AUSTRALIAN ANIMAL WELFARE STRATEGY

Australian Working Dog Survey Report 2009

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The Australian Animal Welfare Strategy is a national partnership between governments, industries and the community to improve animal welfare for all Australian animals. For more information visit www.daff.gov.au/aaws.

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Drawings by primary students from Canberra Grammar School.

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Dedication

A recent media release reported the death of an explosive detection dog in Afghanistan. This event provides a timely reminder of the significant contributions of Australia's working dogs.

The authors dedicate this report to Nova and countless other working dogs like her to whom we express our gratitude.

Vale Nova

On 23 October 2009, Nova, a two year old explosive detection dog died whilst working in Afghanistan.

Permission for the use of this photo was given by Department of Defence.

Executive Summary

The inaugural Australian Working Dog Survey was conducted between June and October 2009. Information was collected about the sourcing, breeding, assessment, training, housing and veterinary care of 4195 Australian working dogs from private industry, government, assistance and sporting dog sectors.

An Australian working dog. Picture used with permission from Flagstaffotos (Fir0002/Flagstaffotos).

Key findings:

- Correction and electric shock collars are most commonly used by working dog trainers who have not received any formal certified education in dog training.
- External dog breeders are the most common source of working dogs. This random approach to the recruitment of working dogs presents the risk of 'behavioural wastage' – reduced success rates in training dogs to perform specific tasks. This finding raises concerns in terms of animal welfare and also in relation to industry productivity and efficiency.
- Based on Australian Companion Animal Council estimates of the number of working dogs in Australia, a high proportion of Survey responses were received from all but the private industry sector and in particular, farm dogs. The absence of peak industry bodies in this sector restricts communication with working dog stakeholders.

Recommendations:

- Development of a national education and accreditation program for working dog trainers.
- Development of task-specific working dog breeding programs to reduce behavioural wastage.
- Consultation with the veterinary profession to develop strategies for facilitating information-flow to working dog trainers nationally.
- Recognition of the need for an umbrella research body to coordinate research and development; manage and fund priority research and facilitate translation of results into practical outcomes for industry development.

Introduction

The Australian Animal Welfare Strategy (AAWS) was developed by the Australian Government with assistance from the National Consultative Committee on Animal Welfare, in consultation with state and territory governments, animal industry organisations, animal welfare groups and the general public. It was launched by the Minister for Agriculture Fisheries and Forestry in October 2005.

The strategy is for the entire Australian community including animal owners, veterinarians, livestock producers, processors, transporters, animal welfare bodies, researchers, consumers and government agencies. The AAWS is intended to guide the development of new, nationally consistent policies and will enhance existing animal welfare arrangements in all Australian states and territories.

The strategy covers the humane treatment of all animals in Australia including:

- livestock/production animals
- animals used for work, sport, recreation or display
- companion animals
- animals in the wild
- aquatic animals, and
- animals used in research and for teaching purposes.

The dogs sub-committee of the 'Animals used for work, sport, recreation or display' working group identified some important gaps in the information available about dogs used for work and sport in Australia. Subsequently, AAWS commissioned an independent research consultant to gather data on these working sectors.

This document contains a report of the results of this research into Australian working dogs. For the purposes of this report, working dogs are defined as non-companion dogs that work in private industry, government, assistance and sporting contexts.

Method

The dog sub-committee for the AAWS 'Animals used for work, sport, recreation or display' working group nominated a project team who developed the Australian Working Dog Survey (Survey) to collect background information on the husbandry, sourcing, breeding, assessment, training and veterinary care of Australian working dogs. This Survey was provided to the research consultant for distribution, data collection and analysis.

In consultation with the Department of Agriculture, Fisheries and Forestry (DAFF) Animal Welfare Branch, a range of data collection methods and distribution methods were considered for raising awareness of the Survey. To maximise the number of responses within the budget and the three-month time-frame available for this research, an electronic version of the Survey was developed for distribution via the Internet. The Survey was modified into an interactive PDF document format. It was then loaded onto websites and sent as an email attachment to potential respondents. This allowed the Survey to be completed online and returned as an email attachment to the research co-ordinator.

Paper copies of the Survey and reply paid envelopes for the return of completed Surveys were also made available by the DAFF Animal Welfare Branch.

Survey Distribution

Emails were sent to the major organizations in each of the working dog sectors, where such organisations exist. The contact details of relevant organizations were found using both internet search engines and professional contacts of members of the sub-committee for the 'Animals used for work, sport, recreation or display'.

To ensure compliance with the Federal Privacy Act 1988, member contact details were not requested from any organizations. Organizations were requested to forward an email to their members that contained a hyperlink to the University of Sydney's Faculty of Veterinary Science website that hosted a hyperlink to a participant information sheet and the Australian Working Dog Survey. Organizations were also requested to place a hyperlink to the Survey on their own websites. This approach was very successful with more than 50 websites posting hyperlinks to the Survey during the data collection period. The goodwill and enthusiasm of working and sporting dog organizations to distribute copies of the Survey to their members was greatly appreciated.

In addition, ABC radio stations – local, national and regional – became aware of the Survey and requested radio interviews with the research co-ordinator. Online news articles about the Survey were also posted on seven ABC websites. A total of ten radio interviews were conducted with local, regional and national ABC radio over a two-week period in July 2009. In October 2009, a TV interview with the research consultant was recorded with ABC Landline. This interview was not intended to trigger more Survey responses. It is scheduled to be aired by the ABC on 15th November 2009.

These media activities generated considerable interest and community support for research into Australia's working dogs. All Australian local councils were contacted with a request to forward details of the Survey to constituents that had working dogs registered with them.

One Western Australian council requested hard copies with reply paid envelopes to send out to the owners that had working dogs registered with this council. These were provided and approximately half of the Surveys that were sent out (n=40) were returned completed. Other Shire Councils placed hyperlinks to the Survey in an interactive PDF document on their websites.

In September 2009, a representative of the DAFF Animal Welfare Branch attended 'K909 Service Dog Conference', a working dog conference hosted by the Queensland Police Service. Hard copies of the Survey were made available for conference delegates and 15 completed copies were returned to the research consultant by post.

Hard copies of the Survey were made available to entrants in working dog sheep and cattle trials events in October 2009. Unfortunately only five completed Surveys were returned from these events.

Therefore, there were both advantages and disadvantages encountered with the use of the hard copy and electronic versions of the Survey. The efforts to collect information from individuals who may not have had internet access using hard copies of the Survey were limited in their success. Ultimately, the vast majority of responses were returned by respondents using the electronic version of the document. The enthusiasm and efforts of those individuals who assisted in raising awareness of the Survey across all of the working dog industries were critical in the success of distributing the Survey nationally. Their efforts are acknowledged and are greatly appreciated.

Results

The information in the Results section will be described in terms of four broad working dog industry sectors – Private Industry, Government, Assistance and Sport. This approach has been taken to ensure that the anonymity of Survey respondents will be maintained.

Part A of the Results Section presents a general overview of the Survey results for all four working dog industry groups. In Part B, the responses to each question in the Survey are presented in terms of a percentage of Survey responses. Graphs and tables have been used to highlight the differences between the percentages of Survey responses received for each of the four working dog sectors. In each table and graph, the total for each working dog sector adds up to 100%.

Working dog sectors

The working dog sectors referred to in the Survey included the following groups:

- **Private Industry** – farm, hunting, security/guard and detection
- **Government** – Australian Customs Service (ACS), Australian Quarantine Inspection Service (AQIS), Correctional Services, Fire Brigade, Australian Defence Force (ADF), Police, Royal Australian Engineers
- **Assistance/Service** – Hearing, Physical, Guide/Seeing Eye, Search and Rescue, Therapy
- **Sport** – Greyhound, Sled, Sheep Trial, Cattle Trial, Schutzhund

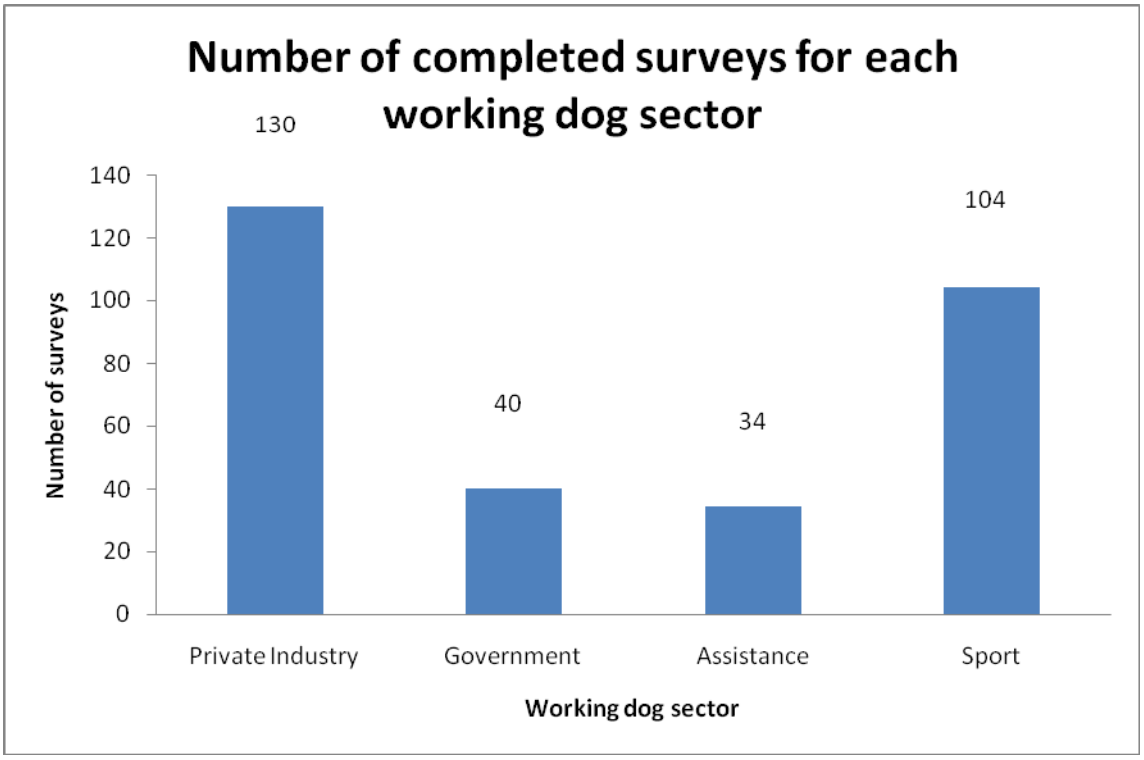
Part A

Section 1. Survey coverage

From the working dog sector groups listed, responses were received from all but two groups, the Royal Australian Engineers and physical assistance groups. A total of 308 completed Surveys were received. This resulted in a database of information on 4195 Australian working dogs. Of these, 1168 dogs were reported to be currently in training but not yet at a competent working level.

Graph 1.1 below shows that the highest number of completed Surveys was received from the private industry, followed by sport, government and the lowest number of completed Surveys was received from the assistance dog sector.

Graph 1.1



Graph 1.2 below shows the number of working dogs in each sector that information was collected on. By comparing the results between Graphs 1 and 2, it can be seen that whilst the smallest number of completed Surveys were received from the assistance dog sector (34) these responses represented the largest number of dogs (1336) for any working dog sector.

Graph 1.2

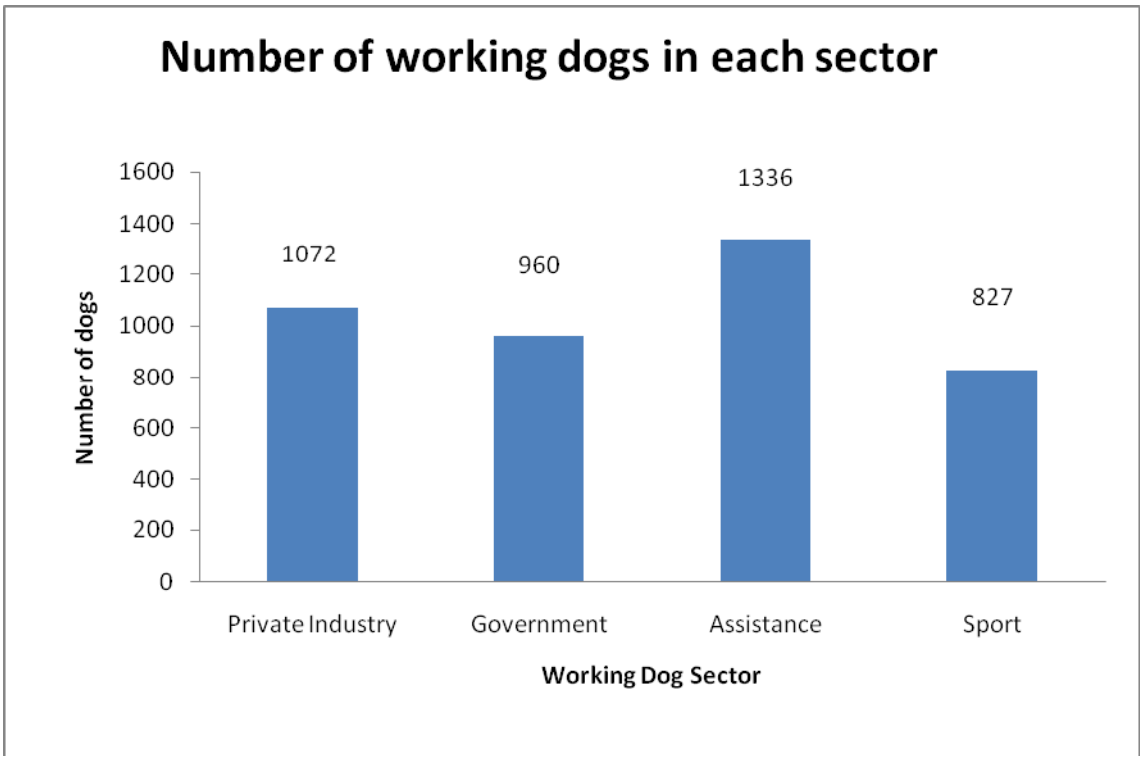


Table 1 presents the number of working dogs reported in a 2005 study by the Australian Companion Animal Council (ACAC) with the results of this Survey in 2009. The information in Table 1 indicates that the completed Survey responses received from the government and assistance groups represented similar numbers of dogs to the 2005 ACAC estimates for these two sectors. In contrast, a much smaller proportion of Survey responses were received from the private industry.

