control measures are abandoned, the risks of serious disease outbreaks will be increased (Torgerson & Craig, 2009). A qualitative veterinary assessment of the risks of introduction of exotic diseases, other than rabies, in the UK has been conducted by the Veterinary Surveillance Team of the Central Science Laboratory and found a high risk in seven diseases, including *Echinococcus multilocularis* (Taylor *et al.*, 2006). *E. multilocularis* does not occur in the UK but is endemic in other parts of Europe, including Germany, France and Switzerland. Although the main vector for this disease is the fox, if brought in by a dog the disease would soon be transmitted to foxes and would become endemic. In Germany, France and Switzerland, 500 human cases occurred between 1982 and 2000, while 20–30 cases are reported annually in Switzerland (Taylor *et al.*, 2006). When left untreated, the disease in humans is almost always fatal. Surgery is difficult and treatment is expensive, estimated to be £100,000 per person (Taylor *et al.*, 2006). Hence, if the disease were to become established in the UK, the associated annual costs could be immense.

TABLE 1: Social costs associated with dog ownership

SOCIAL COST	AMOUNT CURRENT	FUNDING SOURCE
Dog bites	£3,885,650 ¹	Central government: National Health Service
Traffic accidents	£14,625,800 ²	Central government: National Health Service; insurance companies
Attacks on farm animals	£2 million ³	Insurance companies; farmers
Stray animals kennelling costs	£46 million ⁴	Local authorities; NGOs
Dog welfare issues: enforcement	£52 million ⁵	Police; RSPCA; NGOs; insurance companies; local authorities, central government
Risk of disease importation	Not quantified but high risk of importation ⁶ for 5 diseases and 5 tick species. Nominal cost £10 million given	
Improving breeding of pedigree dogs	£100,000 ⁷ ; to set up a working group and a strategy would cost many millions of pounds	

Sources:

1. Hospital episodes data, Europa data on cost per incident, see page 12.
2. Department for Transport 2004 (Upton *et al.*, 2010).
3. RSPCA/Kennel Club, 1998.

4. Upton *et al.*, 2010.

5. RSPCA costs, so this represents a minimum figure, see page 12.

6. Taylor *et al.*, 2006.

7. Bateson, 2010.

There is concern that if the EU derogation is removed after the next review at the end of 2011 this parasitic zoonosis is likely to gain entry and become established in the UK, costing millions of pounds in disease control (Taylor *et al.*, 2006). In the event of an outbreak of an exotic infectious human disease or zoonosis borne by dogs, access to a national database would improve any control programme and reduce the costs. Government strategy has been confined to risk assessment of diseases being introduced and five diseases and five species of ticks have been designated as high risk. However, the estimation of the reduction in costs depends upon the individual disease under consideration, the risks of its entry to Britain, and the scope for management of the control programme if the disease does enter.

Dog welfare issues and responsible dog ownership

For many people concerned with dog welfare and health, the most significant benefit of dog licensing is that it inculcates a sense of the responsibilities of dog ownership, which has a positive impact not only on the welfare of the animal but also on other members of the public.

It is very difficult to find and quantify evidence of these benefits, however, a dog health and welfare strategy funded by a dog licence could reduce problems associated with poor dog welfare, such as poor breeding, and encourage an improved understanding of a dog's needs, which in turn would reduce issues such as enforcement costs and kennelling costs of abandoned and poorly kept dogs. Many of these costs are presently borne by local authorities and NGOs.



PUBLIC ATTITUDES TO DOG LICENSING

There is widespread public agreement for a dog licence. In 2010, 76 per cent of people said they agreed with the reintroduction of a dog licence. Seventy per cent of dog owners agreeing with a licence said they would be prepared to pay £30 or more for it. (TNS, 2010)

The RSPCA runs community animal action weeks in hot spots to encourage responsible dog ownership and reduce dog welfare problems.

