

# Options for animal identification systems

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## ABSTRACT

This paper considers the needs of local government administrations to effectively identify those responsible for the ownership of companion animals in their jurisdictions and the currently available methods of doing so in Australia. Visual appraisal, collar attachments, tattooing and electronic microchips are compared, with emphasis on electronic identification.

## BACKGROUND

As urban society is continually compressed into increasing population densities, more and more controls are required by local government administrations to limit the physical impact of one neighbour's activities upon the next.

Similarly, in rural areas, increasing pressure on rural profit margins creates an increased demand for administrations to control any detrimental impact on the farm environment by others.

To meet these ends, legislation such as the recent Victorian Domestic (Feral and Nuisance) Animals Act 1994, with similar legislation in operation or being prepared in other states, provides administrations with the legal powers to control any anti-social effects of animal ownership within their jurisdictions. Hopefully such legislation is enlightened enough to also recognise, and provide for, the needs of the pet-owning members of our society.

To date, most local government animal control programs have been poorly overseen, with deficiencies in facilities, funding, staff selection and training. Most programs run on an *ad hoc* basis with little thought to strategic planning, to the benefits to society of pet ownership or to meeting the real needs of the communities being served. To date, most control programs have concentrated on stray and feral dog control, with rare periodic forays into control of feral cats.

Central to any administration's control of domestic animals in urban or rural environments is the issue of identification of ownership of those animals. Proof of ownership is crucial to enable effective adherence to legislative requirements.

Currently the responsibility for proving companion animal ownership lies with the animal's owners. Statutory obligations see a proportion of dog owners registering their ownership with local government administrations. Most schemes depend on the owner registering the dog by providing a written record of a brief visual description including age. This then generates a uniquely numbered disc or tag to be worn attached to the collar to identify the individual animal. Compliance depends generally on the imposition of penalties for those who do not comply. Unfortunately this fails for the most part due to a lack of administrative support for enforcement. Most administrations see animal control as a low priority. It also fails because of the deficiencies of this form of identification. Commonly, the least responsible dog owners either do not register their animals in the first instance or deny ownership when challenged in any confrontation. This is easily done if the animal is not wearing its ID tag. All the legislative powers under the sun are meaningless unless the animal can be absolutely and accurately linked to an owner.

## IDENTIFICATION OPTIONS

Currently available options for identification of companion animals include:

1. Visual description.
2. Collar with identifying disc or tag.
3. Tattoo of identifying number in ear or mouth.
4. Radio-frequency identification transponder (RFID microchip) implanted permanently in the animal.

Often these options are used in various combinations.

Advantages and disadvantages of these various options include:

### (1) Visual description

#### Advantages

- Simple, no special skills required.
- Cheap.

#### Disadvantages

- Not accurate enough to identify individuals uniquely.
- No standard descriptions especially for cross-bred animals.
- No national 24 hour access database.

### (2) Collar with ID tag

#### Advantages

- Simple, no special skills required.
  - Cheap
- Most administrations are set up already for this.
- Rapid visualisation of unique ID number.
  - Compliance is obvious.
  - Easily updated.

#### Disadvantages

- Collars and tags easily lost, changed, stolen, damaged, forgotten.
  - No national 24 hour access database.
  - No national numbering system established.
    - Need close proximity to read.

### **(3) Tattoo**

#### **Advantages**

- Permanent record of unique number.
- Easily read in large eared dogs.
- Cheap.
- Difficult to alter.

#### **Disadvantages**

- Need skills to apply.
- Possibility of disfiguring complications
- Unsuitable for cats, small eared dogs, pigmented skin.
- Difficult to read after trauma /disease /poor technique.
- No national 24 hour access database.
- No national numbering system established.
- Need close proximity to read.

### **(4) Radio Frequency Identification Microchip**

#### **Advantages**

- Permanent, unchangeable, unique number identification.
- National 24 hour access database established.
  - May make pounds obsolete.
- Suitable for most companion animal species.
  - Walk-by reader facilitates ID.

#### **Disadvantages**

- Relatively expensive.
- Special skills needed to insert microchips.
- Special equipment required to read unique numbers.
  - Few administrations set up for this technology.
  - Competing systems add confusion.
  - Problems with updating database.
- Cats nervous with hand-held scanner

RFID microchipping is the only currently available, reliable, permanent means available to uniquely identify an individual animal.

The listed disadvantages are not insurmountable....

With economies of scale, microchip implantation costs (currently up to \$65 for implantation and lifetime registration on the Royal Agricultural Show Sydney register) are likely to reduce. These costs include purchase of sterilised microchip and sterilised implanting syringe, implanting veterinarian's expenses, costs of recording and computing data on local/national registers. Other anticipated expenses would include the cost of training and equipping animal control officers with readers and equipment to scan and report on impounded animals.

Recently, a group of RFID users has negotiated a package with a major supplier of microchips to enable the purchase of a sterilised microchip with one year registration as well as an external uniquely numbered tag for \$9.50 tax exempt, to which the veterinarian's implantation fee is to be added. If implantation is performed at the same time as other procedures, such a desexing or vaccination, then this fee would be minimal. Subsequent year payment of \$10 would see the animal registered for life.

At this time many veterinarians and animal welfare agencies are equipped to insert and read RFID microchips. With added incentive for animal owners to use microchips (through statutory, subsidy or other encouragement) together with vigorous pursuit and control of non-complying animals and their owners, the network of needed skills and equipment will rapidly expand to meet the market's requirements.

Administration protocols should not be difficult to establish. With most local government administrations already computerised, access to the central register should be facilitated. The details of the registration process (what data is collected? by whom? to where? with what security? etc) need to be developed in another forum involving representatives from government at all levels, representatives from the Australian Veterinary Association, RFID suppliers, and computer database operators. Study of areas such as Alice Springs where RFID is currently accepted as a means of identifying dogs would prove beneficial.

Problems experienced to date with competing incompatible RFID technologies should be eliminated with the declaration of International Standards Organisation (ISO) standards for animal RFID, which process is proceeding to a conclusion in, hopefully, 1996. Draft standards so far published indicate that the main technologies on the Australian market (Trovan and Destron along with newcomers Avid and Datamars) will *always* be readable by ISO standard equipment.

The problem of obsolescence of computer register data will only be solved by strong incentives for owners to promptly notify changes to data. Perhaps this may be by way of heavy financial penalty for failure to comply, or harsh control of animals impounded with out-of-date, or no, records.

Assuming that society is demanding, through the legislature, responsible ownership of, accountability for and more effective control of domestic pets, and given the shortcomings of systems currently employed, particularly in regard to the adequate identification of cats, RFID microchipping provides a practical, effective solution.

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#### **ABOUT THE AUTHOR**

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Warwick has been a veterinarian for 24 years and is a Principal of a busy 6 vet small animal and equine practice in Wollongong. He currently convenes a small committee which advises the Australian Veterinary Association (AVA) on progress being made with standardisation of RFID microchip technology. He served on the NSW Division committee of the AVA from 1984 up to 1992 sitting on many sub-committees during that time. He was elected NSW President in both 1990 and 1991 for which he was made a fellow of the AVA in 1992. Since 1992 he has been a Director of RSPCA NSW where he is currently state vice-president.

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[UAM 95 Index page](#)