Table 1 – Number of dogs by Australian working dog study

Working dog industry	**Australian Companion Animal Council (ACAC)**	**Australian Working Dog Survey**
Private Industry	81418	1072
Government	527	960
Assistance	1294	1336
Sport	Not reported	827

Part B

Section 2. About your dogs

Section 2.1

Age of working dogs

The working age range reported for all dogs was 1-15 years. The average working dog age was 5.6 years (with a standard deviation of ± 1.5 years).

Table 2.1a below shows the reported average age of working dogs was highest in assistance and government industry groups and lowest in the responses from private and sporting dog groups.

Table 2.1a

Working dog industry	Average working age
Private	3.6 ± 1.2 years
Government	4.6 ± 1.4 years
Assistance	5.3 ± 2.1 years
Sport	3.5 ± 1.6 years

Retirement age of working dogs

Fifty two percent of all respondents indicated that their dogs were not retired at a certain age. Of the other 48% of responses that indicated dogs were retired on the basis of age, the retirement age range reported for all dogs was 8-14 years. The average retirement age was 7.8 years with a standard deviation of ± 2.7 years

Table 2.1b below presents the results for retirement age by working dog industry. It can be seen that the reported average retirement age was highest in the assistance and lowest in the sporting dog groups.

Table 2.1b

Working dog industry	Retirement age range	Average retirement age
Private	6-14 years	9.2 ± 1.8 years
Government	8-10 years	8.9 ± 0.9 years
Assistance	9-11 years	10.3 ± 0.8 years
Sport	2-12 years	6.0 ± 2.8 years

Permanent identification

Eighty percent of all respondents indicated that their dogs were permanently identified. Of these, 61% were permanently identified by microchip and 39% by tattoo. Table 2.1c compares the two different types of permanent identification by working dog industry. The results show that the percentage of dogs permanently identified with microchips was very similar in the private industry, government and assistance dog sectors and, by comparison, the percentage of dogs permanently identified by tattoo was highest in the sporting dog group.

Table 2.1c Types of permanent identification by working dog industry

Working dog industry	Microchip	Tattoo
Private Industry	71%	29%
Government	85%	15%
Assistance	89%	11%
Sport	39%	61%

Council Registration

Sixty four percent of all responses indicated that their dogs were registered with the local council. Table 2.1d below shows a comparison of the percentage of dogs registered with the local council by working dog industry. The assistance dog industry results indicated the highest level of registration and government dogs the lowest level of registration with local councils. Note - the regulations for working dog registration (and definition of a working dog) vary with State legislation.

Table 2.1d Percentage of dogs registered with local council by working dog industry

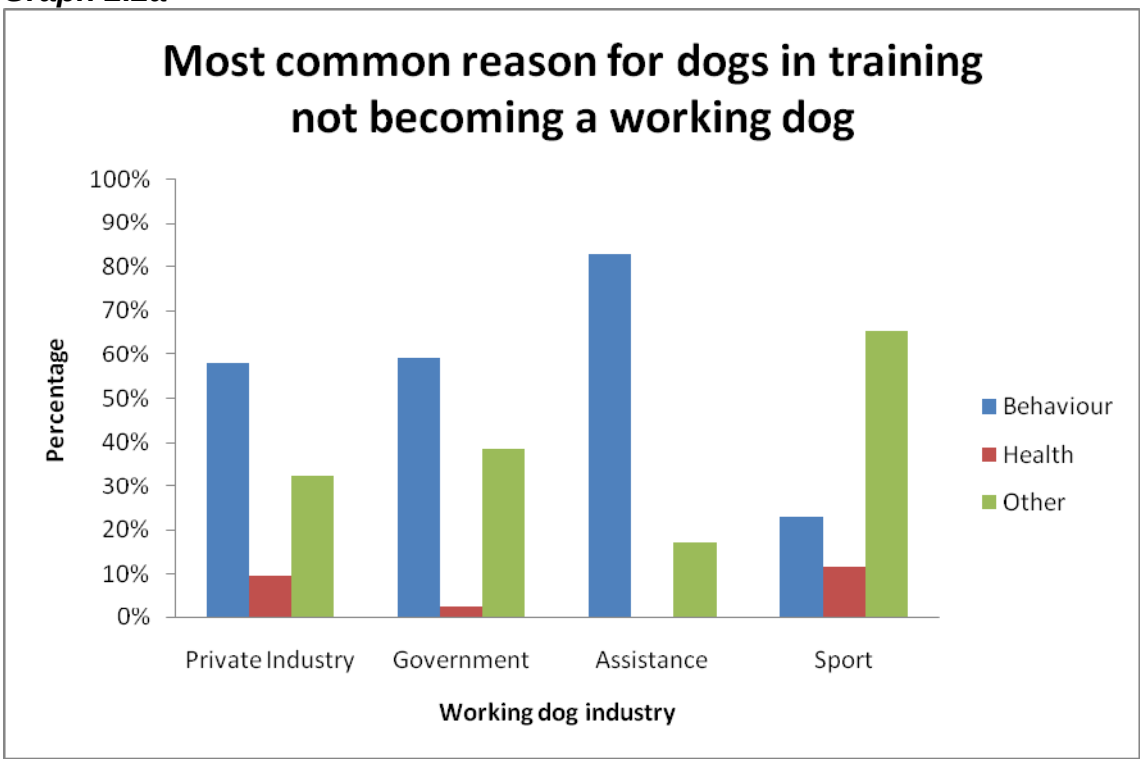
Working dog industry	Registered	Not registered
Private Industry	76%	24%
Government	38%	62%
Assistance	94%	6%
Sport	48%	52%

Section 2.2

Most common reason for dogs in training not becoming a working dog

The most common reasons given for dogs in training not becoming a working dog over the last five years are shown in Graph 2.2a below. Behavioural issues were the most commonly reported reason in all but the sporting dog industry. The response to 'other' reasons given across all working dog industries included: Unsuitable or bad temperaments, temperament and character, unstable nerves, unsuitable for racing, unable to race times, too slow, time consuming training, ability, incompatible work style, insufficient work drives, interest in chasing lure and athletic ability, lack necessary working ability and confidence, not good enough at the job, lack of chase, lack of dedication by handler, lack of instinct for working stock, lack of natural ability, no good, no racing ability, not competitive, not fast enough, not good enough, not having enough time to dedicate to their training, not old enough, not interested in racing, not interested in sheep, not meeting standard, biting sheep, speed, dog does not have the desired drive, time consuming training, not having enough time to dedicate to their training, unsuitable for the work, prison security, physical genetics, lack of hunt drive, low drive, lack of natural ability, lack of necessary working ability and confidence, haven't had a dog fail to graduate yet, no failures, they may be sold, all are successful working dogs, the dog itself is not interested, poor breeding, and not applicable.

Graph 2.2a

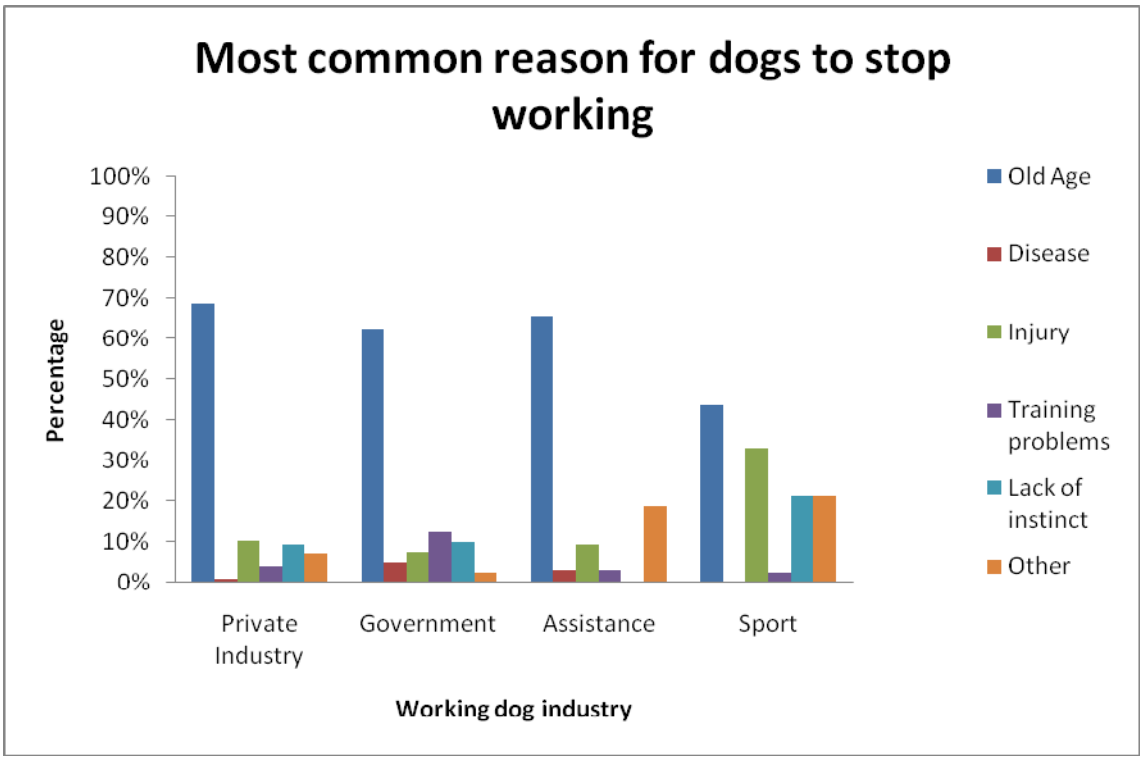


Most common reason for dogs to cease working

The most common reasons given for dogs to stop working over the last five years are shown in Graph 2.2b below. Of the reasons given for dogs to stop working, old age was the most common. It can be seen that the only category that also appeared with a frequency of more than 30% was injury in sport dogs.

The response to 'other' reasons given across all working dog industries included: Whelping, sold, owner unavailable for voluntary work, not good enough, not fast enough, not applicable, lack of work, lack of time, lack of suitability for racing, intensity of work required too high, haven't had any, don't know, die, could not compete with Victorian dogs, bad temperament, ability.

Graph 2.2b



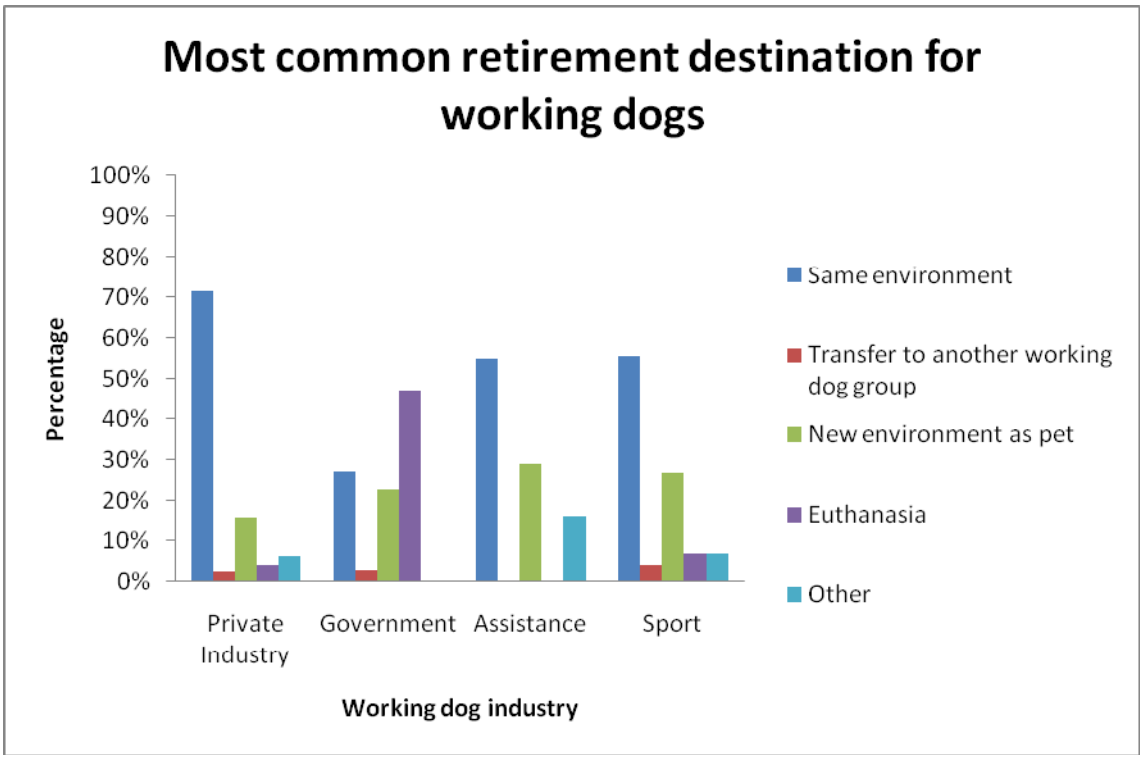
Destination of retired working dogs

The most common destinations given for dogs that have stopped working over the last five years are shown in Graph 2.2c. Retirement in the same environment was the most common destination given for private industry, assistance and sport dogs that and this represents greater than 50% of the dogs in these three categories.