ECONOMICS OF A DOG LICENCE SCHEME

As Table 1 (page 14) shows, it is possible to detail financial issues arising from dog ownership. The next question then is how much of the cost should the dog owner pay and at what level these charges should be based to ensure enforcement of the licence.

Dog ownership involves private costs, such as food, housing and healthcare, which are already borne by the owner. These are estimated at £650 a year or about £12 a week (RSPCA, 2009b). Pet insurance and microchipping costs are in addition to this figure.

At present, social costs are met by the general public through taxation or by NGOs. The present system is inequitable as it requires all members of the public, dog owning and non-dog owning, to pay for issues arising from dog ownership. It is more appropriate for the social costs associated with dog ownership to be borne by dog owners. But it is important when setting a fee to ensure that any scheme does not merely require responsible dog owners who pay the licence fee to meet the costs to society caused by irresponsible owners who are unlikely to license their own dogs. Costs of a licence should be reasonable to encourage as wide a coverage as possible. Table 2 estimates social costs arising from dog ownership and translates this into the annual cost of a fee that would cover these services, based on different compliance rates.

TABLE 2: Costs of dog licensing to cover different social costs and at different compliance rates

LICENSING TO RECOVER:					
Alternative costs	Costs of administration of licensing scheme	Additional costs of providing dog warden service	Additional social costs of dog ownership	Improving breeding of pedigree dogs	Risk of importation of diseases
Details	Licences issued by council offices, veterinary practices, post offices or preferably online.	Costs of dog control and protection of the environment.	Costs of dog-related accidents, human and animal injuries.	Cost of setting up council on dog breeding	Cost of containing or preventing new diseases such as <i>Echinococcus</i>
Cost of operation	£30 million ¹	£46 million ²	£21.3 million ³	£100,000 and cost of strategy	Not costed but estimated to be £10 million
Cumulative annual cost	£30 million	£76 million	£97.3 million	£97.4 million	£107.4 million
Annual cost per dog:					
at 75% compliance	£4.00	£10.10	£12.87		£14.30
at 50% compliance ⁴	£6.00	£15.20	£19.46		£21.50

Notes:

1. Estimate of £20 million costed in 1998 (Hughes, 1998) and raised to current value.
2. Upton *et al.* (2010). Dog licensing and registration in the UK. Reading University. A report to the RSPCA. Economic data taken from returned questionnaires from a sample of dog warden services in the UK

3. *ibid.*

4. Estimate base is 75 per cent of reported British dog population of 10.3 million. Two compliance rates are given: 75 per cent, as this is the rate assessed by the Dog Identification Group in 2002, set up to consider dog licensing; 50 per cent, as this is the current compliance rate in Northern Ireland, which runs the only dog licence scheme in the UK.

Depending on the compliance rate, a dog licence that funded it would need to cost between £14.30 and £21.50. A new approach needs to be delivered to set up a dog health and welfare strategy that would cover the external social costs such as running a dog warden service, improving breeding and welfare of dogs, funding disease prevention and costs associated with dog bites. Concessions could be given for certain categories of dogs such as guide dogs or neutered dogs.

Administration costs of running the scheme have been costed in previous reports (LSE, 1989; Hughes, 1998). It cost about £2 per dog (£4.46 adjusted for inflation) to issue licences under the previous dog licence scheme (LSE, 1989). The RSPCA estimates that this can be reduced to less than £3 per dog. To try to get an idea of present-day administration costs, it is worth looking at the one devolved region of the UK where dog licensing continues. This provides some useful real economic data to show the cost of delivering the service and the income generated from the licence. In Northern Ireland, dog owners are required to have a dog licence under the Dogs (Northern Ireland) Order 1983. Currently, licences cost £5 per year with a discount of 50 per cent for owners aged 65 or over who live alone. The system is operated by the 26 district councils, which are equivalent to the British local authorities. The dog licence is intended to cover the costs of employing dog wardens, administering the scheme (each of the 26 local authorities has its own database and administration costs), kennelling for illegal or stray dogs, and enforcement. For breaches of control orders, there are fixed penalty fines of £10.