Across all sectors, between 16 and 30% of working dogs were reportedly retired to a new environment as a pet and euthanasia was reported as the most common retirement destination for government working dogs.

The response to 'other' reasons given across all working dog industries included: Transfer to a location requiring less speed (another state with lower class racing), euthanasia for dogs without appropriate instinct, not applicable, none retired yet, haven't had any, died on-the-job, died, die from natural causes, breeding purposes.

Graph 2.2c

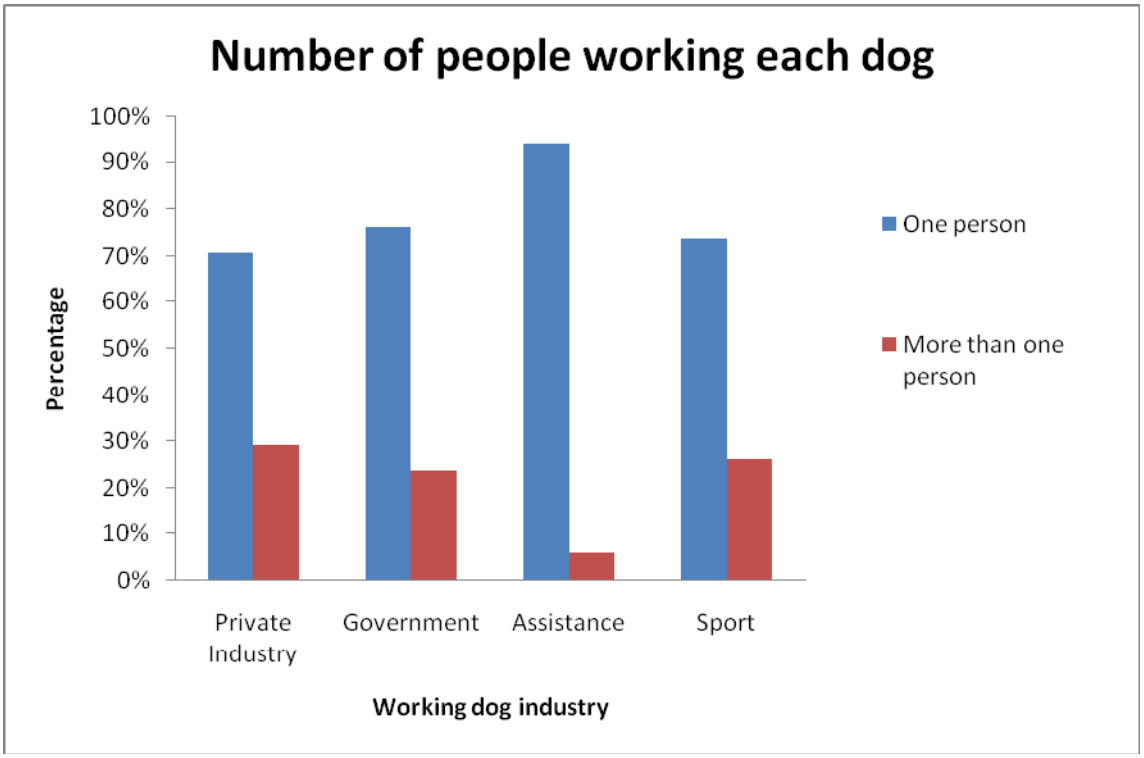


Section 2.3

Number of people working with each dog

As shown in Graph 2.3a, the number of people working each dog per month was reported to be predominantly one person across all working dog industries. Whilst the number of people who worked individual dogs ranged from two to five, the majority of responses indicated that it was usually only up to two people who worked each dog per month.

Graph 2.3a



Education level of working dog trainers

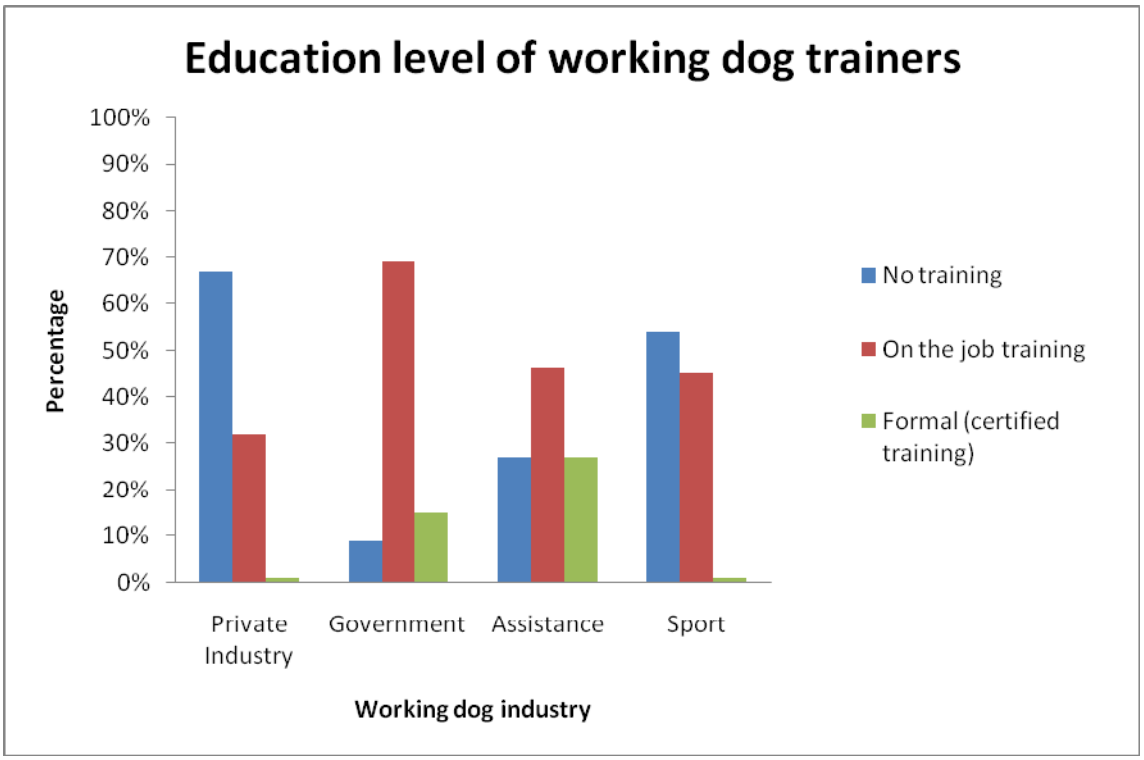
The results for the level of education for trainers in all working dog all industries are shown in Table 2.2a below.

Table 2.2a

No training	On job training	Formal (certified) training
52%	42%	6%

The education levels of working dog trainers by industry are shown in Graph 2.3b. The results indicate that in the private industry and sporting dog responses, most trainers had received either no on-the-job training or training through a formal certified program. The level of formal certified training was highest in the assistance group, followed by the government group. However, for these two groups the majority of education was reported as being provided through uncertified on-the-job training. In both the private industry and sporting groups the highest percentage response indicated that the dog trainers had received no training and used their own skills.

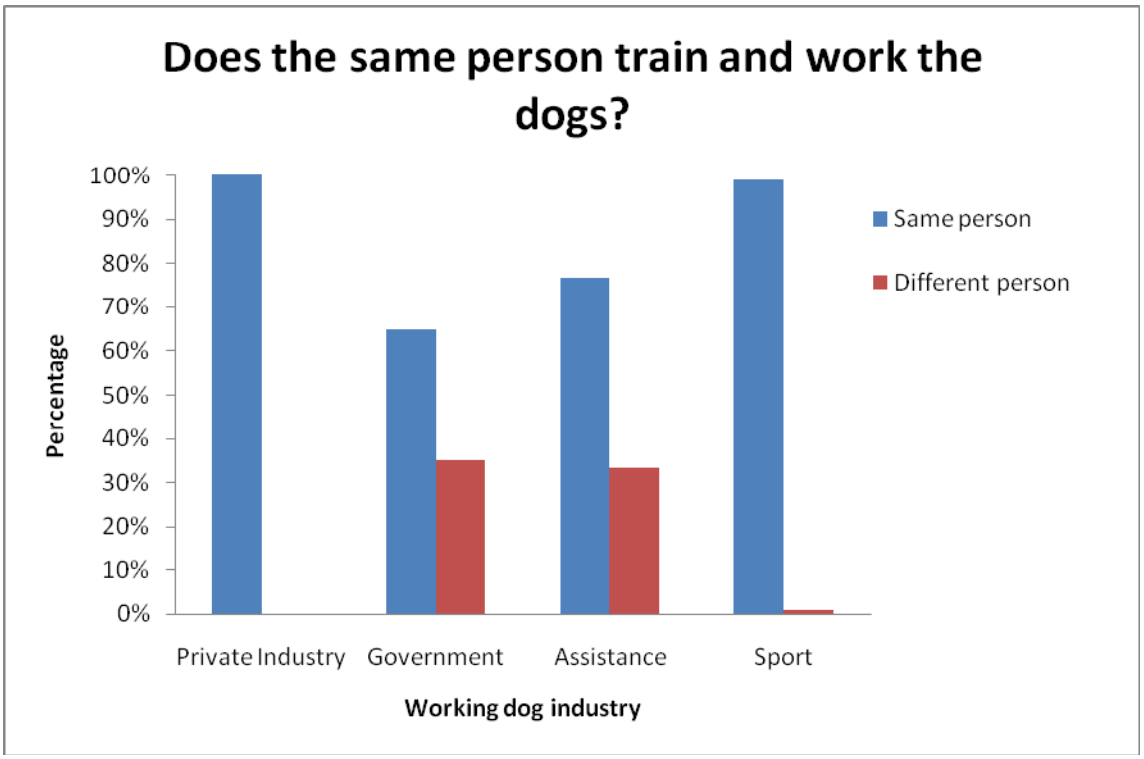
Graph 2.3b



Does the same person handle the dog throughout training and work?

Graph 2.3c shows that for the responses across all working dog industries, the majority of working dogs were trained and worked by the same person. The levels of working dogs being trained and worked by different people were much higher in the government and assistance dogs sectors than those reported by the private industry and sporting groups.

Graph 2.3c



Education level of working dog handlers

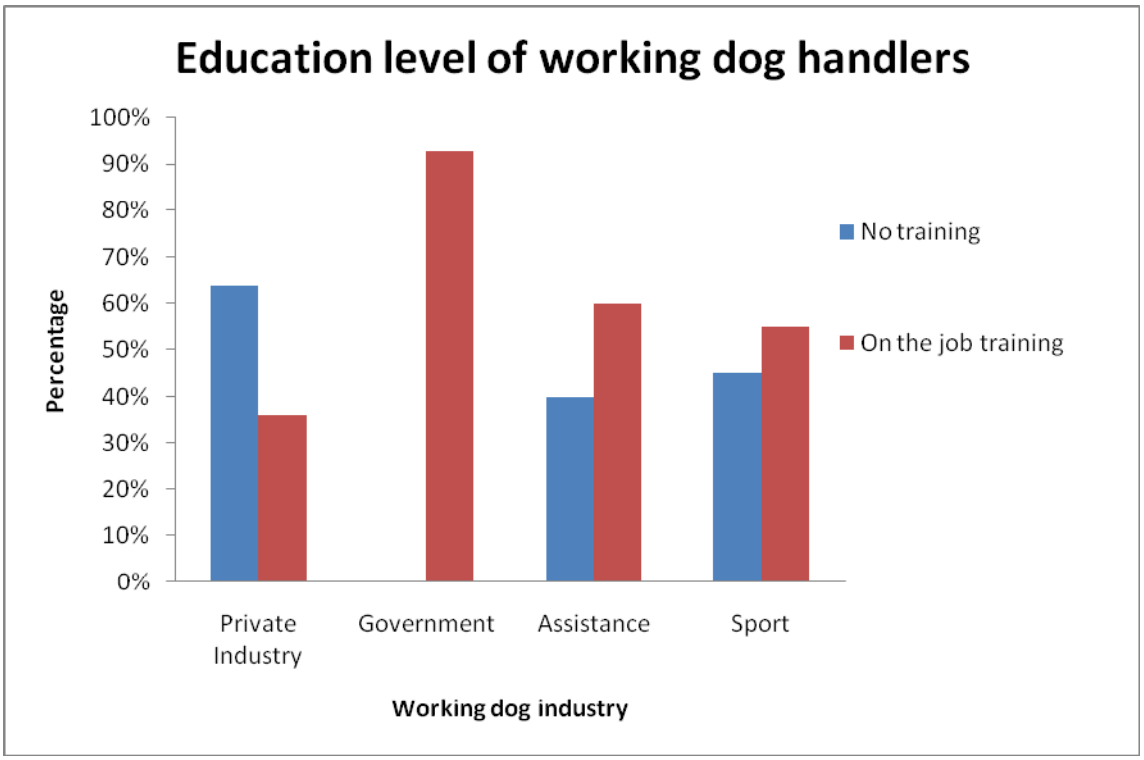
For those responses that indicate that different people train and work the dogs, the training level of the people who work the dogs is shown in Table 2.2b below.

Table 2.2b

No training	On job training	Formal (certified) training
37%	63%	0%

The education levels of working dog handlers by industry are shown in Graph 2.3d. The private industry responses show most handlers had received no on-the-job training or formal certified program, relying on their own skills. The majority of education for working dog handlers in government, assistance and sporting groups was reported as being provided through on-the-job training.

Graph 2.3d



Section 3. Sourcing your dogs

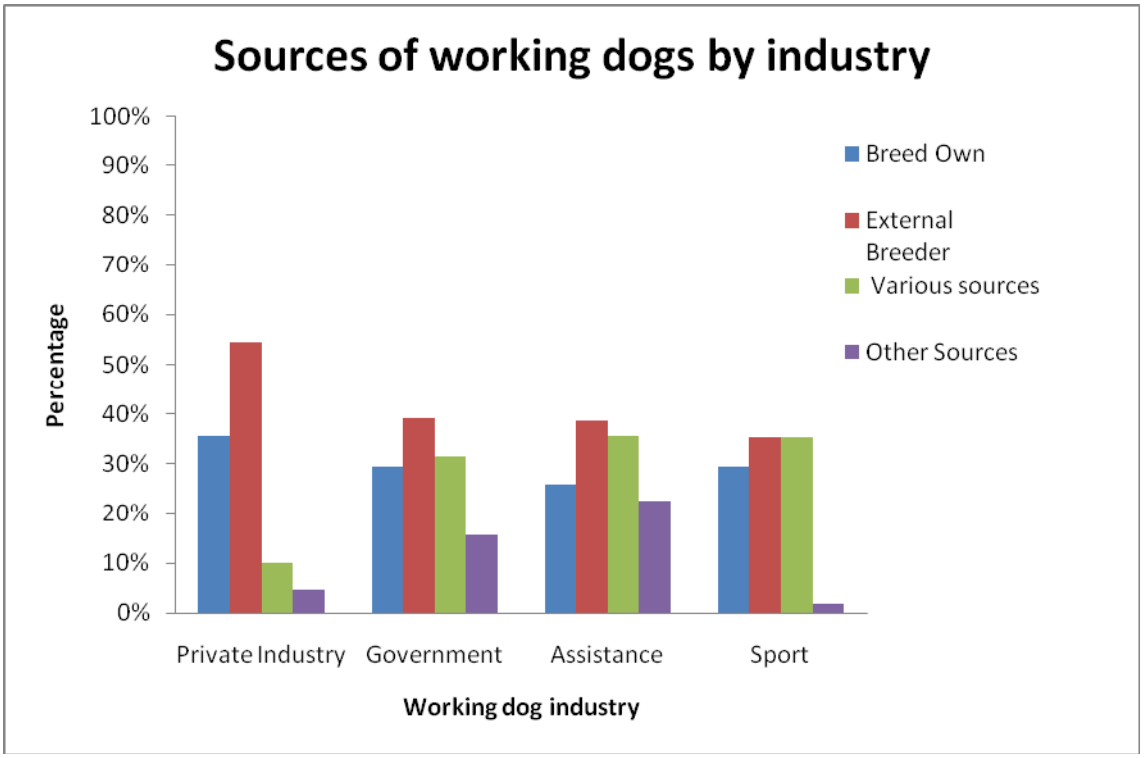
Section 3.1

Sources of working dogs

The sources of working dogs by industry are presented in Graph 3.1a. The most common source of working dogs across all industries was external breeders except for sporting dogs where various 'Various External Sources' (referring to shelters and public pets) were as common as external breeders. The percentage of responses for 'own breeding program' was quite similar across all industries with a range of only 26-36%.

'Other Sources' of working dogs included: Air Force, internet, advertising, word of mouth, train for other owners, networks, Australian Customs, not applicable, trainer supplies dogs, depends what you're looking for, greyhound adoption program (NSW), train for other owners, private companies, Guide dogs.

Graph 3.1a



Puppies bred annually

Across all working dog (WD) sectors, the number of working dog pups that were reported to be usually bred each year ranged from 0.2 (i.e. pups were not produced every year) to 150 per year. 40% of all Survey responses indicated that they bred pups. A breakdown of these respones by working dog industry is shown in Table 3.1a. The table shows a higher percentage of 'breeding own dogs' in the private industry and sporting dog group than for the government and assistance dog sectors.

Table 3.1a

Working dog industry	**Percentage for total 'breed own' responses**
Private Industry	42%
Government	7%
Assistance	5%
Sport	46%

Table 3.1b below shows the average number of pups bred per year for each of the working dog industry groups. The average numbers of pups bred per year is two to three times higher in the responses from government and assistance dog groups than it is for the private industry and sporting dog responses.

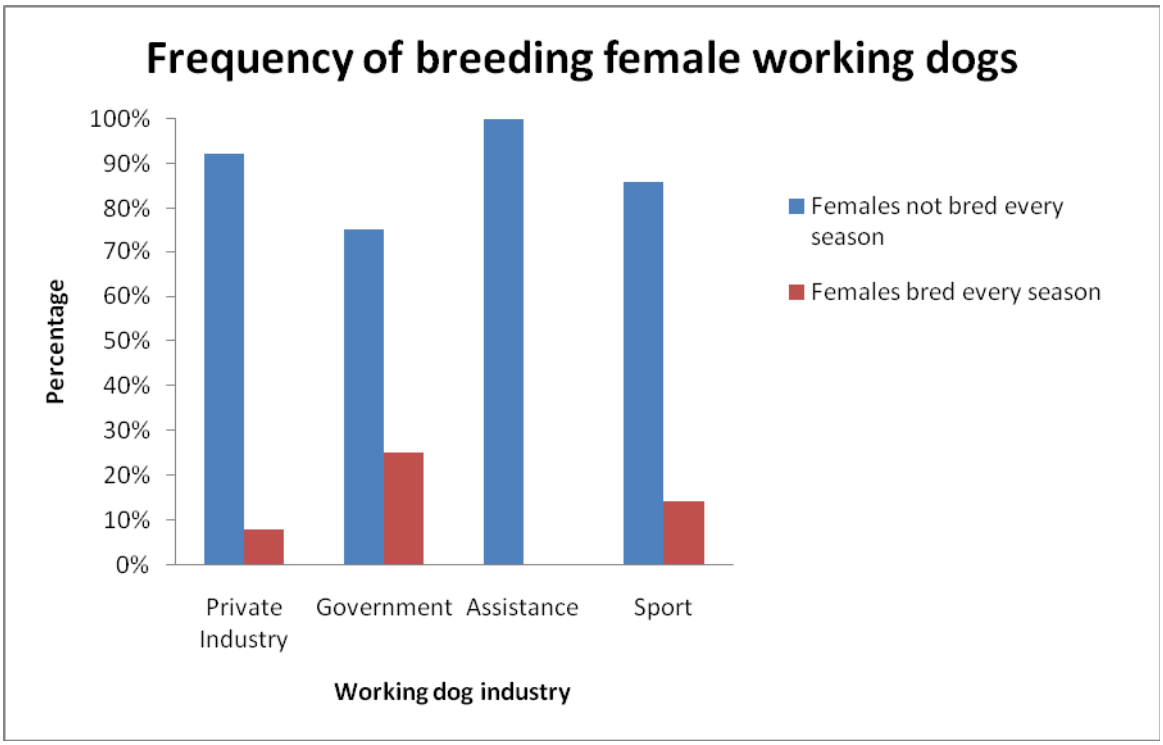
Table 3.1b

Working dog industry	**Average number of pups bred per year**
Private Industry	15
Government	39
Assistance	36
Sport	12

Working dog breeding programs

The response to whether entire females are bred with every season is shown in Graph 3.1b. It indicates that across all industries, the trend is to not breed from entire females every season. There were no reports from the assistance dog respondents of females being bred every season, with the responses from government groups indicating the highest percentage response for this practice out of the other three working dog groups.

Graph 3.1b



The total number of stock in breeding programs was reported to be 247 stud dogs and 522 brood bitches. The breakdown for the percentage of stud dogs and brood bitches for each working dog industry is shown in Table 3.1c below. It shows similar percentages of stud dogs in private industry, government and sport groups with a smaller percentage of brood bitches being reported from the government and assistance dog sectors.

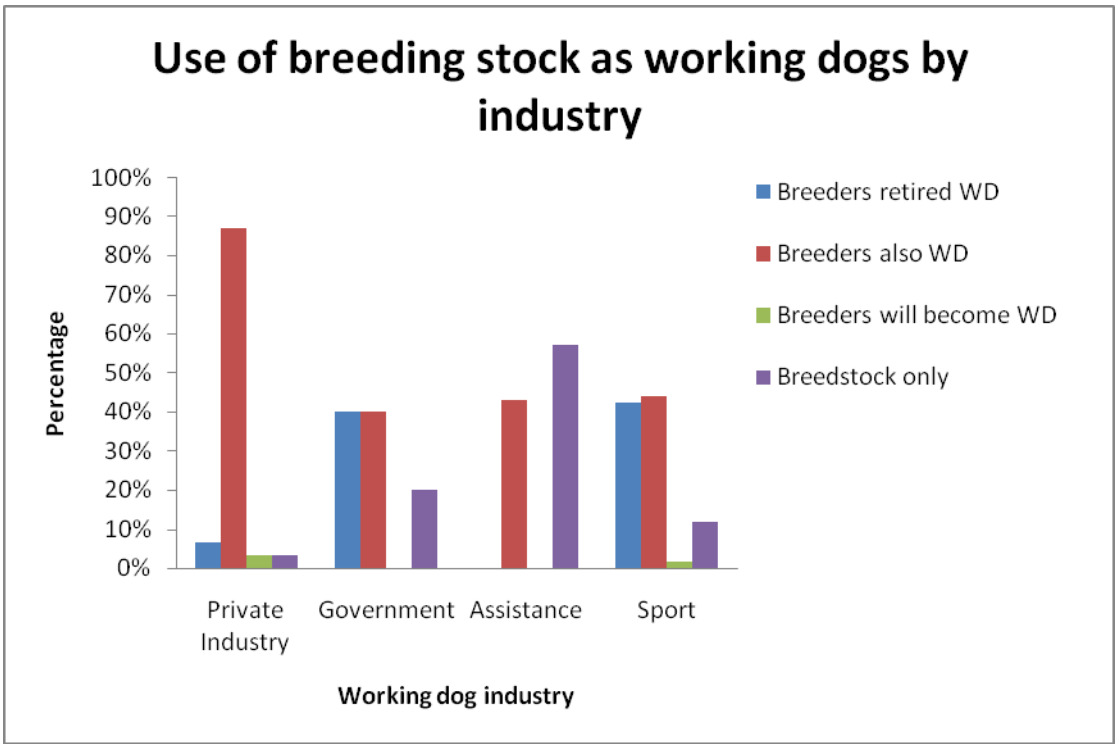
Table 3.1c Percentage of stud dogs and brood bitches for each working dog industry

Working dog industry	Number of stud dogs	Number of brood bitches
Private Industry	36%	40%
Government	27%	13%
Assistance	9%	10%
Sport	28%	37%

Working dogs used in breeding programs

The use of breeding stock (breedstock) as working dogs is shown by working dog industry in Graph 3.1c below. The highest number of percentage responses indicating that breedstock was also used as working dogs came from the private industry group. By comparison, in the government and sporting dog groups, there were equivalent responses for breedstock being currently used as working dogs as there were for breedstock that had previously been used as working dogs. The highest frequency of not using breedstock as working dogs was reported by the assistance dog groups.

Graph 3.1c



Section 3.2

Number of puppies/dogs assessed annually

The number of puppies/dogs assessed each year for trainers who acquire dogs from external sources was reported to range between 0.2 (indicating that for some responses dogs were not assessed every year) and 300 dogs. The average number of puppies/dogs assessed for each Survey response was 26 per year.

The breakdown for the number of puppies/dogs assessed each year by each working dog industry is shown in Table 3.2a below. It shows that the assistance dog sector reported the highest average number of dogs assessed per year, followed by private industry, with the government and sport dog groups assessing the lowest numbers of puppies/dogs per year.

Table 3.2a Number of puppies/dogs assessed from external sources per year

Working dog industry	Range	Average
Private Industry	0.2-300	26
Government	0.2-300	16
Assistance	0.2-100	38
Sport	1-300	18

Recruitment success

The number of puppies/dogs recruited as suitable training candidates each year was reported to range between 0.2 (indicating that for some responses dogs were not assessed every year) and 80 dogs. The average number of puppies/dogs recruited for each Survey response was 7 per year.

The breakdown for the number of puppies/dogs recruited each year by each working dog industry is shown in Table 3.2b. It shows that the assistance dog responses indicated the average number of dogs assessed per year were at least five times greater than any of the other sectors.