Table 3 gives a summary of the costs and income generated from the scheme in six district councils and underlines that the scheme at £5 per dog does not pay for dog control costs, let alone other social costs arising from dog ownership such as dog bites (there were 795 dog attacks in 2008 [DARDNI, 2009]). Data from another council, Castlereagh, one of the best local authorities in terms of compliance rates, has 3,800 dogs licensed in the area, raising £19,000 a year. The administration costs of running the database, licence system and dog warden service are estimated to be £45,000 and kennelling costs £15,000, so the licence fee covers less than one-third of total costs. As Table 3 shows, this is a higher percentage recovery than five out of the six local authorities surveyed. So the cost of a dog licence must be set at a figure that will pay for its costs and additionally provide enough money to fund the dog health and welfare strategy.

TABLE 3: Enforcement costs and licence fee income in six district councils in Northern Ireland, 2007–2008

COUNCIL	LICENCE INCOME (£)	DOG CONTROL COSTS (£)	LICENCE INCOME AS % OF COSTS
Antrim	15,672	73,830	21
Armagh	16,000	112,837	14
Belfast	56,142	682,586	8
Ballymena	37,067	101,061	37
Fermanagh	20,000	84,791	24
Ballymoney	13,600	106,000	13

Source: DARDNI (2009)

COST AND RESPONSIBILITY SHARING: HOW A SCHEME COULD OPERATE

There have been discussions on introducing cost and responsibility sharing measures in order to improve the welfare of animals. This recognises that animal owners and other stakeholders should part-fund measures that improve an animal's welfare (Defra, 2010) (based on the 'polluter pays' principle). These measures, currently being considered for farm animals, could provide a framework to extend to dogs.

So how would a system operate? Reviewing the experiences of other countries, some principles can be determined. Firstly, dogs would have to be microchipped and checked annually when the licence fee is payable. At present, although microchipping is promoted by all animal welfare groups, it is estimated that only 40 to 50 per cent of all dogs are registered (Kennel Club, 2006). Estimates of the proportion of stray dogs already microchipped, based on records of stray dogs, are 23 per cent of strays received (RSPCA) and 31 per cent of the dogs returned to their owners (Dogs Trust). Microchipping on its own wouldn't ensure reliable information on the database, as there would be no compulsion for records to be updated if, for instance, the owner moved. Dog licensing would solve this by requiring regular updates.

The microchip number, owner's details and animal type are entered onto a computer database that is operated by the database operator. At present there are a number of databases, for example, Virbac, Identichip and the UK Kennel Club's Petlog, which is currently the largest database, containing details of 4.2 million pets and their owners. Overall, the number of dogs on these databases has increased from 385,221 in 2004 to 525,227 in 2008, a 36 per cent increase over the five years or an eight per cent annual exponential growth.



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Inserting a microchip is inexpensive, although at present it is estimated that only 40–50 per cent of dogs are microchipped as it is a voluntary measure. A dog licence using microchipping as identification could raise this compliance rate.

However, instead of having a range of databases (as is currently the case for both England's voluntary scheme and the mandatory scheme in Northern Ireland), a more feasible alternative would be to establish a single national database, which would then become the national register of dogs. An agency would be needed for its operation, with a full-time operational call centre so that microchipped stray dogs could be reported and the owner identified at any time. Such a microchip database system would improve the chances of reuniting a dog with its owner or prosecuting an owner who did not have a licence, and reduce kennelling costs for local authorities. This type of system was recommended by the Bateson report and could also help curb the problems of illegal breeding or reduce the over-supply of certain dog breeds into the marketplace. Only the introduction of an annually approved licence would fund these issues and ensure that ownership details are kept up to date, something that would be lacking in a simple one-off microchip process.