Table 3.2b Number of puppies/dogs recruited from external sources for each working dog industry

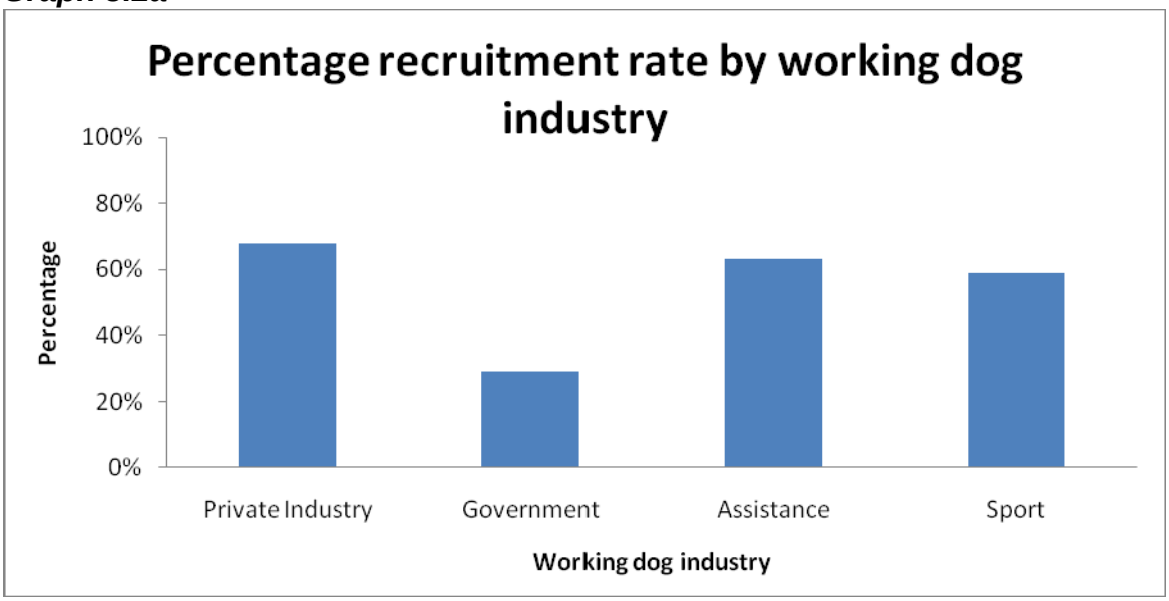
Working dog industry	Range	Average
Private Industry	0.2-49	2.0
Government	1-40	7
Assistance	1-80	38
Sport	0.5-49	6

The actual number of dogs recruited as suitable training candidates per year ranged from 0.5 (indicating that for some responses dogs were not recruited every year) to 100 dogs. The percentage recruitment per year was calculated from: the number of puppies/dogs recruited as suitable training candidates / number of dogs assessed each year) x 100. The average percentage of puppies/dogs recruited per year for all Survey responses was 57%.

The breakdown for the average percentage recruitment per year by each working dog industry is shown in Graph 3.2a. It shows similar results for the private, sport and assistance

dog sectors, with government respondents indicating a recruitment success rate of about half of that reported by the other industries.

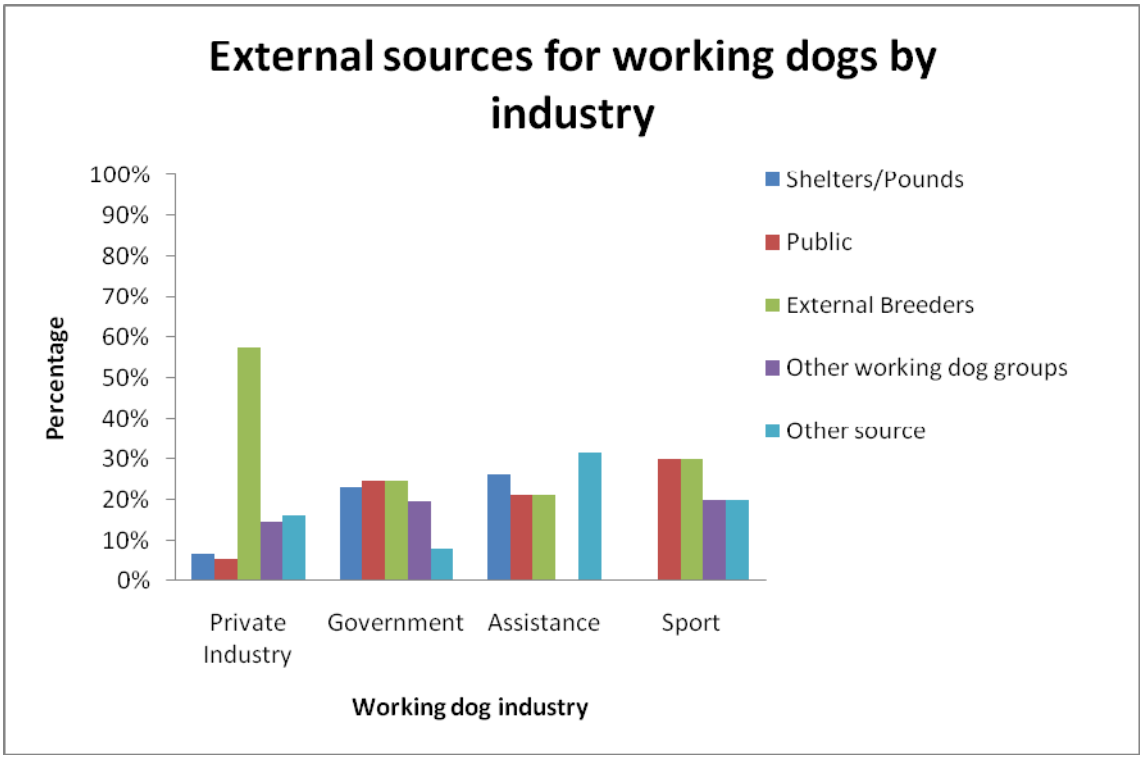
Graph 3.2a



The external sources for working dogs by industry are shown in Graph 3.2b. The responses for private industry indicate that external breeders were the most widely used source for working dogs. There was no significant difference between the types of external sources for working dogs used by the other industry groups. It is interesting to note the relatively high percentage of respondents from the government and assistance dog sectors who use shelters and pounds to source working dogs compared with the private industry and sporting groups.

The response to 'Other source' included: overseas guide dog schools, other police agencies, other guide dog schools nationally and internationally, international breeders, import from overseas to diversify our gene pool, guide dog schools in Australia or New Zealand, greyhound adoption program (NSW), Customs/New Zealand breeding program, Australian Customs Service, Airforce Security.

Graph 3.2b



Section 4. Training and Assessment

Section 4.1

Dog training period

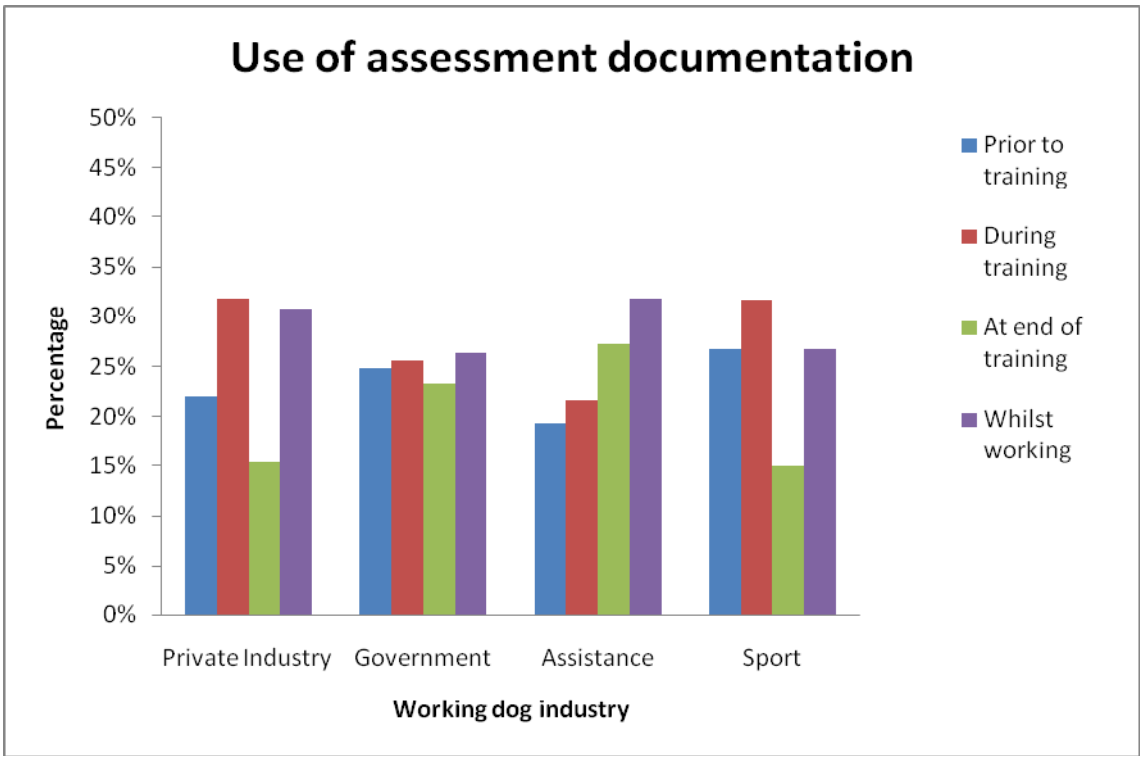
The range for the length of time reported to train a dog to a competent working standard for all responses was 1-60 months. The average length of time reported was 14 months. The breakdown for these responses by industry group is shown in Table 4.1a below. The table shows a similar time-frame reported from each of the four working dog industries, with the government groups reporting the shortest average training time and the private industry reporting the longest average length of time to train a dog to a competent working standard.

Table 4.1a Average length of time to train a dog to working standard

Working dog industry	Time (months)
Private Industry	16
Government	10
Assistance	13
Sport	15

The use of assessment documentation in the training of working dogs is shown in Graph 4.1a. Assessment documentation during training was reported to be most commonly used in private and sport groups. The most commonly reported use of assessment documentation in government and assistance dog groups was during the dog's working career.

Graph 4.1a



Dog training sessions

The range for the length of time reported to be spent with a dog during a training session for was between 5 minutes and 12 hours. The average length of time for all responses was 1.5 hours. The breakdown for these responses by industry group is shown in Table 4.1b. The table shows the government group reporting the longest average training session time and the sport dog group reporting the shortest average training session.

Table 4.1b Average length of training session

Working dog industry	**Time (hours)**
Private Industry	1.8
Government	2.3
Assistance	1
Sport	0.9

The range for the number of training sessions per month was between 1 and 120. The average number of training sessions for all responses was 18 training sessions per month. The breakdown for these responses by industry group is shown in Table 4.1c below. The table shows the sport dog group reporting the highest average number of training sessions per month followed by government and assistance, then private industry.

Table 4.1c Average number of training sessions per month by working dog industry

Working dog industry	**Average Number of training sessions per month**
Private Industry	14
Government	19
Assistance	19
Sport	22

Length of time spent working each week

The range for the average length of time the dog spends working per week was between 0.5 hour and 168 hours. The average length of time spent working per week was reported to be 13 hours. The breakdown for these responses by industry group is shown in Table 4.1d. The table shows the longest average working week for government dogs, almost twice the average number of hours worked for the next longest groups, private industry and assistance dogs.

Table 4.1d Average length of time the dog spends working per week

Working dog industry	**Average length of time spent working each week (hours)**
Private Industry	14
Government	25
Assistance	14
Sport	8

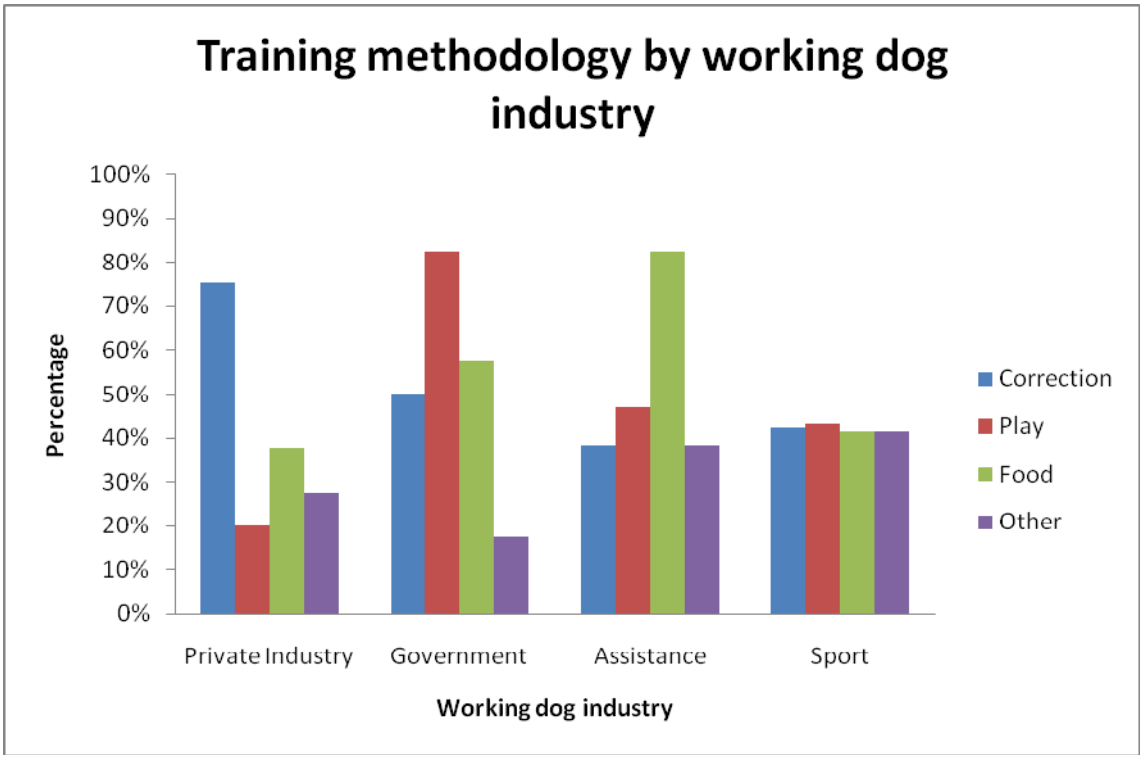
Training methodology

The responses to the question 'Which of the following do you use in training your dogs for this sort of work – correction, play, food or other?' are shown in Graph 4.1b. For Private Industry, the highest percentage response was for 'correction'. For the government group, the highest percentage response was 'play' and for assistance, it was 'food'. By contrast, the sport industry group's responses were evenly divided between correction, play, food and other.

The responses to 'Other' included: Motivation techniques (whatever we can do to motivate the dog) fitness (short runs on a track), voice, other dogs as role models, verbal and hand signals, public socialisation, praise, reward is working with sheep, positive/negative reinforcement, pressure/release and shaping on sheep, verbal praise, reward is working stock, voice commands and praise, praise and allow to work, positive reinforcement, prey drive, praise/positive reward, natural instinct coached to meet requirements (but some of the above methods might be used for some lesions), lures, exercise, the work itself is the reward, natural instinct, the dog is rewarded from the movement of the stock, obedience, agility, other dogs, positive handling with minimal correction, stock become the reward, block the dog from doing the wrong thing, let the dog use its instinct, gratification and praise, encouragement, repetition, consistency, dependent on dog temperament, moulding instinct, traditional greyhound training, all dogs are different, natural instinct encouraged, they are competitive and love to run, fitness, squeaker, as much operant style as possible (minor compulsion when needed), bonding, physical reward, clicker, trialling with reward, positive and negative (verbal) reinforcement, trialling for racings and walking, racing, fitness training, verbal and physical praise, running, chasing skin around track, competitive and repetitive, dog lure and box training, tug and toys, tactile, free galloping, companion bonding, positive motivation, pat, training, sheep, positive assertion, attention reward, praise and patting,

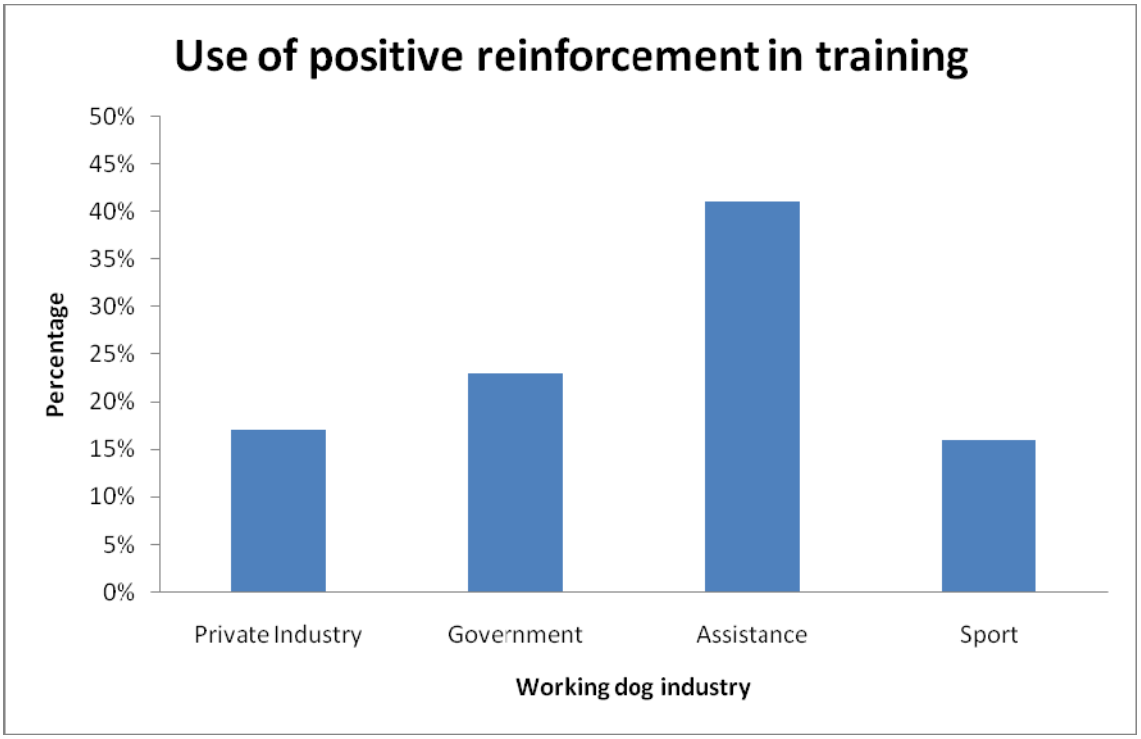
walking machine and galloping, verbal reward, voice correction only, shaping, clicker/marker, rewards based.

Graph 4.1b



In response to the ‘Other’ category, a high proportion of respondents indicated that positive reinforcement was used in training. These responses are shown by working dog industry in Graph 4.1c. The most common reports of the use of positive reinforcement came from the assistance dog sector, with the lowest reported use of positive reinforcement from the sport dog group.

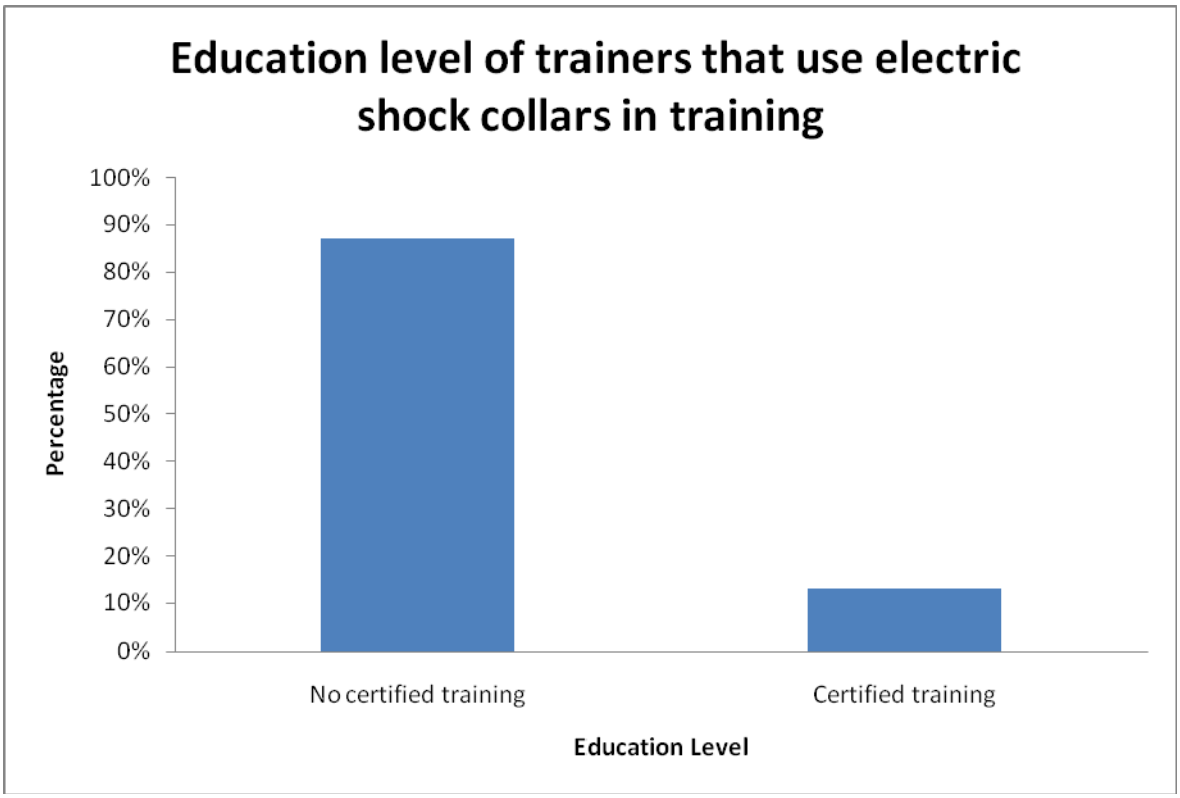
Graph 4.1c



Trainer education level and use of electric shock collars in dog training

Graph 4.1d shows the education level of trainers who indicated that electric shock collars were used in training working dogs. The use of electric shock collars was reported most commonly by the group of respondents with no certified training.

Graph 4.1d



Outcomes of dogs in training

For the responses from all working dog industries, the percentage of dogs that:

- graduate as working dogs was 77%
- are used in other working dog programs was 17%
- are used as breeding stock was 27%
- are exported for the same work interstate was 14%
- are exported for the same work internationally was 1%
- are unsuccessful was 25%

It is worth noting that the percentage responses for this section of the results will not necessarily add to give a combined total of 100%. The reason for this is that a dog that does not graduate as a working dog will not necessarily be represented in the 'unsuccessful' category. For example, a dog that does not graduate as a working dog in one training program might move be used in another training program and so may not be considered as 'unsuccessful' depending on the way that the respondent reported the information. Nevertheless, it can be seen that the sum of the percentage that graduate as working dogs and the percentage that are unsuccessful was still very close to 100% for nearly all of the

working dog industry groups (For example, from the dot points above, it can be seen that 77% graduated as working dogs and 25% were unsuccessful, giving a 'total' of 102%).

The percentage of dogs for each of these categories is shown by working dog industry in Table 4.1e below. It can be seen that the results are quite similar across the four working dog industry groups.

Table 4.1e Reported percentage training outcomes

Working dog industry	Graduate	Used in other WD programs	Used as breeding stock	Exported for the same work interstate	Exported for the same work internationally	Unsuccessful
Private Industry	84%	18%	33%	15%	2%	18%
Government	70%	15%	14%	13%	1%	30%
Assistance	65%	18%	11%	10%	1%	35%
Sport	74%	15%	28%	12%	1%	30%

Equipment used to train working dogs

The information collected about the equipment used to train working dogs has been divided into two categories:

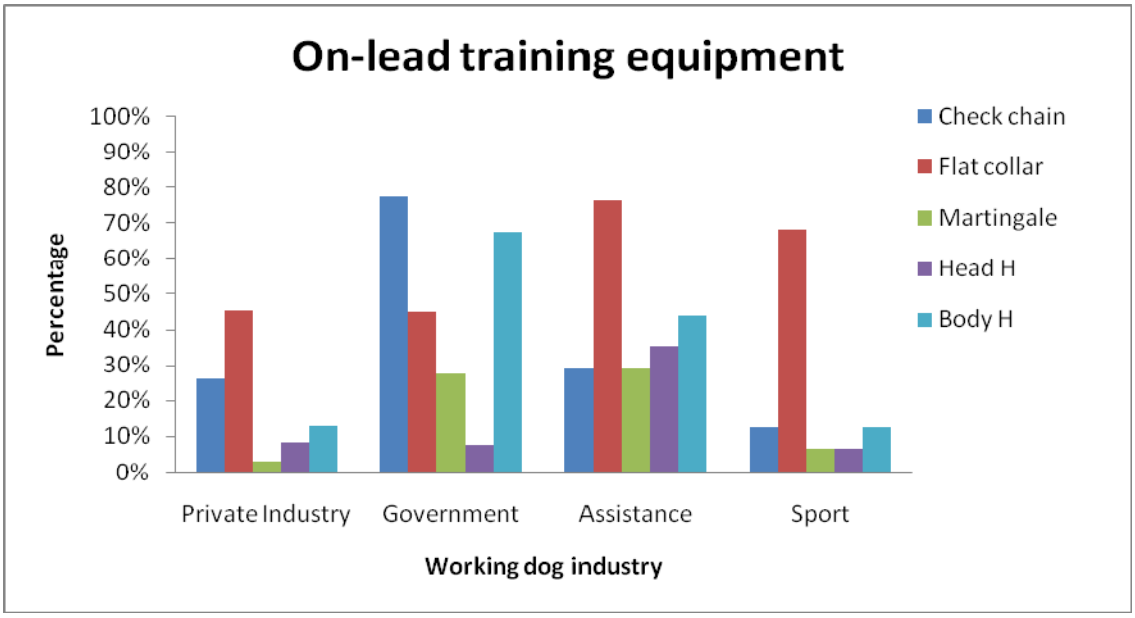
1. On-lead training equipment - check chain, flat collar, martingale (limited slip) collar, body harness, head harness
2. Off-lead training equipment - electric collar, clicker, whistle, stick

The verbatim responses to 'Other' types of equipment used in training included: Yelling obscenities with stick waving, wide link fur saver, pinch collar, we use physiotherapy equipment to keep injury free (ultrasound, laser, magnetic field, massager, hydrobath, walking equipment, bull ring, mechanical lure, straight track free gallop, swimming pool), voice only, voice commands, verbal and hand signals, various sounds e.g. mobile, smoke alarm, alarm clock, baby crying, door knock or bell, treats, training on live game, being around working dogs is a great way of introducing them in a safe environment e.g. still in cage on ute so as to not be injured by pigs or older dogs, trained dog, tracking collars, straw broom, stockyard, stock-whip crack, stock-whip, stick only used to mark ground where dog is not to go (pressure), i.e. not used on dog or to threaten dog, not used to apply pressure to dog. This is a method used by one of the top British sheepdog trainers and triallers but is not widely used. I have trained with him in the UK, Stick is used to keep dogs off stock, so that they maintain a distance as long as the stick/crook, sled dog harness, shotgun and blank cartridges, shepherd's crook, scooter, run them with experienced dogs, rock, pullie for "come" and "back", prong collar, muzzle, poly for direction i.e. arm extension, plastic garden rake/long lead, pinch collar and chain (dead link), neck and full chest collars, muzzle, bite

suit, bite arm, mini sulky, mechanical lures, lure, long piece of poly tube, livestock, invisible boundary collar, I use the stick or cane as an extension of my arm, not touching the dog, hurdles, tunnel, weaves, hand signals/verbal commands, half check collar, not full, gun firer, whip, grass rake to block dog from sheep, garden rake, food, wheelchairs, trolleys, vacuums, random sudden hugs and pats on the head, other unusual sounds and sights, food reward, food pouch, working coat, flag on stick for guidance, field training on game birds, E-collar – but not used on the basis of "shock" – conversely – used as a very gentle and kind method of training, deadlink chain and pinch collar, dead link chain collar – no chock, chest plate, check cord of differing lengths, boat, gun, GPS and spot light, high visibility shirt, 10m long training wheel, strong verbal comments.