The initial costs of providing a computerised database system are estimated to be less than £1 million, with a subsequent annual operating cost of £300,000 (Upton *et al.*, 2010), not including the cost involved in issuing licences and enforcement, valued at £30 million (Hughes, 1998). Fees could be paid by dog owners directly via the internet or participating veterinary practices, or even through post offices. All the costs of registration and licensing would fall ultimately on dog owners, with the database provider having a statutory right to charge dog owners for the costs of registration and to collect fees for services rendered, such as responding to lost and found enquiries.

A database would have further benefits. At present, there is no centrally held information on dogs, such as numbers of strays, numbers of welfare cases, numbers bred and numbers euthanised. Dog population statistics could be obtained from the database and might be useful in designing control programmes for exotic infectious diseases and zoonoses. It could also provide regular estimates of the dog population.



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A dog licence would encourage responsible dog ownership and could help improve some issues such as the use of dogs to intimidate people.

INTERNATIONAL CONTEXT

Dog licensing schemes are global. Twenty-three European countries have a dog licence (Tasker, 2007) and schemes also exist in Australia and New Zealand. The proposed animal welfare law in China has provision for dog licensing, which already exists in certain cities such as Beijing. The way these schemes are managed, and their effects, varies and may be dependent on factors such as number of dogs per household and cultural issues (see Table 4).

In Germany there are fewer dogs (5.8 million) than in the UK (IVH, 2008) and these live in 13.8 per cent of German households. Numbers are slightly increasing but Germany has little problem with strays or dog overpopulation issues, indeed dogs are imported from other countries such as Hungary, Greece and Spain to fulfill demand. There is a national dog licence scheme but legislation at the Länder level means that dog owners are obliged to register their dogs with the local council. Charges range from €5 to €256 for the first dog and up to €280 for each additional one.

In Italy dog licensing is contained in national legislation but implemented at local level. Identification with microchips and registration of dogs is compulsory and is managed by regional and local veterinary services. There are regional variations in enforcement and effects of the scheme. One of the most successful regions is Pescara Province, central Italy, where the number of dogs identified and registered has increased over the last five years and approaches 70 per cent of all dogs, compared with 30 per cent estimated in other regions. The microchipping scheme, including registration, is free when undertaken by government veterinary services and costs €25 to €43 when carried out by a private practitioner. The owner has to report any changes, such as moving or a change in ownership, to the database coordinator. The high level achieved in Pescara Province is attributed to a big effort in implementing the dog identification and registration rules at local level. The outcome has been a reported reduction in strays and a reduction of numbers in municipal shelters, from about 5,000 dogs in 2004 to 2,300 in 2008. The registration scheme has not only reduced the population of stray dogs but is reported to be effective in reducing uncontrolled reproduction and dog overpopulation, the human health risk from dog-borne diseases, and environmental contamination, and has improved control of activities such as dog fighting (Table 4).

In Victoria, Australia compulsory identification and registration of dogs has been in place since 1970. Once a dog is three months old it must be fitted with a microchip and registered with the local council. The licence has to be renewed annually. The council can also order a dog to be neutered before the licence is accepted or renewed. About 64 per cent of all dogs in Victoria are licensed, although this varies between urban and rural areas. The scheme also has various rates of licence fee, with owners of dangerous or restricted breeds paying the full licence fee, whereas neutered and microchipped dogs or dogs that pass a ministerially approved obedience training course are eligible for a reduced licence fee. Around 76 per cent of dogs are licensed at a reduced fee. Benefits of the scheme include a reduction in numbers of uncontrolled dogs (McMurray, 2005), in human health risks from dog-borne diseases, and in environmental contamination, and improved control of activities such as dog fighting. One study also shows an improvement in promoting responsible pet ownership, with 10 per cent of the pet population involved in animal complaints, compared to an estimated 20 per cent before the introduction of the legislation (McMurray, 2005).