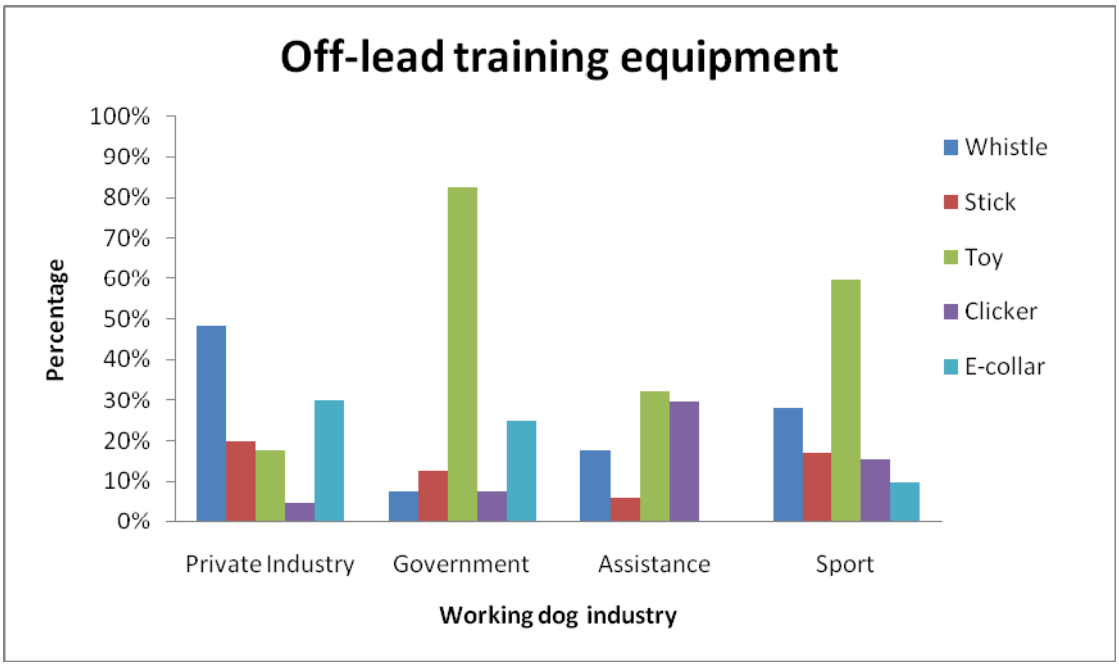
Graph 4.1e below shows the reported use of on-lead equipment for each of the working dog industries. The flat collar was reported to be the most commonly used on-lead equipment for private industry, assistance and sporting dog groups. The government responses indicated that the check chain and body harness were the most commonly used.

Graph 4.1e



Graph 4.1f overleaf shows the responses for the use of off-lead equipment for each of the working dog industries. Of these, the toy was reported to be the most commonly used by government and sport groups. For private industry, the whistle was the most commonly reported piece of equipment and assistance dog groups reported toy and clicker as the most commonly reported pieces of equipment.

Graph 4.1f



Reported electric shock collar use in working dog training

The reported use of electric shock collar (E-collar) was highest in the private industry (30%) and government (25%) and sport (10%). No responses indicated that electric shock collars were used in the training of assistance dogs.

Section 5. Dog Housing

The responses to the information collected on dog housing were collated to create two separate categories:

- social
- environment

Social Housing: the criteria for the groups of Single Housing and Group Housing were the combination of the Survey responses shown in Table 5.1.

Table 5.1 Single and Group housing

Single Housing	**Group Housing**
Outdoor individual shelter with chain	Outdoor group/social shelter and yard
Outdoor individual shelter with yard	Indoor group/social housing
Indoor individual shelter with outdoor yard	Indoor with humans
Indoor individual housing	
Indoor individual crate/cage	
Vehicle	

Environment: the criteria for the groups of Indoor Housing and Outdoor housing were the combination of the Survey responses shown in Table 5.2 below.

Table 5.2 Indoor and Outdoor housing

Indoor Housing	**Outdoor Housing**
Indoor individual shelter with outdoor yard	Outdoor individual shelter with chain
Indoor individual housing	Outdoor individual shelter with yard
Indoor individual crate/cage	Outdoor group/social shelter and yard
Indoor group/social housing	Vehicle
Indoor with humans	

Table 5.3 shows that there were industry trends for dogs housed overnight during training. Private industry, government and sport groups were reported to individually house and more responses from the assistance sector indicated group housing for dogs. The trend was for indoor housing for dogs overnight during training for private industry, assistance and sport dogs with equivalent numbers of responses for indoor and outdoor housing from government groups for this period.

The industry trends for housing dogs in the daytime during training are also shown in Table 5.3 below. Private industry, government and sport groups were reported to individually house and there were similar numbers of responses from the assistance sector indicating single and group housing for dogs. During the daytime, the trend was for outdoor housing for dogs overnight in private industry, indoor for government dogs and there were similar numbers of responses from the assistance sector indicating indoor and outdoor housing for this period.

Table 5.3 Dog housing trends by industry whilst training

	Individual	**Group**	**Indoor**	**Outdoor**
Overnight	Private Industry	Assistance	Assistance	Private Industry
	Government		Government 50%	Government 50%
	Sport		Sport 50%	Sport 50%
Daytime	Assistance 50%	Assistance 50%	Assistance 50%	Assistance 50%
	Private Industry			Private Industry
	Government		Government 50%	Government 50%
	Sport		Sport 50%	Sport 50%

Table 5.4 shows that there were industry trends for dogs housed overnight during working. Private industry, government and sport groups were reported to individually house and from the assistance sector similar numbers of responses indicating individual and group housing for dogs. The trend was for daytime outdoor housing for dogs during working for private industry. The proportion of responses indicating indoor and outdoor housing was provided for assistance and sport groups for this period were evenly divided.

Table 5.4 shows that there were industry trends for dog housing during daytime whilst working. For all working dog groups, the most common response was for dogs to be singly housed during the daytime whilst working. Private industry and government groups were reported to house dogs outdoors during the daytime whilst working and the trend from assistance and sport groups for this period indicated dogs were most commonly housed indoors.

Table 5.4 Dog housing trends by industry whilst working

	Individual	**Group**	**Indoor**	**Outdoor**
Overnight	Private Industry	Assistance	Assistance	Private Industry
	Government		Sport	Government
	Sport			
Daytime	Assistance	None	Assistance	Private Industry
	Private Industry			
	Government		Sport	Government
	Sport			

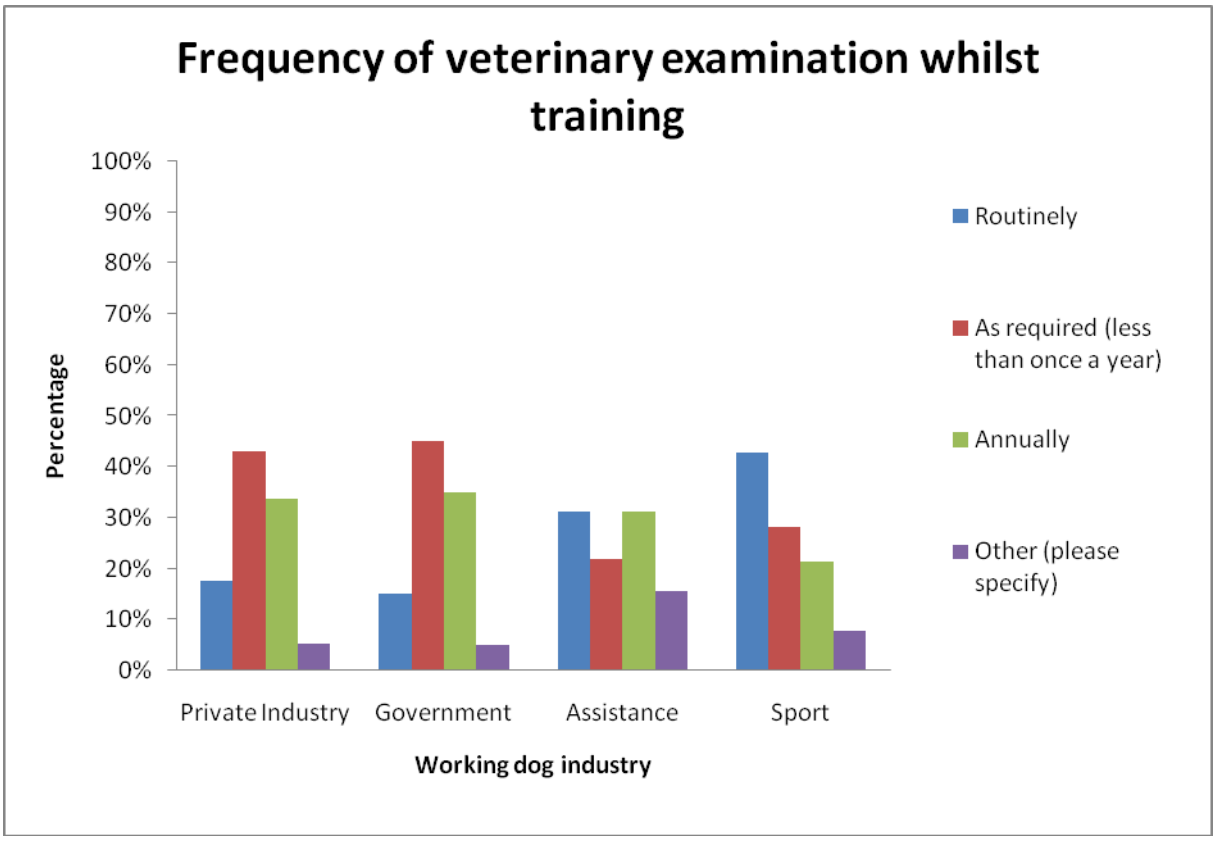
Section 6. Dog Health

Section 6.1

Frequency of veterinary examination of dogs whilst in training

Graph 6.1 below refers to the frequency of veterinary examination for dogs whilst in training. The most common response for private industry and government groups was that veterinary examination occurs as required (less than once a year). The responses from the assistance dog groups indicated that the dogs are either examined by a veterinarian annually or routinely as required. The most common response from sport dog groups was that they are examined routinely by a veterinarian. All of the responses to 'routinely (please specify frequency) and 'other' suggested that the majority of working dogs are examined by a veterinarian at least once a year during training.

Graph 6.1



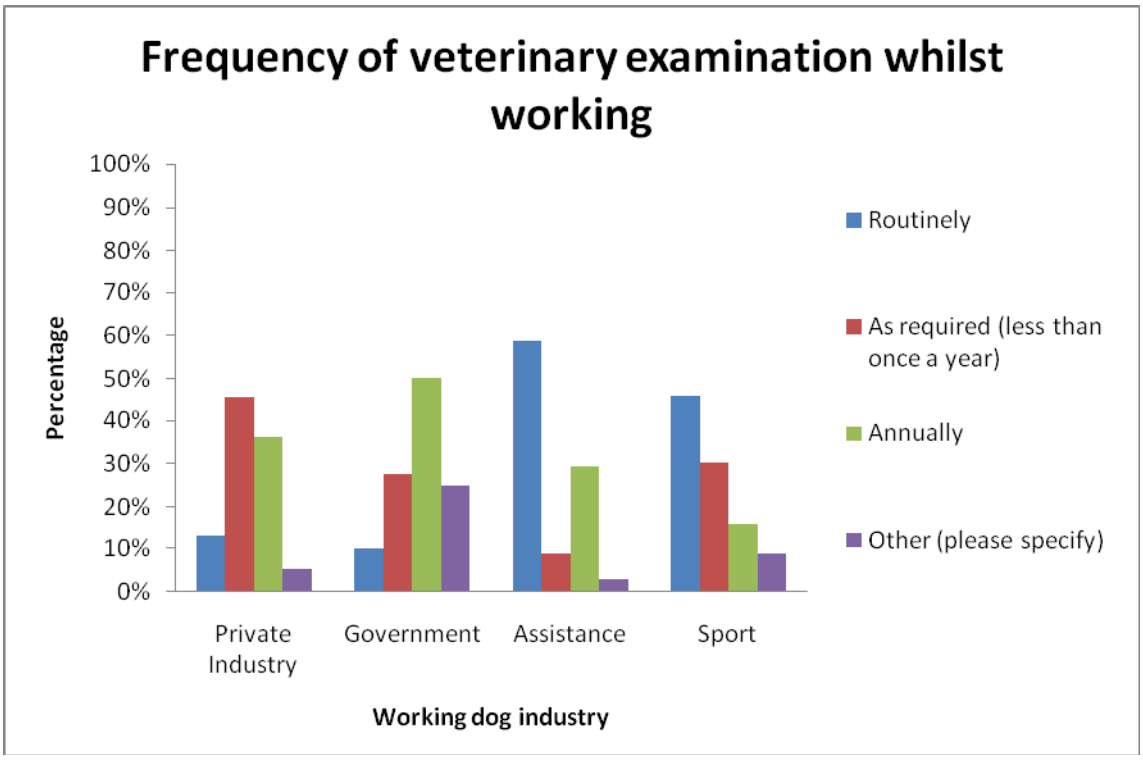
The responses to 'Routinely (please specify frequency)' included: Twice weekly, weekly, fortnightly, monthly, six weekly, every two months, every three months, four to six times per year, every three to four months, three times per year, four to six times per year, every six months, every six to twelve months, at least annually.

The responses to 'Other' included: fortnightly, 8 times per year, quarterly, four to six months, three times per year, six monthly, and at least annually.

Frequency of veterinary examination of dogs whilst working

Graph 6.2 below refers to the frequency of veterinary examination for dogs whilst working. The most common response for private industry groups was that veterinary examination occurs as required (less than once a year). The responses from the government sector indicated that dogs were examined by a veterinarian annually. The most common response from the assistance and sport dog groups was that dogs are examined routinely by a veterinarian. All of the responses to 'routinely (please specify frequency)' and 'other' suggested that the majority of working dogs are examined by a veterinarian at least once a year whilst working.