TABLE 4: Comparisons of operation and outcomes of dog licence schemes in four countries

COUNTRY	HUMAN POPULATION (THOUSAND)	DOGS PER 100 PEOPLE	COSTS TO THE OWNER (£)	COMPLIANCE RATE (%)	STRAYS PER 1,000 PEOPLE	PROPORTION EUTHANASIED (%)	OTHER OUTCOMES
Germany	82,330	7	Taxes 4.50–230	N/A	0.9	Nil	Responsible dog ownership is high; shelters have few dogs, reducing shelter costs for local authorities and NGOs.
Pescara (Italy)	312	15	Microchip one-off of 0–18	60–70	7.4	Nil	Reduction seen in uncontrolled reproduction and dog overpopulation; human health risk from dog-borne diseases; environmental contamination. Improved education on dog fighting incidents.
Victoria (Australia)	4,932	18	Average of 16.60	64	3.8	32	Reduction seen in human health risks from dog-borne diseases and environmental contamination. Improved control of activities such as dog fighting. 79% of respondents have seen fewer dogs at large compared to 5 years ago. Improved dog ownership: 10% of the pet population involved in animal complaints, compared to 20% before the legislation.
Northern Ireland	1,775	20	5	30–50	4.8	23	Reduction of stray dog problem.
Great Britain	59,608	12.5	N/A	N/A	1.3	5	N/A

Source: Upton *et al.*, 2010

CONCLUSIONS AND RECOMMENDATIONS

This study makes the economic case for instituting a dog licence scheme that would fund a dog health and welfare strategy and all social costs of dog ownership. Financial costs are presented for dog control and warden services (£46 million), human injuries from dog bites and road traffic accidents (£3.8 million), damage to livestock (£2 million) and enforcing dog welfare legislation (£50 million). The cost of dealing with imported zoonotic diseases as a result of the trade in dogs with other countries is considered a high risk by studies though specific financial costs are rarely made. Setting up an advisory council to agree a strategy to improve dog welfare during breeding has been costed at £100,000; running the strategy would cost millions.

A dog licence provides the opportunity to recover these costs partially or in full. Given a 75 per cent compliance rate, a licence fee of around £14 per dog could meet these costs. If compliance is reduced to 50 per cent, a higher fee of £21.50 could cover the costs of servicing the scheme and some of the social costs. These costs are given as an indication of what the licence fee could cover. The scheme could be set at £20–30 per dog. This would still represent between only three and four per cent of the annual costs of owning a typical breed of dog.

It is important that if a dog licence system is to work, benefits to the licence-fee payers are clear and transparent. Two out of every three dog owners support a dog licence and 70 per cent of these would pay more than £30 for an annual dog licence.

The move towards cost and responsibility sharing provides a good framework for recovering the costs of improving dog health and welfare from dog owners, rather than the general population as occurs at present. Dog licence schemes in some countries have had positive effects in many of the social cost areas such as the reduction of uncontrolled reproduction and dog overpopulation, reducing human health risk from dog-borne diseases, reduced environmental contamination, and a reduction in dog fighting incidents.

The use of microchips for dog identification and the annual entry of the dog's details and owner's address on a computer database, provides a low-cost and effective licence system. The data from this could be useful for monitoring dog movements in the event of an outbreak of an exotic infectious disease, as well as promoting good dog welfare and disease control by owners, which would have beneficial health impacts.

Finally, dog licensing should instil a sense of responsibility in dog owners and lead to an improved culture of dog ownership. Reductions could be given for neutered animals, or pensioners. The resultant improvements in dog care, welfare and health could be substantial. With the initiation of legislation for dog breeding in Wales and discussion on dog control issues in England, it is an excellent opportunity to improve dog welfare.

Recommendations

- **The government should establish a dog health and welfare strategy underpinned and funded by a dog licence scheme. This would fund resources to tackle the issues covered in this report.**
- **The scheme could be set at £20–£30 per dog, with derogations given for selected dogs (e.g. assistance dogs, neutered dogs) and people (e.g. pensioners).**
- **Microchips would be used to identify the dogs, with details entered on a national database.**

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