Graph 6.2



The responses to 'Routinely (please specify frequency)' included: Twice weekly, weekly, fortnightly, monthly, six weekly, every two months, every three months, four to six times per year, every three to four months, three times per year, four to six times per year, every six months, every six to twelve months, at least annually.

The responses to 'other' included: twice weekly, weekly, fortnightly, monthly, four to six times per year, three monthly, four month intervals, two to three times per year, six months, annual check up and when required, as needed at least annually.

Discussion

Australian folklore conjures up an image of bush men huddled around the campfire swapping stories about the exploits of their working dogs. Whilst stories about the Herculean feats of working dogs still capture the public's imagination, they have now merged with a more widespread recognition of the range of utilitarian roles that dogs can perform for humans. For example, the functional capacity of working dogs to detect drugs and explosive substances remains unmatched by any modern day technology.

The economic value of the working dog has ensured that it is now recognized internationally as being worthy of scientific study. The International Working Dog Breeding Association (IWDBA) was established in 1999. Its mandate is to support professional education and interaction regarding applied animal behaviour science, veterinary care and husbandry, and program management issues related to the selective breeding, rearing, and assessment of working dogs. On the domestic front, the Australian Service Dog Association has also been formed to provide a framework for collaboration between Federal and State government agencies that use working dogs.

The inaugural Australian Working Dog Survey collected information about the housing, sourcing, breeding, assessment and training and veterinary care across various working dog sectors throughout Australia in 2009. The Survey results that varied the most between working dog industries were those that related to the approach and equipment used to train working dogs. A brief background to the popular view of dogs in our society will be described to place this variation between working dog industries in a sociological context. Community attitudes and expectations about the dog-human relationship are constantly changing. Indeed, over the last 30 years, 'traditional' techniques that were widely used to train dogs for the Second World War are progressively being replaced by approaches based on learning theory.

Dog training methodology

Traditional approaches to dog training are based upon the simple idea of stopping dogs from doing things that we don't want them to do. The labels of 'good dogs' and 'bad dogs' are often used, where the definition of a good dog is one that does things that we want it to do and a bad dog is one that does things that we don't want it to do.

An extension of thinking about dog behaviour and training in terms of good dogs and bad dogs is that it empowers people to go to any length to stop bad dogs from doing 'bad things' and consequently, legitimises the use of anger, force and electric shock to stop 'bad dogs from doing bad things'. When placed in the context of the tendency we all have to reach for a 'quick fix', it can be clearly seen why it fits so comfortably to view dogs in this way.

Learning theory

Whilst recognizing the roles of genetics and the environment, behavioural scientists accept learning theory as the foundation of the approach to teaching.

The fundamentals of learning theory as applied to dog training are that:

- behaviour that is rewarding (for the dog) or rewarded (by the trainer) is more likely to occur again in the future
- behaviour that is not rewarding (for the dog) or rewarded (by the trainer) is less likely to occur in the future

An understanding of learning theory when training dogs will see the trainer teaching the dog by encouraging desirable behaviour so that it is more likely to occur again in the future. Mechanisms to achieve this vary from dog to dog and from task to task.

Scenario 1 –Traditional approach to training

If we stop a dog from doing something that we don't like (a bad dog), using tools like anger, force or electric shock, we think that we have turned a bad dog into a good dog. However, it is important to be aware that the absence of a particular behaviour does not necessarily indicate that learning has occurred. For example, if we take the traditional approach of trying to teach a dog not to do something, it's very difficult to know whether we have just suppressed the behaviour from occurring or whether the dog is just not doing it for another reason. This suppression of a whole range of different behaviours can sometimes be misinterpreted by an observer who may notice only the absence of one specific behaviour (the 'bad' thing).

Using retrospective monitoring we can evaluate whether or not the absence of a type of behaviour is permanent (extinction) or whether it reappears (suppression).

This example demonstrates the importance of using retrospective assessment once a particular task has been taught. Unless we evaluate the outcome of our efforts to teach, we won't know whether they have effectively worked. Once we realize that a dog has not learnt a task, we are empowered to evaluate our approach to training.

Scenario 2 – Learning theory approach to training

If we train a dog to perform a task using encouragement or rewards, at the same time we are also testing whether it has learnt the task. So, the dog either repeats the task indicating that it has learned to do it, or it doesn't repeat the task indicating that it hasn't learnt to do it. If the dog hasn't learned, we don't think it's a bad dog for not having learnt the task; we spend more time teaching the dog. In other words, we take responsibility.

Relationship between trainer education and dog training methodology

Across all industries, only six percent of respondents indicated that they had undertaken formal certified education in dog training. Almost all of these trainers were working in assistance and government working dog programs. The highest percentage response for the approach to training in these two groups was the use of positive reinforcement principles - food (assistance) and play (government). The Survey question about the use of correction, play, food in training also contained the category 'other'. The proportion of respondents who listed 'positive reinforcement' in this category was highest in assistance and government dog groups, confirming these groups' reported utilisation of food and play as rewards.

This result is further supported by the total absence of electric shock collar by trainers of assistance dogs. Furthermore, those government group respondents who referred to

positive reinforcement in the 'other' category also did not report electric shock collar use. These cross-comparisons of the results validate the absence of electric shock collar use as being associated with training using positive reinforcement. It also suggests some disparity within the government sector, as some groups report use of positive reinforcement whilst other groups use the traditional approach.

More than 50% of private industry and sport dog responses indicated no formal trainer education with trainers relying on their own skills to train working dogs. The average length of time taken to train dogs to a competent working level was longer and the working lifespan was shorter for private industry/sport dogs compared with the government and assistance dogs. An additional factor to consider here is that the level of complexity of the tasks and the need for a reliable training outcome for government and assistance dogs are generally accepted as exceeding those required by private industry/sport dogs.

The results for the percentage responses for successful graduation as a competent working dog are also interesting to consider in relation to trainer education levels. The assistance and government dog sectors reported lower percentage success rates for graduation than the private industry and sport dog sectors

Training the dog trainers

Very few Survey responses identified errors in training practice (i.e. responsibility of the dog trainer) as a reason for dogs not progressing from training to working dog status. Across all working dog industries, the most common reason given for failure to make this transition was 'behaviour'. When this is placed in the context of only 6% of the respondents having had formal certified education in dog behaviour and training, it is worth considering that further education of dog trainers might facilitate higher graduation success rates for working dog programs. At this point it is interesting to note that the lowest percentage recruitment per year for dogs from external sources being assessed for inclusion in a training program was reported by the government sector (i.e. they appear to be assessing proportionately many more dogs and recruiting far fewer than the other working dog industry groups that we have data on). An independent assessment of the criteria that are used by working dog programs to assess training success would be the first step in evaluating the differences between the graduation success rates that have been reported in this Survey.

The Survey responses indicated that punishment and correction were more commonly used by working dog trainers who had not undertaken Tertiary and Further Education (TAFE) level certified education in dog training. This result suggests that education about how dogs learn and how to teach them provides dog trainers with alternatives other than the traditional 'good dog'/'bad dog' model that focuses on compulsion and forced compliance rather than learning. In this light, it appears that working dog trainers in the private industry and sporting dog groups who may not have had access to the information available through formal certified training programs are using training methodology based on popular opinion rather than science.

The results from this Survey suggest that formal certified education increases a dog trainer's ability to apply a range of options, alternatives and approaches when aiming to teach a dog to perform a particular task.

Teaching old dog trainers new tricks

The temptation when viewing dog behaviour from the good dog/bad dog perspective, as opposed to when one embraces learning theory, is the inappropriate use of anger, force and electric shock. One of the concerns raised by the reported prevalence of 'correction' as an approach to training is that there is a higher risk of animal welfare being compromised when 'correction' is used in the absence of an understanding of learning theory. When punishment is used within the framework of learning theory, it will be concurrently assessed as either effective or not. For this reason, if electric shock is to be used at all in the training of working dogs, it should be restricted to highly skilled individuals that have been highly trained in learning theory and who understand why and how to limit its use.

The results of this Survey suggest that the higher the education level of the trainer and the more complex the task the dog is required to perform, the lower the likelihood that electric shock would be used. The use of punishment has the potential to compromise the welfare of working dogs. If punishment is not used in the training of working dogs, its potential to compromise welfare is removed.

The distinct differences between the approach to training working dogs by government/assistance and private industry/sport groups that have emerged from the current Survey merit consideration. There are a range of possible reasons for this finding. The level of funding available for government/assistance working dog programs may contribute to the different approach to training. However, the most expensive piece of training equipment listed in the Survey, the electric shock collar, was reportedly used more widely by trainers in the private industry. From this, it appears that private industry trainers are prepared to spend money to assist with the training of working dogs. The question arises, why do they spend this on equipment, rather than education? It may be that electric shock collars are easy to access via mail order, and by comparison, scientific findings relating to training methods for working dogs are not so easily accessible to dog trainers in rural and remote locations. The recent Federal Government's proposed national broadband network has enhanced the opportunity for geographically isolated groups to gain access to information electronically. With the communication technology currently available, geographical isolation could prove much less of an obstacle to rolling out education programs to working dog trainers, regardless of their location.

Why stop working like a dog?

Old age was reported as the most common reason for dogs to stop working. Injury was given as the reason for more than 30% of sporting dogs to stop working. The most common retirement destination for working dogs given by respondents was either in the same environment or re-homed to a new environment as a pet. Euthanasia was reported as the highest percentage response only by the government groups. The general trend away from euthanasia is a reassuring finding as it might have otherwise been assumed that a higher proportion of working dogs were euthanased once they were no longer capable of performing their working role.

Puppy power

Approximately 40% of respondents indicated that they produced pups to train as working dogs. Of the female dogs used for breeding, the trend was not to breed with them every

season. The assistance dog respondents indicated that their breedstock were distinctly separate from working dogs.

For all Australian working dog industries, dog breeders external to the working dog program were reported as the most common source of working dogs for training. The initial comment that should be made about this result is that dog breeding is an unregulated industry. One potential consequence of obtaining working dogs from external sources is that trainers will be limited in their ability to contribute to either genetic or environmental variables that may relate to training and working dog success. An extension of this finding is that working dog trainers will be able to contribute only to learning, which is only one of the three factors (genetics, environment, and learning) accepted by scientists as determining behavioural outcomes. In this context, 'behavioural outcomes' could refer to both 'training success' and 'working lifespan'.

This random approach to the recruitment of working dogs from external sources highlights the risk of ‘behavioural wastage’ - reduced success rates in training dogs to perform specific tasks - an outcome that has consequences for both animal welfare and also industry productivity and efficiency.

In the dog house

Survey responses indicated a pattern in which private industry, government and sporting dogs were housed alone outdoors at all stages of training and working. Assistance dogs were reported to be more commonly housed indoors in groups. These findings require interpretation in light of the different locations in which dogs from these sectors train and work. In addition, the information collected did not provide an indication of the proportion of each 24 hour period the respondent was referring to. However, the general finding that private industry, government and sport dogs tend to be housed alone is worth noting. The effects of social isolation on the domestic dog have been well documented. Stress and distress reduce a dog’s ability to learn. This Survey’s finding about housing conditions may be a reminder to working dog trainers about the potential effects of a dog’s experiences over the full 24 hour cycle on its training and working ability.

Veterinary care of training and working dogs

The majority of Survey respondents indicated that whether dogs are in training to be a working dog or considered at a competent working level, they are examined by a veterinarian either at least once a year or as required. This finding may reflect both the economic and intrinsic value placed on working dogs by their trainers. This result indicates that veterinarians could be assessed as a conduit of information to working dog trainers nationally.

The shared future of Australia’s iconic working dogs

The gold standard in working dog programs is no longer one person’s opinion. The breeding, sourcing, selection, training, working and housing of Australia's working dogs were once the sole responsibility of the working dog trainer. All of these areas of working dog programs are specialized fields of scientific research. There is active research and collaboration currently occurring between working dog programs at both domestic and international levels in each of these specialized fields. The time has come for Australia’s national focus on working dogs

to embrace the contributions that each of these areas of expertise have to offer and ensure information about these advances is widely available to all of our working dog industries.

In conclusion, the working-dog industry in Australia is extensive and diverse. This results in an abiding lack of cohesion in its approach to research themes, such as breeding, housing, training methodology, veterinary care and welfare, despite these themes being common to all stakeholders. We see the need for an umbrella research body that ensures a coordinated approach to research and development, to manage and fund priority research and to facilitate translation of the results into practical outcomes for industry development. Primarily, there is a need to research dog trainer education; foster industry development, environment and welfare; develop dog and human health and safety; and research task-specific dog breeding and genetics. A process that develops the Australian working dog sector's productivity, sustainability and export potential is also likely to focus attention on the need to improve welfare indicators. The results of this first national Survey of Australia's working dogs raise some interesting issues that require further investigation. It is the considered opinion of these authors that an assessment of the opportunities currently available for Australian working dog trainers to improve their understanding of how dogs learn offers the most potent catalyst to improve the welfare status of Australian working dogs. It is anticipated that a concurrent benefit of this approach would be an economic boost to these industry sectors through improved efficiency and productivity of Australian working dogs.

Recommendations

1. Development of a national education and accreditation program for working dog trainers.

2. Development of task-specific working dog breeding programs to reduce behavioural wastage.

3. Consultation with the veterinary profession to develop strategies for facilitating information-flow to working dog trainers nationally.

4. Recognition of the need for an umbrella research body to coordinate research and development; manage and fund priority research and facilitate translation of results into practical outcomes for industry development.